



Article

Improving the Accounting of Auxiliary Manufacturing Processes in the Pharmaceutical Industry

Yodgorov Khushvakt Mansurovich¹

1. Scientific Applicant, Samarkand Institute of Service and Economics

Abstract: The article discusses the organization of accounting for auxiliary production processes at pharmaceutical manufacturing enterprises operating in the Republic of Uzbekistan, the specific features of the implementation of pharmaceutical manufacturing processes at these enterprises, and the need for accounting at each stage of production.

Keywords: pharmaceutical activities, drug production enterprises, pharmaceutical products, drugs, main production, auxiliary production, drug production processes, drug production processes accounting.

Introduction

The Decree of the President of the Republic of Uzbekistan dated March 5, 2026, No. PF-35, "On Additional Measures to Stimulate Production and Improve Research Processes in the Pharmaceutical Sector" grants a number of privileges to enterprises producing pharmaceutical products. In particular, regarding taxation, the decree states that "business entities implementing investment projects aimed at the production of pharmaceutical products, cultivation of medicinal plants, or their processing shall be exempt from land tax for investment project land plots for a period of 3 years from the date the investment project commences, from profit tax within the scope of investment projects for a period of 3 years from the date the investment projects are put into operation, and from property tax on constructed real estate objects until 2040" [1]. This provision represents a significant opportunity for substantially expanding the activities of pharmaceutical manufacturing enterprises.

In organizing the accounting of enterprises and maintaining accounting records of manufacturing processes, it is essential to understand the specific features of their production processes and master the technology of product manufacturing [2]–[4]. This is because the key issues in organizing accounting for manufacturing processes — such as which stages yield which types of products, the form of these products, and whether or not they can be sold — are of critical importance. In particular, the accounting of inventories at drug manufacturing enterprises, the methodology for determining the cost of semi-finished and finished products, and the procedure for delivering information on pharmaceuticals to management personnel in the form of reports are among today's most pressing tasks.

Literature Review

Citation: Mansurovich Y. K. Improving the Accounting of Auxiliary Manufacturing Processes in the Pharmaceutical Industry. American Journal of Economics and Business Management 2026, 9(7), 183-189.

Received: 10th Apr 2026

Revised: 11th May 2026

Accepted: 11th Jun 2026

Published: 04th Jul 2026



Copyright: © 2026 by the authors. Submitted for open access publication under the terms and conditions of the Creative Commons Attribution (CC BY) license (<https://creativecommons.org/licenses/by/4.0/>)

D.G. Khudaynazarova has developed scientific and practical proposals for maintaining accounting records and reporting on production processes at pharmaceutical enterprises by organizing business processes, particularly by structuring the production process chain into four stages [5], [6]. In this context, while emphasizing the relevance of maintaining accounting records of production processes at pharmaceutical enterprises, the following views were expressed [5]: "Organizing and maintaining accounting records of pharmaceutical production processes at each stage, and reflecting the expenses incurred at each of these stages in separate accounts and reports, has its own specific characteristics. This, in turn, makes it relevant in this research work to study the costs of each component of the production processes carried out at pharmaceutical enterprises separately."

Production processes are carried out differently at industrial enterprises, depending on the specific nature of the production enterprise. For example, the production technology in the oil and fat industry differs from other industrial production technologies. Researcher B.F. Boronov [7], who has conducted studies in this area [8]–[13], puts forward the following views: "The specific feature of the production process at oil and fat product manufacturing enterprises is that the product manufacturing process is carried out in stages in various workshops, meaning that semi-finished and finished products manufactured in the departments are received by the departments through the main warehouse. The expenses for these manufactured products are recorded separately in the departments. Departments such as main processing, refining, deodorization, and packaging can be included among these departments."

Furthermore, Sh. Onorboev explains as follows [14]: "The chemical industry is characterized by a higher degree of mechanization of production processes compared to other sectors, a lower share of labor costs in the composition of production expenses, and higher material and energy consumption."

"Pharmaceutical products — medicines (substances), pharmaceutical preparations obtained on the basis of medicinal substances (substances) and excipients, authorized for use in medical practice for the prevention, diagnosis and treatment of diseases, as well as for changing the state and functions of the human body; prescription medicines — medicines that are sold to consumers only upon presentation of a prescription (electronic prescription) in a form established by legislation" [15].

