

STANDARD COST METHOD IN CONFECTIONERY PRODUCTION

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Abstract

The operative knowledge of the evolutions related to the cost of production allows the management to take timely measures of correction and recovery, also allows establishing some medium and long term strategies, starting from the reports based on management accounting. Objectives can be set, material resources, human resources, technologies used in production, time resources needed for current operations can be better managed, and also can develop plans to improve the recent activity. The purpose of the paper is to analyze the possibility of applying the standard cost method in the managerial accounting of an entity operating in the public catering sector. The specifics of organizing the production in such an economic entity requires the identification of an efficient management accounting organizing method in controlling economic processes and supporting managerial decisions. The obtained results underline the fact that the standard-cost method determines advantages for the small economic entity analyzed, such as the anticipation of the costs of the programmed production; the expectation of scheduled production costs; the value of deviations from the standard cost, by cost categories and by product categories; efficient monthly control of the real cost of production, etc.

Keywords: standard cost method, management accounting, costs, public catering sector

JEL Classification: M40, M41

1. Introduction

Economic entities have to face the challenges of an increasingly challenging financial context. They must survive to economic crises, to the declining purchasing power of the population, to the increased taxation, many legislative changes, to an increasing level of competition, to the growing implementation of online or home delivery services. The organization of production in the confectionery sector has its own particularities, therefore the cost management within the entities requires increased attention. Each economic entity has to analyze objectively and professionally its internal situation and the external context to find medium and long-term operating solutions. The use of cost-type information in making management decision, the application of cost-effective calculation methods can lead to rethinking the information and decisional system of the company and can be the solution to impact crisis survival.

The standard-cost method was released in the United States of America in 1901, being initially called the method of estimated costs, promoters of the determined cost before the manufacturing start [1]. The method has a normative character that allows an evaluation of the economic entity's performances over a certain period [2]. The standard prices are established based on both previous period data and some forecasted elements that are correlated with the conditions in which the future development of the activity of the economic entity is expected [3].

The purpose of the paper is to analyze the possibility of applying the standard cost method in the managerial accounting of an entity operating in the confectionery production sector.

The structure of the study highlights the characteristics of the standard method cost per whole and the Specifics in organizing the confectionery production. The study continues with the particularities of application of standard cost method within the managerial accounting of an economic entity from the confectionery sector. In conclusion, due to the characteristics of the standard cost method, their applicability to the level of economic entities in the confectionery sector is highlighted, and the positive contribution to the improvement of their cost management system.

2. Standard-cost method

According to the method, the cost structure per product uses three calculation items, such as [4]: i) raw materials and direct materials; ii) direct labor; iii) overheads. The standard cost method mostly depends on the accuracy of the elaboration of the standard; thus the specialized literature makes a classification of them according to calculation method, the form of expression, the validity period: according to the calculation method the standards are: ideal standards (determined for the perfect conditions for the production process, having as a premise the best possible use of the combined production factors by the economic entity); real standards (established based on actual conditions of economic entity activity, starting from past data which are improved by eliminating those generated by personal causes and supplementing with possible elements to be achieved in the future). Depending on the form of expression the following standards are identified: physical standards (can be quantitatively expressed, both in specific units of materials and in the required working time) characterized by their validity over time, being changed only when the production process changes; value standards (which are the monetary expression of physical standards, characterized by a relatively short validity due to changes in prices, but also to the emergence of new legislative regulations), which depending on the calculation method, there are standards such as: closely related to the conditions and particularities of the existing production process, being valid only for it; basic standards—are value or physical quantities to which it tends, being established for a more extended time. Not being related to the defined for carrying out the activity, basic standards remain unchanged for the entire period of which they were established.

The implementation of the standard cost method involves the following steps [8-10]:

1) Establishing the cost of the products to be manufactured, implies: i) fixing the standard volume of the activity, according to which the standard costs are dimensioned; ii) establishing the standard costs for raw materials, materials, semi-finished products, direct labor, direct utilities, based on technological sheets; iii) establishing the directing costs budgets; iv) establishing standard costs on cost carriers.

2) Establishing, tracking and recording standard cost deviations: to organize efficient evidence and pertinent analysis of the standard cost deviations, the working procedure requires following principles: i) permanent and complete follow-up of deviations; ii) operative operations; iii) information by an exception of the management; iv) rational selection and management of deviation information. Following the principles, standard costs deviations can trace on the following calculation items, specific to the standard cost method: raw materials and direct materials, direct labor and overhead costs.

3) Organizing standard cost accounting: tracking of the production costs can be done by the following: standard partial cost method; unique standard cost method; double standard cost method. The standard partial cost method involves recording production costs in the "Production" account detailed in the analytical by expenditure sectors, and within them by calculation items. The debit of the "Production" account includes the actual expenses incurred by the production process, and the standard costs for products obtained from manufacture are recorded in the credit. At the same time, the credit records at the end of the month unfinished production valued at the level of the standard cost.

