
METHODS USED IN ANALYTICAL ACCOUNTING OF GOODS

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Abstract

An essential issue in the application of the ERP (Enterprise Resorts Planning) system is the selection and use of the statistical methods used. Normally, these methods can be: the operative-accounting method that contributes to the reduction of the works of analytical records of the stocks thus ensuring a faster interpretation. Also, the quantitative value method is the one that uses the quantities associated with the prices that give their value. Another method used in analytical accounting for the introduction of the ERP system is the global-value method. In this context, sometimes the need for the use of the weighted average cost (CMP) which shows a weighted average cost should be the basis of the appreciation of the values for the goods entering the management, the first-in-first-out (FIFO) method is often used but in competition with the last entry-first (LIFO) method, both starting from the need to use the goods that come into stock. Also the standard cost method is one that is widely used and it depends on the situation encountered within the company in question.

Keywords: *quantitative-value method, weighted average cost, accounting record, standard cost*

JEL Classification: *D24, D61, M41*

Introduction

In this article, the focus has been on establishing and analyzing the methods that can be used in analytical accounting for the introduction of the ERP system, ie Enterprise Resorts Planning. It is important for a trading company to make the supply according to the needs of the technological process, according to the cost of the resources, the possibility of not blocking these resources, so that the maximum results can be obtained. The usable methods are analyzed one by one, presenting the advantages and disadvantages of each of them. Of course, the supposed modalities of using one or the other methods are exemplified with clear data, so that only taxation and profitability

are respected, but above all one must see the effect of each method used in ensuring a higher profitability.

Literature review

Both, Andersson and Birkinshaw (2010), Manolopoulos (2018) discussed aspects of multinational activity. Anghel (2016), Spătaru (2011) presented fundamental notions of the economic-financial analysis. Anghel (2015) highlighted aspects of accounting of current assets within public institutions. Anghelache and Anghel (2019) analyzed the main statistical indicators used in the economic analyzes. Anghelache, Anghelache, Gheorghe, Marinescu and Bichir (2011) studied the accounts of the institutional units. Calota (2015), Coman (2009) studied stock valuation methods. Conforto and Amaral (2010) investigated elements regarding the planning and control of innovative projects. Feleagă and Feleagă (2012) examined a European and international approach to financial accounting. Turner, Ledwith and Kelly (2010) analyzed project management in SMEs.

Methodology, data, results and discussions

According to the accounting law regulation, the accounting of material values can be organized according to two methods: permanent inventory; intermittent inventory.

Under the conditions of the use of the permanent inventory, in the accounting are recorded all the operations of entry and exit, which allows the establishment and the knowledge at any time of the stocks, both quantitative and value.

The intermittent inventory, which can be applied in the patrimonial units of the small and medium category, consists in establishing the outputs and recording them in the accounting on the basis of the inventory of stocks at the end of the period. In this case the outputs are determined as the difference between the value of the initial stocks plus the value of the inputs and the value of the final stocks, determined on the basis of the inventory.

In case of using the permanent inventory, the analytical accounting of the stocks is organized according to the following methods according to the specific activity: the operative-accounting method (on balances); the quantitative-value method (on analytical account sheets); the global-value method.

The operative-accounting method

This method contributes to the reduction of the analytical records work of the stocks, because the analytical accounting records are no longer

used on material types and the control exercised by the accounting service over the management is strengthened by scoring with the records of all the registered documents.

Within this method, the quantitative record of the material goods by categories is kept at the place of storage, in the general accounting, the value record is kept by management, and within the management, by groups and subgroups of goods.

Checking the accuracy and consistency of the records from the records of deposits with those of the general accounting is done monthly by evaluating the quantitative stocks transcribed from the warehouse records in the inventory register.

The working technique is as follows: the supporting documents are recorded by the manager in the warehouse records, establishing the stock after each operation.