Research Methodology

In the research conducted on improving the accounting of auxiliary manufacturing processes at pharmaceutical industry enterprises, methods such as scientific abstraction, economic analysis, monographic observation, comparison, induction, and deduction were employed.

Analysis and Discussion of Results

Auxiliary production workshops participate in providing main production workshops with the auxiliary products necessary for manufacturing pharmaceutical products. In particular, among auxiliary production processes, the preform manufacturing workshop holds special significance, as preforms — semi-finished products — are produced in this workshop. Preforms play an important role in the packaging process of pharmaceutical products, and bottles are made from preforms in the main production workshop. Bottles, in turn, serve as the primary storage containers for liquid pharmaceutical products.

Another auxiliary production workshop is the bottle hook manufacturing workshop. This workshop performs the function of producing hooks for containers in which pharmaceutical products are stored.

To store pharmaceutical products in bottles, caps are required for them, and these auxiliary materials are also produced at the enterprise itself. At the enterprise, these processes are carried out in the euro-cap manufacturing workshop for bottles.

There are also processes at the enterprise where other types of auxiliary materials are produced to prepare auxiliary materials. In particular, the inner and outer parts for euro-caps manufacturing workshop performs this function, producing two types of auxiliary materials.

Pharmaceutical products are subject to digital marking, and today digital marking processes are carried out at pharmaceutical manufacturing enterprises. For these processes, a digital marking barcode preparation workshop has been established, and in our opinion, digital marking processes fall within the scope of auxiliary production processes and should be recognized as auxiliary products in accounting.

The technology for manufacturing pharmaceutical products is a highly complex and simultaneously unique production activity. In conducting our scientific research, particularly in developing scientific and practical proposals and recommendations for organizing the accounting of pharmaceutical product manufacturing processes at enterprises, we relied precisely on the manufacturing technology described above. Specifically, in this research work, the task was set to develop scientific, practical, and methodological recommendations based on the interdependence of the functions of each of the departments involved in pharmaceutical product manufacturing processes.

In this research, based on practical data from enterprises, the accounting entries made for business operations carried out on auxiliary production processes were reviewed (see Table 1):

Table 1. Business Operations on Auxiliary Production Processes and Their Accounting Entries.

(compiled by the author based on data from pharmaceutical manufacturing enterprises)

No.	Description of Operation	Debit	Credit	Amount (UZS)
Business operations related to the Preform Manufacturing Shop				
1	"R-530" grade granules were transferred to the manufacturing process for producing preforms	2310	1010	416,865,969
2	Wages were accrued for employees of the preform manufacturing process	2310	6710	30,240,000
3	Social tax was accrued on wages of employees in the preform manufacturing process	2310	6520	3,628,800
4	Utility expenses were allocated to the preform manufacturing process	2310	2510	6,290,000
5	Depreciation was charged on "TI-320 F2" model equipment used in the preform manufacturing shop	2310	0230	1,944,626
6	Other expenses were charged for the preform manufacturing process	2310	0220, 1040, 1090, 2510, 6990	18,050,890
Business operations related to the Bottle Hook Manufacturing Shop				
7	"R-530" grade granules were transferred to the manufacturing process for producing bottle hooks	2310	1010	11,302,000
8	Wages were accrued for employees of the bottle hook manufacturing process	2310	6710	13,500,000
9	Social tax was accrued on wages of employees in the bottle hook manufacturing process	2310	6520	1,620,000

No.	Description of Operation	Debit	Credit	Amount (UZS)
10	Utility expenses were allocated to the bottle hook manufacturing process	2310	2510	3,811,900
11	Depreciation was charged on injection molding equipment used for producing hooks in the bottle hook manufacturing shop	2310	0230	1,638,399
12	Other expenses were charged for the bottle hook manufacturing process	2310	0220, 1040, 1090, 2510, 6990	6,318,870
Business operations related to the Euro-Cap Manufacturing Shop for Bottles				
13	"Rubber gaskets" were transferred to the manufacturing process for producing euro-caps for bottles	2310	1010	787,000,000
14	"Inner and outer parts for euro-caps" auxiliary materials were transferred to the manufacturing process for producing euro-caps for bottles	2310	2110	176,000,000
15	Wages were accrued for employees of the euro-cap manufacturing process	2310	6710	46,500,000
16	Social tax was accrued on wages of employees in the euro-cap manufacturing process	2310	6520	5,580,000
17	Utility expenses were allocated to the euro-cap manufacturing process	2310	2510	28,944,600
18	Depreciation was charged on automatic assembly and packaging equipment for euro-caps used in the euro-cap manufacturing shop	2310	0230	16,240,310
19	Other expenses were charged for the euro-cap manufacturing process	2310	0220, 1040, 1090, 2510, 6990	8,474,330
Business operations related to the Inner and Outer Parts for Euro-Caps Manufacturing Shop				
20	"JC-GK0895CN" model polypropylene granules were transferred to the manufacturing process for producing inner and outer parts for euro-caps	2310	1010	93,000,000
21	"R-530" grade granules were transferred to the manufacturing process for producing inner and outer parts for euro-caps	2310	1010	23,500,000
22	Wages were accrued for employees of the inner and outer parts for euro-caps manufacturing process	2310	6710	32,000,000
23	Social tax was accrued on wages of employees in the inner and outer parts for euro-caps manufacturing process	2310	6520	3,840,000
24	Utility expenses were allocated to the inner and outer parts for euro-caps manufacturing process	2310	2510	12,559,470
25	Depreciation was charged on injection molding equipment for producing euro-caps	2310	0230	5,971,050