At the end of the management period, a comparison is made between finished products and unfinished production valued at standard costs, and the difference established is standard costs deviations, which will be accounted for in the accounts "Deviations from standard costs". The deviation accounts are debited with the standard cost overruns and credited with the savings [11,12]. The deviations thus registered are subsequently transferred to the "Profits and losses" account. Also, the standard partial cost method assumes that at the end of the management period, the production in progress is determined by inventory. At the beginning of the next management period, the production in progress will be recorded in the analytical debit of the "Production" account, to which will be added the actual costs incurred during the respective management period. The standard unique cost method involves detailing the "Production" account in analytics by sections and calculation items, debited with the materials consumed, labor and overhead costs expressed in standard costs and is credited with the standard costs of products obtained from manufacturing [13-15]. The account balance represents the standard costs of unfinished production. Deviations are determined by using known cause procedures for each calculation item specific to the standard cost method. Deviations from the price difference for materials may be established at the time of their supply and storage or at the time of their consumption in the production process. Deviations are recorded in the "Deviations" accounts which are debited with the established exceedances compared to the standard costs and are credited with the savings compared to these costs. At the end of the management period, the balances of the deviation accounts are transferred to the "Profits and losses" account [16,17].

The standard double cost method records the consumptions occasioned by the production process, as well as the settlement of those included in the products obtained with the help of the "Production" account and its analytics both at the level of actual costs and at the level of standard costs. The recording of standard costs in the "Production" account and its analytics uses the "Standard Compensation Account" as the corresponding account. The savings compared to standard costs are expressed through efficiency indices. Global efficiency indices are determined as the ratio between actual costs and standard costs. In the case of each calculation, the article can be resolved efficiently on causes indices that picked the deviations [18,19].

Starting from the primary objective of the standard cost method, namely, increasing the responsibility within the economic entities, a series of advantages of the implementation of the process can be identified, such as [20-25]: encourages management to reduce costs, because standards can be defined as a goal to be achieved rather than rules to be met; standards are often the basis for providing material incentives; a better substantiation of the cost budgets and the establishment of some reference values that express as well as possible the ordinary conditions of activity of the economic entity; using both the classification of direct and indirect production costs, but also the classification of production costs in fixed and variable, allows the analysis of the expenses in relation to the volume of production and the determination of indicators necessary for taking a scientifically based decisions; the role of management accounting is not only to establish the production cost, but also to verify if, predetermined, was respected by the cost centers managers; it ensures an efficient control over the production costs by providing daily information or at relatively short time intervals regarding the deviations from the standard costs that are the fundamental basis of the decisions taken during the economic processes.

In addition to these advantages, the standard cost method also has disadvantages such as [25-30]: i) standards elaboration supposes a great effort on the part of the economic entity; there may be a natural tendency to preserve standards for as long as possible, to avoid the costs of redefining them frequently. Suppose the real working conditions change significantly compared to those considered at the time of elaboration of the standards. In that case, they lose their information competence, implicitly their value decreases, and the differences that appear between real and standard can no longer be used for substantiation of decisions and exercise of management control; iii) the standard cost method is not regulated by normative acts and does not have a unique methodology regarding the establishment of standards and the elaboration of accounting documents; iv) the implementation of the standards can lead to the focus of attention on the deviations, losing the vision on the whole, which can have repercussions on the economic entity functioning.

3. Specific in organizing the confectionery production

The spaces where the entity has its activity are organized and equipped according to the legal norms, and the Bucharest Public Health Directorate approves the action. The area is divided into regions by main activities: production area "Laboratory" - rooms for dosing, kneading, leavening, baking, semi-prepared storage, finishing, storage rooms or cold rooms on the specific materials; sales area - "Shop" type confectionery/ cake shop, with the display of products in hot or cold showcases.

The main stages of the technological production process, at the analyzed confectionery/cake shop, are i) The supply of raw materials necessary for production and auxiliary materials (auxiliary materials for preparation and packaging) is made from known, accredited, and verified suppliers, the transport of raw materials is done with their vans (with a refrigerated room when it is applicable). The entry of the goods into the storage area is made through intended access, and the receipt of the raw material or material is prepared. ii) The storage of raw materials and auxiliary materials is done in designated spaces, by product categories, in areas with average temperature or in cold rooms where appropriate. For some raw materials, the cleaning is necessary before storage (eggs, fruits and vegetables), or cleaning the packaging; iii) Weighing, measuring, preparation of raw materials for work takes place in the Confectionery Laboratory, according to the recipes. A voucher is issued for the raw materials and materials brought for processing in the Laboratory; iv) The preparation of sheets, creams, dough's, baking or refrigeration or processing with the help of machines (ovens, proofers, ice cream machines, mixers, kneaders) or tools (rolling, chopping, filling utensils, etc.) is performed in the Laboratory, following the product data-sheet; v) Assembly of preparations consisting of layers, portioning, decorating cakes and pies are actions that also take place in the Confectionery Laboratory;

vii) The finished products from the Laboratory are transferred to the Confectionery Store for retail sale to the population. The transfer of the finished products is done based on weighing, and by completing the Finished Products Transfer Voucher made in our Laboratory; viii) In the own store takes place the display of the products and their sale to buyers, natural or legal persons, through the authorized electronic cash registers, the collection is made through the cash register or the bank through the POS.

