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THE UTILITY OF SALES FORECASTING MODELS IN THE MANAGERIAL PRACTICE OF COMPANIES

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Abstract
In the current economic context, companies are concerned about the most efficient management of resources, using for this purpose appropriate models of cost calculation and budgeting, as financial management tools, both at the level of the activities carried out and at the level of the whole company. The economic activities carried out by the companies are permanently included in a balance between expenses and revenues, which require a complex analysis, because through their interaction a company becomes performance. Thus, the objective of the present paper is to highlight the forecasting models of sales with impact on the company's performance, resorting to the detailed presentation of the process of elaborating the sales budget of a company with a production activity, the aspects analyzed in the content of the paper being realized in order to optimize the profit. and the foundation of optimal decisions at the analyzed company level, in order to finally show the relationship that may exist between costs, sales budget and decision making process.

Key words:profitability; performance; decision-making technique; sales budget; forecasting; turnover

JEL Classification:M11, M41

I. INTRODUCTION

The decision-making process of a company is very complex and diverse, due to the different cases and situations that occur in the life of the company, the immediate purpose of any company being to maximize the profit, this being the target of the managers, in order to achieve the performance. proposed.

According to Anthony (1988:24) "the criteria according to which managers' actions are valued are efficiency and effectiveness".

The strategic objectives of the entities are established by managers according to: the profitability of each product brought to the company, the economic forecasts, but also by the specific field of activity of the company. Managers believe that performance is achieved by accomplishing the objectives (Anthony & Govindarajan, 2007:56).

The budget has emerged in managerial theory and practice as a tool for forecasting revenues and reducing expenses. Through a quantitative approach, in the applicative part of the paper the presentation was made in the composition of the management control of the methodology of elaborating the sales budget within the analyzed company, with applicability at the level of the real organizational systems, the research results can be included in a integrated model for assisting managerial decisions, by analyzing specific indicators.

II. USEFULNESS OF COSTS AND OUTCOME IN DECISION MAKING

At the level of any company, the managers ask questions regarding the production, reaching the following needs: establishing the minimum order price, after which profit is obtained; the appearance of the limiting factors that determine the incongruity between the demand and the production capacity; continuity and discontinuity in production; to buy or produce, the decision being influenced by the limitation or not of the resources; the decision of the product mix, which helps maximize the profit by maximizing the contribution and minimizing the cost (Dumitrana & Caraiani, 2010:185-195).

The conduct and organization of the economic activity must meet the real needs of the company. It has to be useful and profitable, by making a profit and covering the expenses. Profitability means a synthesis of actions to all the factors involved in the production process, reflecting the company's ability to make further profits. This shows the efficiency of using human and material resources in the production activity.

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The determination of profitability can be made at product or product group level, at company or branch level being expressed are relative or absolute form, with the help of the rate of profitability, which expresses the extent to which the resources bring profit.

Costs have a contribution in substantiating the decisions that are reflected in: determining the volume of activity; choosing the optimum production variant; comparing the cost of own products with those of similar products, manufactured by the competition, by determining the differences that result from the way of organizing the work, from the way of organizing the activity and from the use of time; creating the possibility to exercise all the functions of the management activity; obtaining an internal planning tool, by using the antecalculation, being able to realize programs regarding the evolution of the company indicators (Fotoche, 2005: 135-137).

The categories for substantiating the decisions are presented in the following terms, which are described in the following. By rationalizing we mean the awareness of the management of the products, services, customers, stored units, which are good or need improvement, but which of them must be abandoned. About planning and budgeting, we know that it is based on forecasts of future demands, being influenced by the volume or mix of products or services, combined with possible future assumptions. This is when we have a predictive view of costs.

By justifying the capital expenditures, the company analyzes, if the results obtained are justified, and finally follows the orientation of the future improvement of productivity (Cokins, Căpușneanu & Briciu, 2012: 28-42).

