

American Journal of Social and Humanitarian Research

**Vol. 7 Issue** 10 | **pp.** 167-174 | **ISSN:** 2690-9626
**Available online @** https://globalresearchnetwork.us/index.php/ajshr

*Article*

# Improving the Methodology for Applying Process Costing in Uzbekistan

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**Abstract**: This article examines the theoretical and methodological aspects of applying process costing to determine product cost in continuous and sequential production processes. It systematizes the calculation of product-unit flows, equivalent units, conversion costs, work in progress, and costs transferred between processes. Based on a comparative review of international and local academic approaches, together with the requirements of IAS 2 Inventories, the article proposes a process-costing report and a system of accounts for accumulating costs by production stage. The proposed methodology supports a reasoned measurement of finished goods and work in progress, strengthens control over cost flows, and improves the reliability of financial reporting information.

**Keywords:** *process costing, equivalent units, work in progress, product cost, conversion costs, direct materials, manufacturing overhead, IAS 2.*

## 1. Introduction

The continuity of production technology, the homogeneity of products and the formation of costs over several sequential processes require the use of a process costing system for the accurate calculation of product cost. Under such conditions, it is not sufficient to summarize costs only at the end of the period. For each technological process, the flow of product units, the degree of completion, equivalent units and the cost transferred to the next process must be determined separately. Otherwise, uncertainty arises in allocating costs between finished products and work in progress.

In foreign literature, process costing is described as a system for accumulating costs by processes and allocating them to product units in enterprises where identical or similar products are produced continuously. C. Drury shows the importance of calculating equivalent units when allocating costs to product units in process production [1]. C.T. Horngren, S.M. Datar and M.V. Rajan substantiate, from the standpoint of management accounting, the flow of costs by processes, the degree of completion of work in progress, as well as the weighted average and FIFO approaches [2]. R.H. Garrison, E.W. Noreen and P.C. Brewer emphasize the necessity of calculating equivalent units separately for materials and for conversion costs in process costing. Having studied the issues of determining unit cost within the framework of IAS 2, A. Morshed and A. Ramadan note that process costing is important in determining equivalent units, normal and abnormal losses, and the value of inventories.

Citation: Samiddinova, T. D., Improving the Methodology for Applying Process Costing in Uzbekistan. American Journal of Social and Humanitarian Research 2026,7(10). 167-174.

Received: 10th Sept 2026
Revised: 11th Sept 2026
Accepted: 24th ASeptug 2026
Published: 22th Oct 2026

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In local studies, the issues of cost formation, cost classification and costing, as well as the adaptation of international standards to national practice, have been studied by Uzbek scholars. B.A. Xasanov examines cost formation and costing within management accounting [3]. N.B. Abdusalomova develops the methodology of internal control and budgeting in the management accounting system. S.N. Tashnazarov considers the adaptation of international financial reporting standards to national practice. According to the requirements of IAS 2, the cost of inventories comprises costs of purchase, costs of conversion and other costs incurred in bringing the inventories to their present location and condition [4]. Therefore, harmonizing the process costing methodology with the requirements of IAS 2, calculating equivalent units on a sound basis and generating analytical information by technological processes is a topical scientific and practical issue.

The aim of the study is to improve the methodology for calculating the cost of finished products and work in progress on the basis of the flow of product units and equivalent units in process costing, as well as to develop a report form and a system of accounts that serve to reflect costs by technological processes.

## 2. Materials and Methods

The study used the methods of the systems approach, comparative analysis, induction and deduction, grouping, costing, balance reconciliation and generalization according to economic content. The scientific works of foreign and local scholars on cost accounting and process costing were studied comparatively. The provisions of IAS 2 on the formation of the cost of inventories were analyzed in connection with material and conversion costs in process costing.

Practical calculations were based on the flow of product units by processes, the degree of completion of work in progress and cost elements. Equivalent units were calculated separately for direct materials and for conversion costs; the cost of products transferred to the next technological process and the value of work in progress at the end of the period were checked for mutual consistency.