Activity organization of the enterprise: producing assortments of confectionery, pastry, candy - a move that takes place entirely in the Laboratory of the confectionery, identified as a cost place "Laboratory"; retail sale in the own store of own confectionery, pastry, candy products - an activity that takes place in the confectionery store, identified as a cost place "Store"; retail sale of foodstuffs purchased for resale (soft drinks, bottled water, sparkling wine) - cost place identified as "Store - merchandise management". Since the last two activities stated are related to trade, for the calculation of the manufacturing cost, I will refer only to the action of producing confectionery, pastry, candy.

The calculation objects the production of assortments of confectionery, pastry, candy. At the analyzed confectionery, approximately 200 varieties are produced by categories: cakes, pies and mini-cakes - products made of cream sheets; cakes, cookies and pastry made from leavened dough, puff pastry or on the dough, plain or stuffed; stuffed candies. Not all assortments are commonly produced, for some, there is a seasonality (e.g., fasting products or for special holidays), others are made to order (e.g., select products for baptism), others are removed or replaced due to declining sales. The cost bearer is the finished product of confectionery, pastry, candy. The unit of calculation is the kilogram of product. Although some assortments are produced and marketed in pieces, their weight is provided in the recipe and, for uniformity of calculation, those products can be measured per kilogram, and the conversion into pieces is done when setting the retail price in the store. Determination of places (sectors) of expenditure for which the calculation is made: primary sector: cost place "Laboratory". Production in progress-some of the confectionery and pastry assortments are finished by assembling two or more components (one or two types of countertop, one or two kinds of cream, syrup, decorative elements, etc.). Due to a large number of assortments and new assortments that appear, the data sheets do not provide for assembly from semi-finished products. For this reason, it was decided to inventory the existing semi-finished products in the Laboratory at the end of each month and settle them at the level of direct costs (cost sheets were prepared only for raw materials and for the incorporated labor).

Delimitation of the company's expenses by types and places of costs: direct production costs: raw material and labor of confectioners and pastry chefs (gross salaries, meal vouchers, contributions related to wages). Indirect production costs (variable (V) or fixed (F)): auxiliary material (V); energy, fuel, water for technological purposes or the operation of equipment and Laboratory (V); repairs to equipment and means of transport for supply (V); inventory items (V); cleaning materials (V); depreciation of equipment and means of transportation for supply - F; depreciation of the building (space) (F); remuneration of the manager, supply manager, support and cleaning staff (gross salaries, meal vouchers, salary contributions) (F); General administration costs: remuneration of the director and the accountant (salaries, grants related to wages); administrative and household expenses; electricity costs for general lighting, HVAC, display cases; damping car director; external OSH services; Sales costs: packaging materials (V); remuneration of the marketing manager (F); materials for commercial advertising (F). Expenditures are not related to production, but to sales: pay of retail workers (gross salaries, meal vouchers, contributions related to wages); banking services associated with POS and maintenance of fiscal cash registers; foodstuffs purchased for resale.

4. Implementation of the Standard-cost method

Starting from the information gathered in the past years regarding the production sold on each product, for a simpler follow-up and closer to the reality of the budgeted production, the existing

assortments and proposed to be realized in the budgeted year are divided into categories. The sorting criterion is primarily related to the inclusion in the PRODRAM list of products, necessary for monthly and annual reports to the National Institute of Statistics. A second criterion refers to the complexity of the technological process, which has repercussions on the subsequent classification of operations in the calculation of the standard cost of labor. The standard volume of the activity is established, according to which the standard costs will be dimensioned (Table No. 1).

Table No. 1. Production program for the year 2020

Product categories	U.M.	Trim. I	Trim. II	Trim. III	Trim. IV	TOTAL
Cakes, pies and mini cakes multilayer two countertops and 1-2 creams	kg	3 800	4 200	2300	4 400	14 700
Simple or stuffed cookies	kg	900	700	500	800	2 900
Cakes and mini cakes with shells and cream	kg	2 500	2 950	1 800	2 650	9 900
Cakes and leavened products	kg	1 900	2 300	900	2 500	7 600
Pastry stuffed puff pastry	kg	1 100	1 100	850	1 050	4 100
Simple puff pastry	kg	750	800	600	750	2 900
Pastry with pie sheets, stuffed	kg	350	400	650	800	2 200
Stuffed candies	kg	300	250	150	200	900
Total	kg	11 600	12 700	7 750	13 150	45 200

4.1. Determining the standard cost of raw materials and materials

The standard costs for raw materials and direct materials are determined for each product to be made based on the quantitative standards established for each raw material or material separately provided in the recipe and the Product Data Sheet and the standard supply price.

The standard supply price is established based on the prices of the previous period, as an average of these prices. Regarding the calculation and tracking of the standard cost for raw materials, in practice, two situations influence this cost: one is related to the fact that the purchase price varies all the time - from one season to another, from one supplier to another; the second problem is associated with the large variety and seasonality of some raw materials used in recipes (for example, fruit cakes contain some types of fruit in summer and other types in winter, or fruit compote - which influences the cost of raw material per kg of product). Table No. 2 presents the standard for raw materials and direct materials for Krantz Cake for 1 kg finite product.