When making management decisions, the following steps must be taken. The first step being the calculation of the cost of services and products, then the manager has the information necessary for control, planning and performance evaluation. And finally, it analyzes the information relevant to strategic decision making (Bușan & Ecobici, 2008: 59).

III. BUDGETARY CONTROL

Management control must be the instrument of attention and cohesion of any type of management, providing the necessary elements for any decision-making act.

Budgetary control expresses the activity of monitoring the management, permanently comparing the results with the forecasts, analyzing the favorable and unfavorable deviations, but also transmitting the information of the manager in order to make decisions (Calu &Dumitru, 2008: 88).

The performance dimensions are defined qualitatively by profit that represents the main objective, the quality of the products, innovative image, etc. However, in order to set quantitative goals and monitor results, these qualitative dimensions will need to be translated into measurable units or indicators (Giraoud et al., 2011).

The budget thus represents the orientation towards a profitable management and as a forecast document, it is established at an annual level and sets the responsibilities for each department within the company, representing one of the most important short-term planning tools, being a fundamental component for the control of management. This is a detailed plan, expressed with the help of quantitative units and shows how the company will obtain, but also how to use the resources over a period of time (Albu & Albu, 2003:17).

The budget of a company is important for the success of the activity because it involves the collaboration of entire management teams and requires the manager to foresee future activities by planning the objectives and events (Linder & Weber, 2005). In enterprises it is necessary to have a budgetary unit, and the general budget should be divided into several budgets such as: production budget, sales budget, inventory budget, expenditure budget, propaganda budget, financial provisions budget, investment budget and others (Villeseque, 2003).

We can say that the budget of a company is not a rigid budget, being a flexible one, which allows for the adjustment of the pre-determined figures during its operation, being influenced by certain factors such as the variation of prices.

There are four stages of budgeting: diagnosis, program, budgeting and budgetary control (Donoaica, 1998: 182). Thus, the diagnosis of the budget means the study of the factors that have produced negative or positive changes in the previous year. Stable elements such as: customer stability, workshop structure, seasonal fluctuations are studied, and unstable elements are studied: exceptional orders, sources of supply, assignment of securities, etc. Also detailed analyzes are made on the receipts and payments (Bouquin, 1992). The action program defines the policy of the company, as well as of each section (sales, supply and manufacturing), establishing the tasks set out. As for budgeting, it should be known that their provision is made after the revenue is provided. The company's budget must always be in balance (Mui Yee, Wong Sek Khin& Ismail, 2016: 551-463).

Budgetary control involves comparing the turnover with the forecasted one, an operation that takes place at the time of budget execution (when deviations are established). The efficiency of this action requires that the two provisioned and real values be made quickly and especially value, being expressed according to the same unit of measure (number of attic, hours or employees).

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IV. METHODOLOGY REGARDING THE PREPARATION OF THE SALES BUDGET

In the process of making budgets, the starting point is given by the sales budget, as a basic pillar on which the entire budget process depends, because all the activities of an enterprise depend on its sales, but also on the projected revenues. Complementary to the sales budget, the expenditure budget is prepared, which presents in detail the expenses of the companies related to the promotion activity, the expenses related to the services provided by the company and the distribution expenses.

The overall size of a company's sales budget can be influenced by the business objectives of the company (target market, turnover and market share), the company's commercial policies (prices, product policies, customers and price reductions) and the economic situation, business environment. A sales budget is a financial plan for the sale of goods and services of a company.

In the elaboration of the sales budget, two stages are distinguished (Ionescu & Bîgioi, 2016: 737): the first stage consists of the forecast of sales (quantitative and value) and of the marketing expenses, and the second stage consists of the breakdown of the annual budgetary provisions in short time periods (quarters, months), by groups or products, by geographical area, ie in different budgets that facilitate control of the annual forecasts.