Periodically, the accounting service verifies the records made in the warehouse records and takes the respective documents, together with the borders drawn up by the manager, separately for the incoming and outgoing materials, writing the price and calculating the value related to the document. Next, the accounting service centralizes the documents taken from the warehouse and summes them within each sheet on groups of materials and on correspondent accounts (debtors or creditors).

The established totals are entered in the „Monthly Movement Situation”, drawn up separately for inputs and outputs. Within it are established columns for each manager and rows for groups of materials, value.

At the end of each month, the situations are totalized and two categories of totals are used to determine the value of the stocks at the end of the month by groups of materials and managers.

For this purpose, the initial balances from the beginning of the month decrease the exits from the warehouse, and at the end of the month the stocks from the store records are entered in the inventory register and are multiplied by their price.

The physical stocks entered in this register must correspond to the stock established by the warehouse records.

Quantitative-value method

In case of using this method at the place of storage, the quantitative record is kept by categories of goods, and in the general accounting the quantitative-value record.

This method has the following characteristics:

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- the entry and exit documents are first recorded quantitatively in the warehouse records, which are kept at the storage places;
 - the same documents, grouped by input and output operations, are recorded separately in brochures and handed over to the accounting office;
 - the accounting office records on groups or subgroups of materials and on places of consumption being evaluated the quantities at the registration price and the establishment of the accounts in which the respective operations are to be entered;
 - after the processing of the data from the documents, the materials are recorded quantitatively and in value in the analytical accounts sheets opened on the types of materials and places of storage;
 - the centralizing of materials is completed based on the entries in the accounting records of the entries (daily) and the exits (monthly).

The verification of the concordance between the data recorded in the synthetic and analytical accounts of materials and materials is performed at the end of the month by scoring between the quantities recorded in the warehouse records with those of the analytical account sheets in the accounting, drawing up balances for the verification of the analytical accounts.

The global-value method

This method consists in keeping the records only in value, both at the level of management and in accounting. And in this case, periodically, the consistency of the records from the records of the management with those of the accounting is checked.

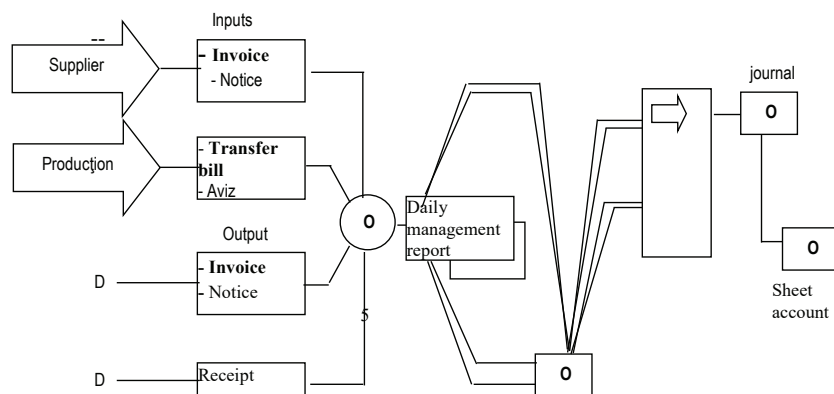
The warehouse records are replaced by the Management Register in which daily entries and exits are valued, based on the supporting documents and the balance is established at the end of the day.

The daily management report is drawn up in two copies: one of them together with the supporting documents is sent to the accounting department where the legality and the correctness of the documents recorded in relation to the register, the prices and the evaluation of the calculations are verified, and after the correctness is ascertained and the records in the analytical accounting file of each manager.

The control of the records from the records of the managers and accounting is done periodically by comparing the balances in the management report and the accounting file.

This method is mainly applied to the record of goods in retail companies.

STOCK ACCOUNTING



The exits of the goods from the heritage unit can have the following destinations:

- the sale with full payment in cash that is realized through different forms;
- selling on the basis of the documents issued by the seller, based on the documents: Sales voucher, Sale goods bill (by management), Monitoring and Management Report;
- sale of goods with the issuance of a voucher and registration in home appliances, based on the voucher, the control band of the cash register, the Monitor and the Management Report;
- selling with direct payment from the seller based on the documents: Monetary, Management report;
- self-service sale based on the documents: Meal ticket, Monetary, Management report;
- sale with home delivery through the order house, based on the document: Delivery order order.