Table No. 2. Standard for raw materials and direct materials for Krantz Cake (1 kg finite product)

Raw materials and direct materials	Quantitative standard (kg)	Standard supply price (lei/kg)	Standard value (lei)
Peanuts	0.060	9.50	0.57
Flavors	0.001	34.10	0.03
Cocoa	0.005	22.10	0.11
Chocolate icing	0.070	16.20	1.13
Flour	0.060	1.90	0.11
Whipped cream	0.300	16.50	4.95
Margarine	0.075	6.00	0.45
Eggs	2.000	0.37	0.74
Oil	0.005	5.90	0.03
Sugar	0.285	2.70	0.77
Total direct raw materials	-	-	8.90

4.2. Calculation of the standard labor cost

The standard cost for direct labor is determined for each product to be manufactured, weighting the standard time required to perform the operations and the standard wage rates. The standard time

for the execution of each operation is provided in the data-sheet of each product. It is calculated: initially based on direct measurements of operations, then by assimilation to other recipes containing operations of the same type (e.g. preparation of dough for white countertop). Remuneration rates are established on three qualification categories: confectioner I, confectioner II, pastry chef. It starts from previously paid salaries taking into account the last level of salary (from the month before the calculation, as the wages of employees has increased steadily in recent years (mainly with the increase of the minimum wage and rising inflation). Salaries paid to employees (including social protection contributions due to state budgets), the number of meal vouchers and premiums provided in employment contracts, the amount of the insurance contribution for work (proportional to the salary granted). The unit employs 4 confectioners I, 3 confectioners II and 3 pastry chefs. Table No. 3 presents standards for direct salaries for the product Kranz Cake for 1 kg of finite product.

Table No. 3. Standard for direct salaries the product Kranz Cake (1 kg of finite product)

Operation name	Standard time (min)	Standard remuneration rate (lei/min)	Standard labor (lei)
Preparation of raw materials (dosing, mixing, sieving)	4.6	0.47	2.15
Dough preparation, portioning in trays, baking operations	5.4	0.54	2.93
Cream preparation	3.3	0.54	1.80
Whipped cream preparation	2.5	0.47	1.18
Mounting countertop + cream	6.3	0.54	3.38
Portioning, decoration	5.0	0.47	2.35
Total direct remuneration	27.1	-	13.78

4.3. Distribution of indirect production costs

These costs are those generated by the production process, from the start and until the finished product is obtained. For the establishment and distribution of these expenses, the procedure of individual standards was chosen. The situation of the own overhead expenses (related to the production in the Laboratory) for the last 3 years is drawn up first (Table No. 4).

Table No. 4. Statement of overheads in the reference period

No.	Indicators	Reference period		
		2017	2018	2019
1	Production volume (kg)	46 400	47 900	42 300
2	Fixed expenses	211 650	242 960	222 220
2.1.	Depreciation of machinery and vans	75 030	89 060	51 520
2.2.	Depreciation of the buildings (production spaces)	6 300	6 300	6 300
2.3.	Auxiliary staff salaries + social protection and vouchers	95 520	108 900	123 600
3.	Variable expenses	97 380	110 340	105 270
3.1.	Energy and water for output	55 930	60.560	63 270
3.2.	Auxiliary materials	7 320	10 810	8 930
3.3.	Equipment maintenance	7 940	9 560	6 590
3.4.	Cleaning materials	9 490	12 160	11 200
3.5.	Other variable expenses	16 700	17 250	15 280
TOTAL own overheads		309 030	353 300	327 490

The average of the own overheads (related to the production in the Laboratory) for the reference period is calculated (Table No. 5).

Table No. 5. Average expenditure in the reference period

No.	Indicators	Reference period			TOTAL	Average
		2017	2018	2019		
1	Production volume (kg)	46 400	47 900	42 300	135 600	45 200
2	Fixed expenses	211 650	242 960	222 220	676 830	225 610
2.1.	Depreciation of machinery and vans	75 030	89 060	51 520	215 610	71 870
2.2.	Depreciation of the buildings (production spaces)	6 300	6 300	6 300	18 900	6 300
2.3.	Auxiliary staff salaries + social protection and vouchers	130 320	147 600	164 400	328 020	109 340
3.	Variable expenses	97 380	110 340	105.270	312 990	104 330
3.1.	Energy and water for output	55 930	60 560	63.270	179 760	59 920
3.2.	Auxiliary materials	7 320	10 810	8.930	27 060	9 020
3.3.	Equipment maintenance	7 940	9 560	6.590	24 090	8 030
3.4.	Cleaning materials	16 700	17 250	15.280	49 230	16 410
3.5.	Other variable expenses	4 670	4 780	960	10 410	3 470
TOTAL own overheads		309 030	353 300	327.490	989 820	329 940

The standard fixed costs are determined. Although they have a fixed cost character compared to the production volume, depreciation expenses varied during the reference period due to the fluctuation of fixed assets (acquisitions, scrapping). Also, the value of the salaries of the auxiliary staff increased due to the increase in the employee's salary. However, the number of persons and the qualification remained the same during the reference period. That is why it was decided to choose the expenses at the level of the last year's reference period.