The sales budget is correlated with the production budget, thus together determining the parameters of all other budgets. At the time of their elaboration, it is important that budgets are mutually conditioned: if the production capacity is insufficient so that it is possible to produce all the goods whose sale is possible, we must diminish the initial figures of the forecast of the sale or we must develop the production potential, and if the sales possibilities offered by the market are insufficient for the full use of the production capacity, either the removal of part of the equipment or the reduction of working time must be envisaged.

V. SALES FORECASTING

Sales forecasting is the most important activity, materialized in studies and researches that have the purpose of determining the potential sales market that the company can have access to, as well as the part of the market that it plans to conquer.

The forecast of sales can be defined as establishing the advance of sales, quantitative and value, taking into account the limits of the company. Elaborated on a long-term basis, this forecast allows the financing plan and the investment program to be realized.In the short term, the sales forecast supports the elaboration of the production and supply program, when drawing up the sales and supply expenses budgets and the treasury budget (Mihalciuc & Apetri, 2015: 35-41).

The programmed level of sales of a company is established by senior managers, based on the data provided by the marketing production sectors.

The problem of forecasting must be studied according to the limits present in the company. Outside the company the limits are those set by the market in which the company is present. Some techniques are used to reduce uncertainty. In the study of the long-term trend, long-term correlations and trend curves are used, which reflects the extrapolation-based processes, that is, the design of the future in the future. Market research starts from consumers' intentions or needs and stimulates their behavior in the future. Inside the company the limits are determined by: financial, human and geographical constraints (space problems, spatial planning, ecology).

Representing a general problem, the decisions are made by the general manager, together with the financial, commercial and technical director. Taking into account the existing limits, the forecast of sales for the following years is determined (Ionescu&Bîgioi, 2016:737). The main limit for the organization is represented by the market, for this purpose the organization has the mission to adapt as best as possible to the evolution of the market.

We know that the short-term forecast analyzes the one-year period, corresponding to the financial year and targets the products. The organization can have as wide a range as possible on products that can be changed from year to year, in the sense of giving up unfavorable products or the appearance of new products, as a result of the commercial research carried out by the organization.

Short-term forecasting is simplified in case of companies producing goods with relatively long production cycle, the activity forecast is made on the basis of orders according to Figure no. 1 model regarding the overall situation of short-term forecasts.

This forecast, like the long-term one, is made by taking into account the restrictions determined by the market, for which commercial and economic analyzes can be carried out (questionnaires, market studies), but also the limits of the organization, which can vary in depending on the nature and size of the activity such as: commercial means (quality of sales, sales networks, sales price), production capacities (materials, machines, work equipment and workers), product margins, advisory work on launching new products, but also the possibilities for short-term development.

Prediction methods can be classified into (Gervais, 1994:135):

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- qualitative methods (opinion determination);
- quantitative methods (mathematical treatment of a chronological series);
- causal methods (relations with an external variable).

The qualitative methods are realized by interrogating the customers (through market research), the salesmen (through questionnaires), and the management personnel in order to identify their opinions regarding future sales.

By budgeting on the sellers or on the region the company can elaborate budgets on different geographical regions, following the comparison of the situations in each region and the efforts of each seller starting from the past results and highlighting what he wants to achieve in the future. The product budget allows the company to track and analyze the sales evolution for various items in a product range (Dumitru& Ioanăș, 2005: 212).