The cash receipts are subject to daily records in the cash register, in the collection column.

- refunds to suppliers are based on the document Delivery note refund;
- price reductions are recorded by the special commission set up in the inventory document for the price change;
- inventory losses (under management) due to force majeure are recorded by a commission made up in particular by the Minutes of decrease;
- the inventory losses (in management) caused by responsible persons are imputed with the imputation decision, the payment commitment taking

into account the size of the damage, the number of the guilty, the average earnings of each culprit over the last six months, the number of days worked by each culprit in the controlled period, profession, position, job.

The documents used to issue inventories of current assets in respect of consumables are: Consumer voucher and Consumer limit sheet.

The material values sent for processing to third parties are issued on the basis of the Delivery Provision, the Notice accompanying the goods on which the mention “for processing to third parties” is made.

Regarding the processed materials, the return is checked if the quantity processed properly received in relation to the consumption norms has been received, and on the reception documents, for the correct record, the mention “processing” is made. Delivery of goods and finished products to third parties is made on the basis of the tax invoice. The warehouse record is an operational record document of the warehouse (warehouse) and is prepared separately for each assortment of stocks.

The documents referring to the material values entered in the patrimonial unit (invoices, accompanying notices, entry-receipt note, etc.) after registration in the warehouse records, are delivered to the supply service.

After verification, approval and registration in the technical-operative record of the supply of these documents, they are sent to the accounting department within the deadlines established by the manager of the accounting-financial department.

The primary documents for the exit of stocks from deposits are delivered directly to the accounting department. In connection with the operations of entering and leaving the goods in and from the patrimonial unit, the obligations stipulated by the law are retained:

- the material goods entered in the patrimony are recorded in suitable documents and are operated in the records of the storage places;
- the goods received for processing in custody or in consignment are received and recorded separately as entries in management;
- the material goods that are being supplied or arrived but not received are recorded separately in accounting as an entry into the patrimony;
- the goods arrived without invoices are recorded as entries in management, based on the reception and the accompanying documents;
- the goods delivered, but not invoiced, are recorded as management outputs, based on the documents confirming the exit from management.

When leaving the assets or removing them for consumption, the stocks are evaluated and their decrease in management is recorded at their entry value.

The fundamental problem of the records at the exit of the purchased or manufactured stocks is that of the price used to evaluate the outgoing lots.

If, during the course of the activity, the same types of material goods, goods, packaging are purchased at different prices, for evaluating the accounting of outgoing or consumed stocks, based on the value of the entry, the international regulations and standards recommend the following evaluation methods : the weighted average cost method (CMP); first entry method - first exit (FIFO); last entry method - first exit (LIFO); specific identification method.

Weighted average cost method (CMP)

The weighted average unit cost is calculated as the ratio between the total value of the initial cost (Si) plus the total value of the inputs (Vi) and the quantity existing in the initial stock (Qs) plus the quantities entered (qi).

$$CMP = \frac{Si + Vi}{Qs + \sum qi}$$

The CMP method can be applied in two variants:

- updating the weighted average unit cost after each entry;
- periodic updating of the weighted average unit cost, either monthly or at other periods which, in principle, do not exceed the average storage duration.

We exemplify the calculation of the weighted average cost using the following data:

Table no. 1

Date	Nature of the operation	Quantity	Unit price	Value
01.01	Initial stock	1.000	10	10.000
02.03	Outputs	-200	X	X
04.08	Outputs	-100	X	X
04.09	Inputs	1.000	15	15.000
05.10	Outputs	-1.100	X	X
07.10	Outputs	-300	X	X
08.11	Inputs	2.000	20	40.000
10.12	Outputs	-1.300	X	X
14.12	Final stock	1.000	X	X

Note: CMP variant after each change. The data is conventional.