Table No. 6. Statement of standard fixed expenses – Laboratory

Indicators	Standard fixed expenses
Fixed expenses of which:	222 220
Depreciation of machinery and vans	51 520
Depreciation of the building (production space)	6 300
Auxiliary staff salaries + related social protection and vouchers	164 400

The standard variable costs are determined, correlating the average actual costs in the reference period with the proposed standard production volume for 2020. We did not identify any significant value of the semi-variable costs in the reference period.

Table no. 7. Standard variable expenditure situation – Laboratory

Indicators	Variable directing expenses					TOTAL
	Energy and water for production	Auxiliary materials	Equipment maintenance and repair	Cleaning materials	Other variable costs	
	59 920	9 020	8 030	10 950	16 410	104 330
Average effective expenses	45 200	45 200	45 200	45 200	45 200	45 200
Average activity volume (kg)	1.33	0.20	0.18	0.24	0.36	2.31
Spend. variable averages per kg of product	46 000	46 000	46 000	46 000	46 000	46 000
Standard activity volume Q	61 180	9 200	8 280	11 040	16 560	106 260
Variable expenses collected	979	147	132	177	265	1 700
Stimulating factor 1.6%	60 201	9 053	8 148	10 863	16 295	104 560

A distribution coefficient of the indirect production expenses of the section is determined by reporting these expenses to the chosen distribution base. In this case, the budgeted value of the raw material, which is 260 000 lei.

$$K_{IP} = \frac{\text{Indirect production expenses of the section}}{\text{Budgeted value of the raw material}} = \frac{326\,780}{260\,000} = 1.26 \quad (1)$$

4.4. Allocation of administration and sales expenses

The budget for administrative expenditure for 2020 shall be drawn up based on a budget of the previous year, taking into account the evolution of purchase prices and scheduled cost (possible purchases of fixed assets).

Table No. 8. Budget of administrative expenditure of the unit

Explanations	Effective 2019	Budget 2020
General administration expenses	166 110	167 620
Salaries of management and administrative staff + related social protection	124 560	124 560
Depreciation of other fixed assets	14 960	14 960
External OSH services	5 500	5 500
Electricity, other than for production	15 800	16 300
Administrative and household expenses	5 290	6 300

For general administration expenses, the value of the section cost is chosen as the distribution base. For the unit, the budgeted level of administrative expenses for 2020 is 167 620 lei, and the basis for their distribution is the section cost with the values: for the total confectionery – 1 621 600 lei, and the production laboratory – 1 150 000 lei (direct costs of materials and labour + indirect costs of production). The distribution coefficient of general administrative expenses results from the formula:

$$K_{ga} = \frac{\text{General administrative expenses}}{\text{Confectionary cost section}} = \frac{167\,620}{1\,621\,600} = 0.103 \quad (2)$$

The value of the administration expenses allocated to the Laboratory for the year 2020 results:

$$Ch_{GA/Laboratory} = K_{GA} \times \text{Confectionary cost section} = 0.103 \times 1\,150\,000 = 118\,450 \text{ lei} \quad (3)$$

The sales expenditure budget for 2020 is drawn up according to the previous year's budget, taking into account the evolution of purchase prices and the fact that the principal value of this category is expenditure on packaging materials, expenditure varying from the number of products made and sold.

Table No. 9. Sales expenditure budget

Explanations	Effective 2019	Budget 2020
Sales expenses	49 300	53 200
Packaging materials	32 080	37 000
Advertising materials	420	1 400
Remuneration of the marketing manager	16 800	16 800

Sales expenses are divided as the value between the products made in the Laboratory, and the production put up for sale in the Store and the goods purchased for resale. For 2020, the budgeted value of sales expenses is 53 200 lei, and the basis for their distribution is the cost-factory value.

The value of the coefficient of distribution of the general administrative expenses:

$$K_D = \frac{\text{Sales Expenses}}{\text{Cost-factory value}} = \frac{53\,200}{1\,735\,000} = 0.0307 \quad (4)$$

The value of the sales expenses distributed to the Laboratory for the year 2020, where the factory cost for the entire unit is 1 735 000 and the factory cost for the Laboratory is 1 268 450 (Laboratory section cost + indirect administration expenses):

$$Ch_{D/Laboratory} = K_D \times \text{Cost-factory Laboratory} = 0.0307 \times 1\,268\,450 = 38\,940 \text{ lei} \quad (5)$$

By collecting in a table all the expenses that form the standard cost of directing, the budget of overhead costs can be drawn up.