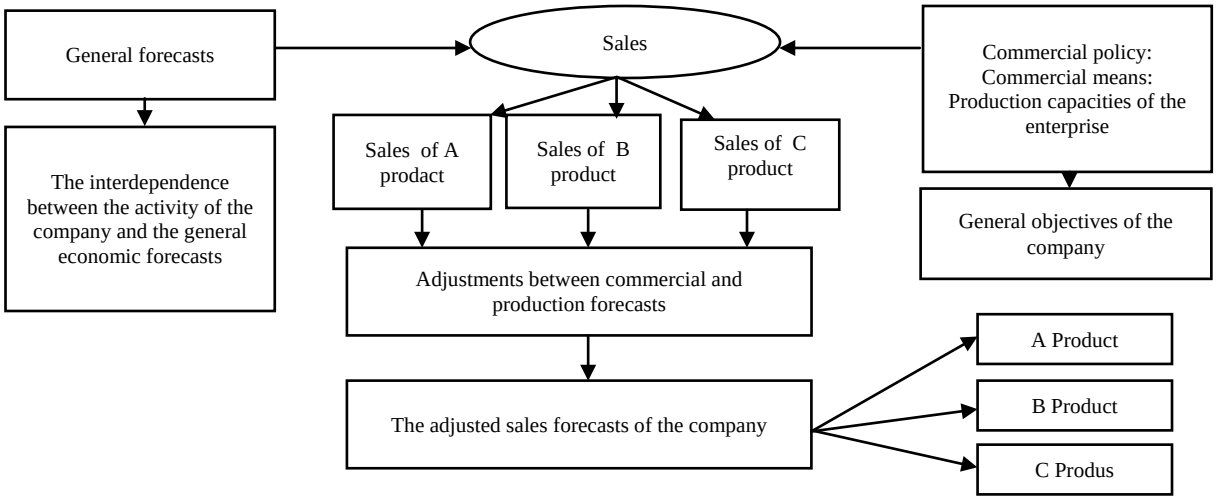

Figure1 - Model regarding the overall situation of the short-term forecasts
Source**:** Gervais (1994)

VI. THE ROLE OF BUDGETS IN SUBSTANTIATING DECISIONS AT THE LEVEL OF S.C. SWEETS INDUSTRIES SRL

The activity objective of the analyzed company is to obtain milk production from its own farm, milk processing and ice cream manufacture, marketing of milk and ice cream through its own stores.

A well-organized distribution network in several counties in the country. SC Sweets Industries SRL has an increasing evolution from a financial point of view, being considered the company with the best ice cream on the market, having a natural taste, which is an advantage and helping it to evolve.

In the following we will consider the forecast of sales of premium ice cream 1Kg, being the most sold ice cream, then the elaboration of the sales budget on the product, as well as the cost forecast for the production of premium ice cream 1kg.

VII. FORECAST OF SALES OF PREMIUM ICE CREAM 1 KG

Sales forecasting is based on static methods that consist of displaying past data. The most used methods are the linear adjustments method. The basic feature of this method is the seasonality coefficient, which can be highlighted in Table 1.

Table 1. Determination of the seasonality coefficient

Month	Quantity sold			Monthly average sales	Seasonality coefficient
	Year 2016	Year 2017	Year 2018		
January	1.100	1.436	1.544	1.360	6,01 %
February	1.115	1.290	1.350	1.252	5,53 %
March	1.110	1.234	1.450	1.265	5,59 %
April	1.455	1.564	1.655	1.558	6,90 %
May	2.200	2.316	2.456	2.324	10,3 %
June	2.550	2.534	2.658	2.581	11,42 %
July	2.350	2.345	2.870	2.605	11,52 %

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Month	Quantity sold			Monthly average sales	Seasonality coefficient
	Year 2016	Year 2017	Year 2018		
August	2.820	2.987	3.215	3.118	13,80 %
September	2.400	2.109	2.750	2.468	10,91 %
October	1.650	1.765	1.876	1.764	7,80 %
November	1.050	1.232	1.564	1.282	5,67 %
December	850	986	1.245	1.027	4,54 %
Total	20.650	21.798	25.359	22.602	

Source:Processing according to the data of the company Sweets Industries

The seasonality coefficient corresponding to each month is determined as a ratio of the average monthly sales to the average annual sales, according to the data in Table 2, using the data for at least two consecutive years, as can we see in Figure 2.