## 3. Results

The need to improve the system of accounts under the process costing method is determined by the following factors. First, in process costing, each process is considered a separate cost object, and opening accounts is required so that we can calculate production costs separately in each process. The system of accounts should provide the information necessary for the correct and timely calculation of. Second, the FIFO and AVECO methods used in process costing rely on advanced practices of calculating the cost per product unit. This requires the introduction of advanced foreign practices. Third, on the basis of studying advanced foreign practices and international standards, we propose the following accounts for cost accounting purposes (Table 1)

**Table 1**

**Proposed accounts intended for accounting for the production cost and the full production cost of products in process costing**

| Account code | Account name | Purpose of the account |
|---|---|---|
| 1710 | Direct material cost in technological processes | Information on direct material costs used in manufacturing products during the production process is accumulated |
| 1810 | Direct labor cost in technological processes | The labor costs of production workers that can be directly charged to product cost during the production process are accumulated |

| | | |
|---|---|---|
| 2510 | Manufacturing overhead cost | General production costs that are indirectly related to the manufacture of products and are allocated to the cost of products in technological processes on the basis of certain allocation criteria |
| 1910 | Conversion cost of products in technological processes | Direct labor costs for each technological process and the manufacturing overhead allocated to that process |
| 2010 | Production cost of products in technological processes | The production cost of the product is formed by adding the direct material cost in technological processes and the conversion cost in technological processes. The cost of the last technological process becomes the production cost of the product |
| 2520 | Other overhead costs | Costs related to bringing products to their present condition and present location are accumulated |
| 2410 | Full cost of manufactured products | The full cost of the product is formed by adding other overhead costs to the production cost of the product |

The practical application of these recommended accounts and the developed accounting entries are presented in the following table (Table 2).

**Table 2**

**Accounting entries for accounting for the production cost and the full production cost of products in process costing**

| No. | Economic and financial transactions | Account correspondence | | Amount |
|---|---|---|---|---|
| | | Debit | Credit | |
| | **Technological process A** | | | |
| 1 | Basic materials were used in process A. Basic materials are introduced at the beginning of the process. | 1710 | 1030 | 256 845 900 |
| 2 | The amount of direct wages of production workers working in technological process A is accrued | 1810 | 6710 | 140 890 800 |
| 3 | Direct wages accrued to production workers in process A were transferred to the conversion costs account | 1910 A | 1810 | 140 890 800 |
| 4 | Manufacturing overhead related to process A was allocated | 1910 A | 2510 | 58 356 800 |
| 5 | Basic materials in account 1710 were transferred to determine the production cost | 2010 A | 1710 | 256 845 900 |
| 6 | Conversion costs in account 1910 were closed | 2010 A | 1910 | 199 247 600 |

| | | | | |
|---|---|---|---|---|
| | **Technological process B** | | | |
| 7 | Cost transferred from technological process A to technological process B | 2010 B | 2010 A | 456 093 500 |
| 8 | Direct wages accrued to production workers in process B were transferred to the conversion costs account | 1910 B | 1810 B | 135 348 900 |
| 9 | Manufacturing overhead related to process B was allocated | 1910 B | 2510 | 48 450 600 |
| 10 | Conversion costs in account 1910 B were closed | 2010 B | 1910 B | 183 799 500 |
| 11 | The production cost of finished products of technological process B was determined | 2410 | 2010 B | 639 893 000 |
| 12 | Costs related to bringing finished products to their present condition and present location | 2520 | 6710, 1010, 6990 | 8 920 800 |
| 13 | The amount in account 2520 was transferred to account 2410 | 2410 | 2520 | 8 920 800 |
| 14 | Finished products obtained from production were received at full cost | 2810 | 2410 | 648 813 800 |