Table No. 10. Directing costs budget for Laboratory - year 2020

No.	Explanation	Effective 2019	According to the budget
I	Indicators		
1	Coefficient of indirect section expenses	1.36	1.26
2	Production volume (kg)	42 300	45 200
3	Fixed expenses	222 220	222 220
3.1.	Depreciation of machinery and vans	51 520	51 520
3.2.	Depreciation of the building (production space)	6 300	6 300
3.3.	Auxiliary staff salaries + social protection and vouchers	164 400	164 400
4	Variable expenses	105 270	104 560
4.1.	Energy and water for production	63 270	60 201
4.2.	Auxiliary materials	8 930	9 053
4.3.	Equipment maintenance and repair	6 590	8 148
4.4.	Cleaning materials	11 200	10 863
4.5.	Other variable expenses	15 280	16 295
II	Total own direction expenses	327 490	326 780
III	Overall administrative expenditure share	115 300	118 450
IV	Sales expenses share	37 560	38 940
V	Total direction expenses	480 350	484 170

4.5. Calculation of the standard unit cost

The last step in the standard costing process is to prepare a "Standard Cost Sheet" for each product. The purchase value of the raw material was chosen as the distribution basis for the indirect costs. The distribution coefficient K_s calculated in the previous subchapter resulted in 1.26. The indirect production costs allocated to the exemplified product are:

$$Ch_{IP/Kranz} = K_{IP} \times \text{Raw material value}_{Kranz} = 1.26 \times 8.90 = 11.21 \text{ lei} \quad (6)$$

The general administrative expenses allocated to the product Kranz Cake is determined by multiplying the coefficient of distribution of the administrative costs by the section cost of the product:

$$Ch_{D/Kranz} = K_D \times (Ch_{direct_{Kranz}} + Ch_{IP/Kranz} + Ch_{GA/Kranz}) = 0.0307 \times (22.88 + 11.21 + 3.51) = 1.15 \text{ lei} \quad (7)$$

Finally, by adding all the shares of the indirect costs, the value of the total standard indirect costs for the chosen product results (which is entered in the Standard Cost Sheet of the product).

$$Ch_{IT/Kranz} = Ch_{IP/Kranz} + Ch_{GA/Kranz} + Ch_{D/Kranz} = 11.21 + 3.51 + 1.15 = 15.87 \text{ lei} \quad (8)$$

Table No. 11. Standard cost sheet - Kranz Cake

No.	Name of costs	Unit	Quantitative standard	Standard price	Value (lei/kg)
I	Raw materials				
	- Peanuts	kg	0.060	9.50	0.57
	- Tastes	kg	0.001	34.10	0.03
	- Cocoa	kg	0.005	22.10	0.11
	- Chocolate icing	kg	0.070	16.20	1.13
	- Flour	kg	0.060	1.90	0.11
	- Whipped cream	kg	0.300	16.50	4.95
	- Margarine	kg	0.075	6.00	0.45
- Eggs	pc.	2.000	0.37	0.74	

No.	Name of costs	Unit	Quantitative standard	Standard price	Value (lei/kg)
	- Oil	kg	0.005	5.90	0.03
	- Sugar	kg	0.285	2.70	0.77
	Total raw materials				8.90
	Direct labor				
	Preparation of raw materials (dosing, mixing, sieving)	min.	5.0	0.47	2.35
	Dough preparation, portioning in trays, baking operations	min.	5.4	0.54	2.92
II	Cream preparation	min.	3.3	0.54	1.78
	Cream preparation	min.	2.5	0.47	1.18
	Mounting countertop + cream	min.	6.3	0.54	3.40
	Portioning, decoration	min.	5.0	0.47	2.35
	Total direct labor expenses				13.98
III	Total direct expenses (I + II)				22.88
IV	Direction expenses				15.87
V	Standard unit cost (III + IV)				38.75

4.6. Record and analysis deviations from standard costs

Deviations from the standard cost can occur in any of the components of the standard cost, both direct and indirect costs. These deviations are calculated and analyzed during the production process. Deviations from standard costs for raw materials and direct materials: may be deviations from standard consumption or deviations from price differences. Deviations from standard consumption occur when the raw material is used for small quantities of product and measurement errors occur, when the raw material is also used for related operations (e.g. flour used for spreading countertops and which is difficult to standardize) when the raw material it has different qualities from the standard ones (e.g. in cocoa there may be differences in intensity of materials supplied from different suppliers, so a larger or smaller amount must be used to obtain the required taste). These deviations are difficult to identify on each product, as the quantities used are small, the difference is found with the help of inventory, and the deviation can be calculated for a category of products using the same raw material. For example, 142.6kg were made from Kranz cake in January 2020 (Kranz cake, Kranz mini cake and Kranz cake are made according to the same recipe, only the portioning method for sale differs). The standard consumption of margarine is 75g/kg of product, in total 10.7kg at the standard supply price of 6lei/kg. The actual consumption of raw material was higher as it was additionally consumed for greased the countertop tray, and this difference appeared in the inventory at the end of the month. However, the amount consumed in addition to the Kranz product cannot be identified as the same type of countertop is used for other products. Deviations from price differences result in the purchase of raw materials from different suppliers or even from the same supplier with a different purchase price than the standard one. This type of deviation can be identified and measured at the time of supply. For example, for the raw material Cream for which the supply was made at the beginning of the month with the price of 16.80 lei, compared to 16.50 lei when it was taken into account in the standard.

Thus, the deviation from the standard cost can be identified as follows:

$$Ap = (16.80 \text{ lei/kg} - 16.50 \text{ lei/kg}) \times 142.6 \text{ kg} \times 0.3 \text{ kg/kg of product} = 12.83 \text{ lei.}$$

Thus, although some deviations from the standard cost of raw material can be identified at the time of production, in total they can be accurately determined at the end of the month when raw material inventory is made. At the same time, the report on deviations from standard costs for direct raw materials, for the month ended, for each type of raw material is prepared. The report shows a total deviation of 89.92lei, which is caused by exceeding the quantitative consumption as well as increasing the purchase price of the raw material.