The outputs are evaluated with the last weighted average cost, obtained by the formula:

$$CMP = \frac{Si + Vi}{Qs + qi}$$

Si = the previous stock evaluated at the previous weighted average cost (old average price).

By applying this variant the following output values are obtained:

Table no. 2

Movements				Stock		
Date	Quantity	CMP price	Value	Quantity	CMP price	Value
01.04	-	-	-	1.000	10	10.000
02.03	-200	10	-2.000	800	10	8.000
04.08	-100	10	-1.000	700	10	7.000
04.09	+1.000	15	+15.000	1.700	12,9412	22.000
05.10	-1.100	12,9412	-14.235, 32	600	12,9412	7.764,680
07.10	-300	12,9412	-3,882,360	300	12,9412	3.882,360
08.11	+2.000	20	+40.000	2.300	19,0793	43.882,36
10.12	-1.300	19,0793	-24.800,09	1.000	19,0793	19.079,27

The data is conventional.

CMP update variant depending on the average storage time. The duration of a rotation is determined:

$$Dr = \frac{qi}{Qs}$$

where:

D_r = duration of a rotation;

Q_i = input quantities;

Q_s = average stock.

The weighted average cost of supplies is:

$$CMP = \frac{15.000 + 40.000}{1.000 + 2.000} = \frac{55.000}{3.000} = 18,33333lei$$

The final stock is valued at 18,333,333 lei ($1,000 \times 18.33333$ lei).

This value is different from the one from the previous version, being smaller.

By the variant of the periodic update of the CMP, under the conditions of the price increase, by inflation, the price of valuation of the final stock is lower than the last supply price, so that the value of the outputs will be higher

than in the first variant, appropriately influencing the operating expenses and the results. financial.

First-in-first-out (FIFO) method

According to this method, the goods left from the management are evaluated at the cost of purchase of the first lot entered, respectively of the item that is older in stock. As the lot runs out, the inventories out of management are evaluated at the purchase cost of the next lot, in chronological order.

Taking the data from the following table as an example, applying the FIFO method results in the following evaluation of outflows and stocks.

Table no. 3

Movements				Stock		
Date	Quantity	Price	Value	Quantity	Price	Value
01.02	-	-	-	1.000	10	10.000
02.03	-200	10	-20.000	800	10	8.000
04.08	-100	10	-1.000	700	10	7.000
04.09	+1.000	15	+15.000	700	10	7.000
				1.000	15	15.000
05.10	-					
	1.100	10	-7.000	600	15	9.000
	-700	15	-6.000			
	-400					
07.10	-300	15	-4.500	300	15	4.500
08.11	+2.000	20	+40.000	300	15	4.500
				2.000	20	40.000
10.12	-	15	-4.500			
	1.300	20	-			
	300		20.000	1.000	20	20.000
	-					
	1.000					

The data is conventional.

By this method the outputs are estimated at the input value, in the order of the lots entering the management.

Last Input - First Output Method (LIFO)

The exits are evaluated at the cost of the last lot entered, respectively of the article that is the most recent.

After the last batch is exhausted, the outgoing quantities will be evaluated at the cost of the previous batch.

Table no. 4

Movements				Stock		
Date	Quantity	Price	Value	Quantity	Price	Value
01.01	-	-	-	1.000	10	10.000
02.03	-200	10	-20.000	800	10	8.000
02.03	-200	10	-2.000	800	10	8.000
04.08	-100	10	-1.000	700	10	7.000
04.09	+1.000	15	+15.000	1.700	-	-
	-	-	-	700	10	7.000
	-	-	-	1.000	15	15.00
05.10	-1.100	-	-	-	-	-
	-1.100	15	-15.000	-	-	-
	-100	10	-1.000	600	10	6.000
07.10	-300	10	-3.000	300	10	3.000
08.11	+2.000	20	20.000	2300	-	-
				300	10	3.000
				2.000	20	40.000
10.12	1.300	20	-	1.000	-	-
			26.000	300	10	3.000
				700	20	14.000