As can be seen from the data of this table, the proposed development of accounting entries has a number of advantages. **First,** it makes it possible to accumulate the information necessary for performing process costing, including information by types of costs, i.e. by the groups "material costs" and "conversion costs". This is the most important condition for introducing process costing. **Second**, the production cost of technological process A was formed and then transferred to technological process B. Its amount is 456 093 500 soums. An important feature of the second technological process is that its first cost item is the "cost transferred from technological process A". An important feature of this process is that no basic materials are introduced in it. Only the conversion process is carried out. As a result, the conversion cost is added to the product cost The conversion cost reflects the direct labor costs in technological process B and the portion of manufacturing overhead allocated to this process. In the above development, conversion costs of 183 799 500 soums (135 348 900 + 48 450 600) were absorbed into product cost. **Third**, this development is based on the formation of full cost. Here, the production cost of the product is formed in the last technological process of process costing. To form the full cost, account 2410 "Full cost of manufactured products" is recommended. The cost accumulated in account 2010 "Production cost of products in technological processes" is transferred in full to account 2410. In this account, the costs related to bringing products to their present condition and present location accumulated in account 2520 are transferred to account 2410. As a result, the full cost of manufactured products is formed in account 2410 Finished products are received on the basis of full cost. It can be concluded that this procedure makes it possible to form product cost in accordance with international standards.

## 4. Discussion

One of the most important issues in process costing is determining the cost of products transferred to the next process on the basis of the equivalent unit cost by cost items, and determining the cost of work in progress at the end of the technological process. For this purpose, a process costing report is prepared [5]. Below, let us review the methodology for preparing the report for a case involving two technological processes (Table 3).

**Table 3 Process costing report of "Saturn metalni qayta ishlash" LLC (technological process 1)**

**A. Flow of product units**

| | | | |
|---|---|---|---|
| Units added during the reporting period | 850 | Units transferred to another process | 760 |
| | | Work-in-progress balance (70% complete) | 90 |
| Total units accounted for | 850 | | 850 |

As can be seen from the data of this report, the number of units added during the reporting period amounted to 850 units, while the number of product units completed in this process and transferred to the next process amounted to 760 units [6]. The inventory balance in work in progress, i.e. units not fully completed in this first process, amounts to 90 units. Based on the calculations, the cost of products transferred to the next technological process amounted to 1 563 383 824,80 soums. The value of the inventory balance in work in progress amounted to 157 881 175,20 soums. The total cost was 1 721 265 000,00 soums [7]. This amount is equal to the total amount in the section "B. Equivalent cost in the technological process". This indicates that the calculations have been performed correctly.

From the process costing report it can be concluded that the production process of the product has not yet been completed; the product is transferred from one process to the second process. A report of the same form is also prepared for the second process [8]. The form of the report on product cost in production process 2 and the calculations performed are as follows (Table 4)

**Table4.Process costing report of "Saturn metalni qayta ishlash" LLC (technological process 2)**

**A. Flow of product units**

| Cost elements | Cost amount | Equivalent units | Unit cost |
|---|---|---|---|
| Direct materials | 890 450 000 | 850 | 1 047 588,23 |
| Direct labor | 450 580 000 | 823 | 547 484,81 |
| Manufacturing overhead | 380 235 000 | 823 | 462 010,94 |
| **Total cost** | **1 721 265 000** | | **2 057 083,98** |

As can be seen from the data of this report, 760 units of product with a unit cost of 2 057 083,98 soums and a total value of 1 563 383 824,80 soums were transferred from technological process 1 to technological process 2 [9]. In this process, costs were incurred for direct materials – 280 520 325,20 soums, direct labor – 190 230 450,30 soums and manufacturing overhead – 56 340 300,00 soums, and the total cost amounted to 2 090 474 900,30 soums. The cost per product unit was 2 754 950,67 soums. As a result, the cost of finished products obtained from technological process 2 amounted to 710 x 2 754 950,67 = 1 956 014 975,70 soums [10], [11]. It is proposed to calculate the inventory balance in work in progress for each cost element. Here, the previous process cost amounted to 50 x 2 057 083,98 = 102 854 199,00 soums, the cost of direct materials to 50 x 369 105,69 = 18 455 285,60 soums, direct labor to 40 x 253 640,60 = 10 145 624,00 soums, manufacturing overhead to

40 x 75 120,40 = 3 004 816,00 soums, the total cost of work-in-progress inventory to 134 459 924,60 soums, and the total cost to 2 090 474 900,30 soums. This amount balances with the total amount of costs, which indicates that the calculations have been performed correctly.