Deviations from standard costs for direct labor also have two components: deviations from standard working time and deviations from the variation of the remuneration rate. The cause of deviations from standard working time is, in most cases, the sinuous working rhythm. In the days

before religious and secular holidays, on weekends, the demand for products is high, the work schedule is supplemented, work is done in advance, or in a shorter time, or due to haste, procedures are wrong and the preparation must be resumed. On the other hand, during the holidays the demand is deficient, the workers having much unproductive time. The deviation, although identifiable at the time of production, can only be measured exactly at the end of the month, by analyzing the time and quantity of products made. Deviations from the variation of the remuneration rate are easily identifiable but very rare, the main cause being the modification of the legislation by increasing the minimum wage in the economy which leads, in a cascade, to the demand for salary increases from all employees.

Deviations from standard overhead costs can occur in three forms: deviations from the change in the budgeted volume of indirect expenditure, deviations from changes in production capacity utilization or deviations inefficiency. Each of these types can be calculated from the initial budget or the recalculated budget. Deviations from the indirect expenditure budget may result in the purchase of new fixed assets with a high depreciation rate, which was not provided for in the expenditure budget, changes in the remuneration of auxiliary employees, high-value repair work, not provided for in the budget. Yield deviations occur as the difference between the standard costs of actual hours worked and the standard costs of actual production.

Table No.12. Report on deviations from standard costs for raw materials and direct materials (January 2020) – Laboratory

No.	Material	Unit	Consumable quantities (kg)		Supply price (lei)		Raw material value (lei)			Deviations (lei)		TOTAL
			Effective	Standard	Effective	Standard	Effective	Standard	Ce x Ps	Quantity	Price	
0	1	2	3	4	5	6	7 (3 x 5)	8 (4 x 6)	9 (3x 6)	10 (9-8)	11 (7-9)	12 (10+11)
1	Peanuts	kg	73.4	72.1	9.73	9.50	714.18	684.95	697.30	12.35	16.88	29.23
2	Flavors	kg	8.5	8.9	34.75	34.10	295.38	304.17	289.85	-14.32	5.52	-8.80
...
64	Sugar	kg	673.4	675.6	2.70	2.70	1 818.18	1 824.12	1 818.18	-5.94	0.00	-5.94
TOTAL							26 587.55	26 497.63	26 508.33	10.70	79.22	89.92

Table No.13. Report on deviations from standard costs for direct labor (January 2020) – Laboratory

No.	Operation	Total processing time (h)		Salary rate (lei/h)		Labor costs (lei)		Effective labor at standard costs	Deviations		
		Effective	Standard	Effective	Standard	Effective	Standard		Work efficiency	Salary rate	Total
0	1	2	3	4	5	6 (2 x 4)	7 (3 x 5)	8 (2 x 5)	9 (8-7)	10 (6-8)	11 (9+10)
1	Dosing, mixing, screening of raw material	74.6	72.5	27.9	27.9	2 081.3	2 022.8	2 081.3	58.6	0.0	58.6
2	Preparation of pie sheets, portioning in trays, baking operations	63.7	73.9	30.6	30.6	1 949.2	2 261.3	1 949.2	-312.1	0.0	-312.1
3	Cream preparation	57.5	53.2	27.9	27.9	1 604.3	1 484.3	1 604.3	120.0	0.0	120.0
.....
19	Portioning, decoration	105.3	95.5	32.6	32.6	3 432.8	3 113.3	3 432.8	319.5	0.0	319.5
TOTAL		1656	1583	-	-	50 508.0	48 281.5	50 508.0	2 226.5	0.0	2 226.5

4.7. Finished production accounting obtained

After completing the preparation (or rectification) of the standard cost sheets for each of the products provided in the Production Program for 2020, the most efficient standard-cost method is chosen for recording and tracking the completed production and put up for sale products and deviations from the standard cost that occurs. Due to the high perishability of the products, the volume of product stock that remains in the store at the end of the day is low. The production made - fresh confectionery and pastries - is almost entirely sold, and other products are finished and transferred

from the laboratory to the store like the ones in the shop windows are sold, or depending on demand or order. In conclusion, there is no stock of finished products in the management of the laboratory, only in that of the store, a situation that does not affect the records related to the place of laboratory costs. Based on the reports on deviations from the standard cost of raw materials and labor, the centralized statement of actual and standard expenditure and deviations can be drawn up.

Table No.14. The situation of centralization of actual and standard expenditures and deviations (January 2020) – Laboratory

Specification	Consumption		Deviations ±
	The actual cost	The standard cost	
Raw materials	26 628	26 498	+ 130
Labor	50 508	48 282	+ 2 226
Overhead	39 827	40 293	- 466
Total	116 963	115 073	+ 1 890

The market price of the product can be easily determined for confectionery and pastries. In order to facilitate the sales process, all confectioneries organize the products by price categories according to several criteria: the value of the incorporated raw material, the complexity of the technological process (which determines labor cost differences), the form of product presentation (per piece, per kg, in pieces over 1 kg - cakes, sponge cakes).