The data is conventional

From the comparative analysis of these methods it is observed:

Table no. 5

Costs	Method		
Cost of goods in stock at 01.01	10.000	10.000	10.000
Cost of purchased goods	+55.000	+55.000	+55.000
Cost of goods left	-45.920,07	-45.000	-48.000
Cost of goods in stock 31.12	19.079,27	20.000	17.000

FIFO and LIFO methods give extreme results, the first evaluating the final stock at the last purchase cost - higher - makes the outputs have a lower value than the value determined in the LIFO method. Through the CMP method, calculated after each operation, the assessments are located in size, between the values given by the other two methods, while, by calculating the weighted average cost at the end of the month, an extreme result will be obtained (maximizing the value of the outputs).

In a period characterized by rising prices, the LIFO variant is the one that achieves a better correspondence between the latest revenues and costs; In contrast, the FIFO variant associates the income obtained with the costs with the highest seniority. In Romania, the LIFO variant is admitted as an accounting method but, as the rules for determining the fiscal result restrict its use by taxpayers, the application of this method is not frequent. The problems raised by using the LIFO method lead to: undervaluation of stocks in the balance sheet; decrease of the actual physical volume of the final stocks; the high level of costs incurred by the introduction and operation of the system (method).

Standard cost method

The enterprises, in the context of internal management accounting, can determine pre-determined costs and prices to evaluate inventories, using standard costs (prices). Basically, these costs can be pre-calculated costs or average costs from a previous period.

In the case of using this method of valuation, the goods are fixed, in advance, the fixed costs of registration with which to evaluate and record the inputs and outputs. The differences between the registration cost (standard) and the actual purchase or production costs are highlighted in distinct costs. For example, the „X” merchandise is considered in March, when the stocks were evaluated as follows:

- March 1: S_i 3,000 kg at the purchase cost 10 lei / kg.
- March 5: entry 5,000 kg at the purchase cost 10.5 lei / kg.
- March 9: sale 4,000 kg.
- March 14: entry 6,000 kg at the cost of purchase 11 lei / kg.
- March 20: 3,500 kg sale;
- March 28: sale 4,500 kg;
- March 31 St. 2,000 kg.

If for the „X” merchandise the fixed price is 10 lei / kg, the cost sheet is as follows:

Stock sheet - Goods: X, on March a.c.:

Table no. 6

Inputs					Outputs			Stock		
Date	Operation	Q	P	V	Q	P	V	Q	P	V
01.03	S _i	-	-	-	-	-	-	3.000	10	30.000
05.03	Input	5.000	10	50.000	-	-	-	8.000		

The differences were recorded between the purchase costs and the standard cost, which were highlighted separately. These differences are distributed at the end of the month on the value of the goods issued and on the existing stock, with the help of the coefficient of distribution of the price differences. The share of the price differences related to the outputs will be calculated by multiplying the value of the outputs by the calculated coefficient. The differences distributed to the outputs correspond to the stocks existing at the end of the month. If a company manufactures a smaller number of (high value) products and one can know with certainty what product each item in the stock was included in, the specific identification method can be adopted.

Taxation and profitability are the main factors that determine the adoption of one method or another, because the evaluation of the quantity of stocks at the end of the period is the key that leads to the overestimation or underestimation of the profit.

Conclusions

The ERP system is a method used in resource planning in order to carry out a profitable activity. Therefore, the conclusion that emerges is that the methods used must first be carefully analyzed, so that all the aspects that can lead to higher profitability can be identified. The indicators calculated on the basis of these ways of ensuring the stocks needed for production are very important in the context of flow technologies, since at the time of each period the stocks must be sufficient, thus understanding neither too large nor too low, taking into account the technological process used by the company. business that adopts this resource planning system using the Enterprise Resorts Planning system. This concept is widely used and also has its place in the Romanian economy.

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