The proposed report form for applying process costing has a number of positive features:

**First,** these reports are based on advanced foreign practices [12]. The work-in-progress balance is based on valuation. Under the periodic inventory system, the ending inventory balance is counted. During this stocktaking, the percentage of completion of the inventories is determined. Equivalent units are calculated when determining the cost per product unit. This is not applied in our practice. As a result, it leads to an incorrect determination of the cost per product unit [13]. The study recommends a procedure for determining the number of equivalent units. This requires determining the percentage to which the product balance is complete.

$$\text{Number of equivalent units} = \frac{Quantity\ of\ finished\ product\ x\ degree\ of\ completion, \%}{100\%};$$

**Second,** it has been substantiated that the cost elements should be formed in accordance with international standards, and a procedure for determining the equivalent unit cost has been proposed [14]. According to it, the cost elements consist of four groups: previous process cost; direct material cost; direct labor cost; manufacturing overhead. An important rule of cost accounting: when determining the unit cost for the items of previous process cost and direct material cost, the total units of materials accounted for are taken (not equivalent units), whereas for the items of direct labor and manufacturing overhead, the units transferred to another process are taken, and for work in progress, the number of equivalent units is taken;

**Third,** the cost of finished products completed in a technological process or that have passed through all technological processes is determined in the following order:

**Cost of the product completed in the technological process** = Finished product units x Unit cost

$$\textbf{Unit cost} = \frac{\text{Previous process cost}}{\text{Total product units in the process}} + \frac{\text{Direct material costs}}{\text{Total product units in the process}} + \frac{\text{Direct labor costs}}{\text{Finished product units} + \text{Equivalent units in work in progress}} + \frac{\text{Manufacturing overhead}}{\text{Finished product units} + \text{Equivalent units in work in progress}}$$

The application of these formulas makes it possible to determine product cost correctly [15], [16].

**Fourth**, we propose a methodological procedure for calculating the inventory balance in work in progress.

**Value of the inventory balance in work in progress**

$$= \text{WIP balance units} \times \frac{\text{Previous process cost}}{\text{Total product units in the process}} + \text{WIP balance units} \times \frac{\text{Direct material costs}}{\text{Total product units in the process}} + \text{WIP equivalent units} \times \frac{\text{Direct labor costs}}{\text{Finished product units} + \text{Equivalent units in work in progress}} + \text{WIP equivalent units} \times \frac{\text{Manufacturing overhead}}{\text{Finished product units} + \text{Equivalent units in work in progress}}$$

These formulas make it possible to determine the cost of work in progress correctly. This, in turn, ensures the transparency of information in the balance sheet. It makes it possible to form financial results correctly [17].

## 5. Conclusion

The Process costing is an important cost accounting system that makes it possible, in continuous and sequential production, to accumulate costs by technological processes and to allocate them on a sound basis between finished products and work in progress. The results of the study showed the necessity of linking the flow of product units with the flow of costs in a single report, calculating equivalent units separately for material and conversion costs, and checking the cost balance at the end of each process. The proposed process costing report serves to determine, in a single methodological sequence, the cost of the part of the product transferred to the next process and of the work-in-progress balance at the end of the period. In this case, documenting the degree of completion of work in progress and calculating equivalent units by cost elements increases the fairness of cost. The proposal, which provides for the use of accounts 1710, 1810, 1910, 2010, 2410 and 2520 in accordance with the processes, makes it possible to trace clearly the stages of cost formation and to separate direct materials, conversion costs and other overhead costs. As a result, the difference between the production cost and the full cost of the product is shown openly, and management control is strengthened. Generalizing international and local scientific approaches and the requirements of IAS 2 shows that it is advisable to apply process costing not only as a tool of internal costing, but also as an integrated accounting mechanism that serves the reliable formation of the value of inventories and financial results.