No.	Description of Operation	Debit	Credit	Amount (UZS)
	used in the inner and outer parts for euro-caps manufacturing shop			
26	Other expenses were charged for the inner and outer parts for euro-caps manufacturing process	2310	0220, 1040, 1090, 2510, 6990	6,933,020
Business operations related to the Digital Marking Barcode Preparation Shop				
27	Marking codes were purchased from the "Asl belgisi" national information system for digital marking barcode preparation	2110	6990	116,446,000
28	Wages were accrued for employees of the digital marking barcode preparation process	2110	6710	22,000,000
29	Social tax was accrued on wages of employees in the digital marking barcode preparation process	2110	6520	2,640,000
30	Utility expenses were allocated to the digital marking barcode preparation process	2110	6990	7,902,330
31	Depreciation was charged on "VISIOTT LSP-100" model software-hardware for marking pharmaceutical packaging with "Data Matrix code" used in the digital marking barcode preparation shop	2110	0230	7,164,080
32	Other expenses were charged for the digital marking barcode preparation process	2110	0220, 1040, 1090, 2510, 6990	4,280,640

As can be seen from the accounting operations carried out at the enterprise, although several types of operations were performed simultaneously during the reporting month, the accounting entries for these operations do not differ from one another. In particular, expenses incurred for all types of auxiliary production processes were recorded in the debit of account 2310. In our view, this makes it difficult to conduct analytical accounting and analysis of these operations. Therefore, we believe it is necessary to develop a new chart of accounts that discloses these accounting entries in detail for each of their respective processes.

Since the application of the stage-by-stage method recommended by us is not currently present in the accounting practice of enterprises, scientific recommendations have been developed for its application in the current chart of accounts and accounting entries. In particular, opening the following analytical accounts for production processes at pharmaceutical manufacturing enterprises is recommended (see Table 2):

Table 2. Recommended Chart of Accounts for Maintaining Accounting Records of Pharmaceutical Product Manufacturing Processes.

Current Chart of Accounts		Recommended Chart of Accounts	
No.	Name	No.	Name
2300	Auxiliary Production	2300	Accounts for recording auxiliary production expenses
		2310	Preform Manufacturing Shop expenses
2310	Auxiliary Production	2320	Bottle Hook Manufacturing Shop expenses

Current Chart of Accounts	Recommended Chart of Accounts
	2330 Euro-Cap Manufacturing Shop for Bottles expenses
	2340 Inner and Outer Parts for Euro-Caps Manufacturing Shop expenses
	2350 Digital Marking Barcode Preparation Shop expenses

(compiled by the author based on data from pharmaceutical manufacturing enterprises)

We believe that the introduction of this recommended chart of accounts into the practice of pharmaceutical manufacturing enterprises has a number of specific characteristics.