Table No.16. Statement of expenses related to the Store

No.	Explanation	2020 Budget	Quota for Laboratory	Quota for Store
1	General administration expenses	167.620	118.450	49.170
1.1.	Salaries of management and administrative staff, including social protection	124.560		
1.2.	Depreciation of other fixed assets	14.960		
1.3.	External OSH services	5.500		
1.4.	Energy for the administrative and sales sector	16.300		
1.5.	Administrative and household expenses	6.300		
2	Sales expenses	53.200	38.940	14.260
2.1.	Packaging materials	35.000		
2.2.	Advertising materials	1.400		
2.3.	Remuneration of the marketing manager	16.800		
3	Sales activity expenses	157.000	-	161.570
3.1.	Salaries of commercial staff including social protection and vouchers	144.000		144.000
3.2.	Expenses with POS bank fees	13.000		13.000
3.3.	Other expenses related to the sale of products	4.570		4.570
	TOTAL STORE EXPENSES			225.000

According to the activity budget for 2020, the total quantity of products budgeted is 45 200 kg. The costs of the sales activity are evenly distributed over the products sold.

$$Ch_V = \frac{\text{Total Budgeted Store Expenses}}{\text{Budgeted quantity of products}} = \frac{225\,000}{45\,200} = 5\text{lei/kg} \quad (10)$$

The starting level for calculating the selling price for Kranz Cake is: Standard unit cost+Sale expense share=38.75+5=43.75lei. The selling price most used by the confectioneries taken into account in the survey is 70lei/kg. This price includes VAT. The VAT rate for food is 9%. If we extract VAT we get 64.22 lei/kg price without VAT. It would result in a profit of 20.47 lei. The selling price for Kranz Cake in the confectionery was set at 65lei/kg.

5. Conclusions

The operative knowledge of the evolutions related to the cost of production allows the management to take measures of correction and recovery in due time, also allows the establishment of medium and long term strategies, starting from the reports prepared by the management accounting. Objectives can be set, material and human resources can be better managed, technologies used in production, time resources needed for current operations, as well as the development of plans to improve an existing business. There are several trends in the field of management accounting. One would be related to the organization of accounting in a dual system that leads in practice to a more difficult work for accountants, some units giving up management accounting through class 9 accounts. It is also becoming increasingly necessary to organize management accounting in an integrated system, to develop information technology in management accounting to create IT models that allow the use of complete calculation methods. This process involves the collaboration of specialists in several fields (IT, economics and accounting, the field of advanced production technologies, management, and marketing). Another trend is the application of modern costing methods, or the creation of new methods that provide real-time cost information that can be adapted to automatic data processing, possibly even automatic collection.

Another aspect of the study was the adaptation and implementation of a method of calculating the full cost, the organization of management accounting related to it, a small economic entity of public catering, and a confectionery. The confectionery and pastry market is experiencing a diversification, both of the assortments and of the production units (confectionery laboratories organized as part of the own production of the hypermarkets, which compete both by the large production capacity and by a large number of available buyers. Craftsmanship and care for the quality of traditional confectioneries). Data from the NIS on the national production of confectionery and pastry assortments show a significant increase in recent years. Under these conditions, traditional confectioneries, and in general small firms in the field of food production, face, among many others, the problem of knowing in real time the economic efficiency of their own production. The management of these economic units (usually also of the traditional type, family business) does not have, in most cases, the economic training necessary to carry out development programs, to plan the production process in terms of economic efficiency. Small economic entities do not have specialized and specially remunerated personnel for the collection, registration and processing of information from the production sector, their centralization in the form necessary for management to control the economic process. The management programs used by some confectioneries only have the role of keeping records of stocks and do not meet the requirements of management accounting. Purchasing management accounting programs tailored to the specifics of production is an expensive step that most managers do not take. On the other hand, accessible accounting programs are made for financial accounting and cannot be adapted to the specifics of the organization of the activity in each unit.

The correct and complete determination of costs, the establishment of deviations and activities generating additional costs, the analysis and the proposal of measures to improve efficiency can be proposed and implemented by choosing a method of calculating costs to meet the needs and possibilities of this category of companies Commercial. The standard cost method has several advantages for the economic entity: i) the cost of production required to form the selling price and, in financial accounting, to transform the transferred production into a commodity can be calculated and revised relatively easily for each product; and put up for sale in their own store; ii) the costs of the scheduled production can be known in advance; iii) the number of deviations from the standard cost may be known at the end of each month, by cost category, possibly by product category, insofar as this information can be collected in detail; given the small area in which production is carried out and the small number of employees, the causes of the deviations can be identified by direct observation; iv) a

monthly control of the real cost of production can be performed; v) the work of recording and calculating costs is relatively short in time, once the information has been collected from the cost site.

Knowledge of costing methods, their use in practice by adapting to the specifics of production of economic entities, is an advantage in the accounting profession, as it can provide management with important, structured, clear, relevant information related to the efficiency of production organization and can suggest solutions, to remedy losses or increase profits.

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