## REFERENCES


[1] R. S. Kaplan and A. A. Atkinson, *Advanced Management Accounting*, 3rd edn. Upper Saddle River, NJ, USA: Prentice Hall, 1998.

[2] N. B. Abdusalomova, 'Boshqaruv hisobi tizimida ichki nazorat va budjetlashtirish uslubiyatini takomillashtirish [Improving the Methodology of Internal Control and Budgeting in the Management Accounting System]', Abstract of DSc dissertation, Tashkent, Uzbekistan, 2019.

[3] B. A. Xasanov, *Boshqaruv hisobi: nazariya va uslubiyot [Management Accounting: Theory and Methodology]*. Tashkent, Uzbekistan: Moliya, 2003.

[4] D. R. Hansen and M. M. Mowen, *Cornerstones of Cost Management*, 4th edn. Boston, MA, USA: Cengage Learning, 2018.

[5] C. T. Horngren, S. M. Datar, and M. V. Rajan, *Cost Accounting: A Managerial Emphasis*, 16th edn. Harlow, U.K.: Pearson, 2018.

[6] E. J. Blocher, D. E. Stout, P. E. Juras, and S. D. Smith, *Cost Management: A Strategic Emphasis*, 8th edn. New York, NY, USA: McGraw-Hill Education, 2019.

[7] IFRS Foundation, 'IAS 2 Inventories'. IFRS Foundation, London, U.K.

[8] Republic of Uzbekistan, 'Law of the Republic of Uzbekistan "On Accounting"'. Apr. 13, 2016. [Online]. Available: https://lex.uz/docs/2931253

[9] A. Bhimani, C. T. Horngren, S. M. Datar, and M. V. Rajan, *Management and Cost Accounting*, 7th edn. Harlow, U.K.: Pearson, 2019.

[10] C. Drury, *Management and Cost Accounting*, 11th edn. Andover, U.K.: Cengage Learning, 2021.

[11] R. H. Garrison, E. W. Noreen, and P. C. Brewer, *Managerial Accounting*, 17th edn. New York, NY, USA: McGraw-Hill Education, 2021.

[12] R. Cooper and R. S. Kaplan, 'Measure Costs Right: Make the Right Decisions', *Harvard Business Review*, vol. 66, no. 5, pp. 96–103, 1988.

[13] S. N. Tashnazarov, *Moliyaviy hisobotning xalqaro standartlari [International Financial Reporting Standards]*. Tashkent, Uzbekistan: Iqtisod-moliya, 2019.

[14] Ministry of Finance of the Republic of Uzbekistan, 'National Accounting Standard No. 21 (BHMS 21) "Chart of Accounts for the Financial and Economic Activities of Business Entities and Instructions for Its Application"'. Oct. 23, 2002. [Online]. Available: https://lex.uz/docs/809350

[15] A. Morshed and A. Ramadan, 'Qualitative Analysis of IAS 2 Capability for Handling the Financial Information Generated by Cost Techniques', *International Journal of Financial Studies*, vol. 11, no. 2, p. 67, 2023, doi: 10.3390/ijfs11020067.

[16] H. T. Johnson and R. S. Kaplan, *Relevance Lost: The Rise and Fall of Management Accounting*. Boston, MA, USA: Harvard Business School Press, 1987.

[17] President of the Republic of Uzbekistan, 'Resolution "On Additional Measures for the Transition to International Financial Reporting Standards"'. Feb. 24, 2020.