Conclusion

Based on the results of the research conducted at pharmaceutical industry enterprises, including studies on the accounting of auxiliary production processes in this industry, the following conclusions and considerations were reached:

1. The research results showed that the technology for manufacturing pharmaceutical products is a highly complex and simultaneously unique production activity. In developing scientific and practical proposals and recommendations for organizing the accounting of pharmaceutical product manufacturing processes at enterprises, we relied on the specific characteristics of pharmaceutical product manufacturing technology. In particular, scientific, practical, and methodological recommendations were developed based on the interdependence of functions of each department involved in pharmaceutical product manufacturing processes.
2. When studying the current state of business operations and their accounting entries carried out at enterprises for auxiliary and main production processes in the research, it became clear that although several types of operations related to these production processes were performed, the accounting entries for these operations do not differ from one another. This makes it difficult to conduct analytical accounting and analysis of these operations. Consequently, research aimed at improving the accounting of auxiliary and main production costs at pharmaceutical manufacturing enterprises is demanded.
3. In the research, for the purpose of monitoring production processes for auxiliary products and accounting for work-in-progress in auxiliary production processes, the synthetic account 2300 — "Accounts for recording auxiliary production expenses" — and a system of accounts 2310–2350 for separately recording expenses for each direction of auxiliary production processes within it were recommended. The introduction of these proposals into the practice of pharmaceutical manufacturing enterprises will enable complete monitoring of auxiliary production expenses and accurate calculation of the cost of auxiliary products produced in each workshop.

In the course of our scientific research, taking into account the specific characteristics of pharmaceutical manufacturing enterprises' activities, conducting research aimed at improving accounting records of pharmaceutical product manufacturing processes, recording costs in manufacturing processes, determining the cost of pharmaceutical products at each production stage, and improving accounting and reporting of sales processes for pharmaceutical products recorded as finished goods in the warehouse is considered one of the most important tasks facing accounting today.

REFERENCES

- [1] President of the Republic of Uzbekistan, "On additional measures to stimulate production and improve research processes in the pharmaceutical sector," Decree No. PF-35, Mar. 5, 2026.
- [2] K. B. Urazov and M. E. Pulatov, *Accounting*. Tashkent, Uzbekistan: Fan va Texnologiyalar Nashriyot-Matbaa Uyi, 2021, p. 303.
- [3] A. I. Aliqulov, *Theoretical and Practical Issues of Cost Accounting and Analysis*. Tashkent, Uzbekistan: Fan va Texnologiya, 2011, pp. 71–73.
- [4] B. A. Xasanov and A. A. Xashimov, *Management Accounting*. Tashkent, Uzbekistan: National Library of Uzbekistan named after A. Navoi, 2013.
- [5] D. G. Xudaynazarova, "Current issues in organizing the accounting of business processes at pharmaceutical enterprises," in *Proc. Symp. Advanced Studies and Future Directions: Int. Multidisciplinary Research Conf.*, Barcelona, Spain, 2025, pp. 92–100.
- [6] B. F. Boronov, D. G. Xudaynazarova, and X. M. Yodgorov, "Specific features of accounting at pharmaceutical enterprises," *Frontiers of Knowledge and Interdisciplinary Discovery*, vol. 1, no. 1, pp. 282–289, 2025.
- [7] B. F. Boronov, "Improving the methodology of accounting for oil and fat products," DSc dissertation, Tashkent Inst. of Finance (TMI), Tashkent, Uzbekistan, 2023.
- [8] K. B. Urazov and B. F. Boronov, "The importance and types of oil and fat products in the food industry of the republic," *Ekonomika i Sotsium*, no. 6-2 (97), pp. 714–719, 2022.
- [9] B. F. Boronov, "Improving the theoretical and methodological foundations of cost accounting for oil and fat product manufacturing," *Science and Innovation*, vol. 1, no. 7, Oct. 2022.
- [10] B. Boronov, "Theoretical and conceptual bases of accounting financial assets," *International Finance and Accounting*, vol. 2019, no. 4, art. 6, 2019.
- [11] B. F. Boronov, "Accounting of indirect costs at oil and fat industry enterprises and improving their accounting," *Ekonomika i Finansy (Uzbekistan)*, no. 9 (157), pp. 21–28, 2022.
- [12] B. Boronov, "The role of general production costs in product cost calculation and improving their accounting," *Economics and Innovative Technologies*, vol. 10, no. 6, pp. 31–42, 2022.
- [13] B. F. Boronov, "Composition of costs at oil and fat industry enterprises and improving their accounting," *Moliya*, no. 5, pp. 61–67, 2022.
- [14] Sh. Onorboev, "Features of costs and their organization at chemical industry enterprises," *Iqtisodiy Taraqqiyot va Tahlil*, pp. 114–125, May 2026.
- [15] Ministry of Health of the Republic of Uzbekistan, "On approving the regulation on the procedure for registering prices of prescription medicines within the reference pricing system," Order No. 3735, Dec. 25, 2025.