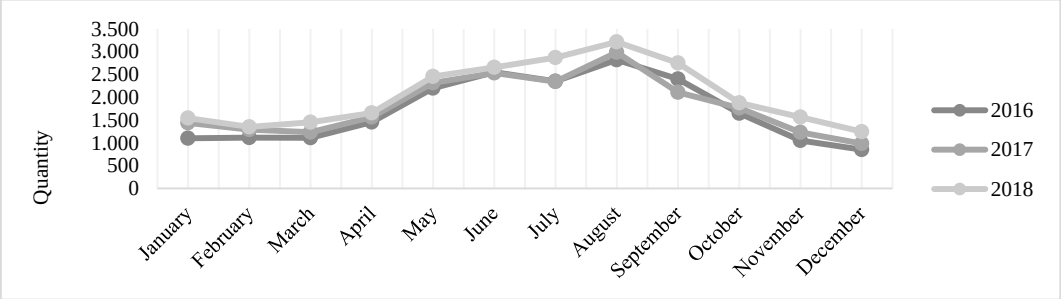

Figure 2 -Sales analysis for the last 3 consecutive years
Source:Processed used data from Table 1.

Sales forecast for 2019, as seen in Table 1. is achieved by weighting the total quantity foreseen for the year 2019 with the seasonality coefficient established in Table 2.

Analyzing the forecast situation for 2019, we designed the sales graph according to the representation in Figure 3.

Table 2. Program sales forecast for 2019

Month	Seasonality coefficient	Estimated quantity Year 2019 (pieces)
January	6,01 %	1803
February	5,53 %	1659
March	5,59 %	1677
April	6,90 %	2070
May	10,3 %	3090
June	11,42 %	3426
July	11,52 %	3457
August	13,80 %	4140
September	10,91 %	3275
October	7,80 %	2340
November	5,67 %	1701
December	4,54 %	1362
Total	-	30.000

Source:Processing according to the data of the company Sweets Industries

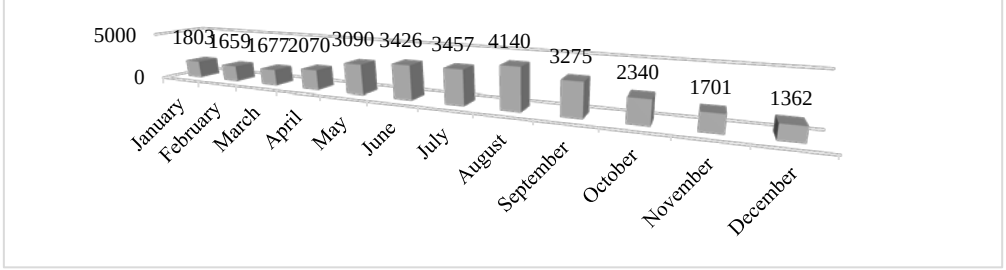

Figure 3 -Sales forecasting planned
Source*:* Processed used data from Table 2.

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VIII. ELABORATION THE SALES BUDGET FOR THE PRODUCT

The main objective of the sales budget is to forecast the turnover, being influenced by the forecast of the sale price and the sales schedule, ie the quantity that was forecast. The volume of sales, reflected in the sales program, can be determined according to the volume of production to be manufactured, with the initial stock and final stock. The turnover reflected in the sales budget expresses the relationship between the sale price and the physical volume of the production to be sold.

The forecast for the sales of the year 2019, entered in the sales budget, is presented in Table 3, and designing estimated turnover for ice cream product can be highlighted in Figure 4.

Table 3. Sales budget for 2019 - Product: Ice cream Premium1 kg

Month	Estimated quantity (pieces)	Average sales price expected (lei/ piece)	Estimated turnover (lei)
January	1.803	20	36.060
February	1.659	20	33.180
March	1.677	20	33.540
April	2.070	20	41.400
May	3.090	20	61.800
June	3.426	20	68.520
July	3.457	20	69.140
August	4.140	20	82.800
September	3.275	20	65.500
October	2.340	20	46.800
November	1.701	20	34.020
December	1.362	20	27.240
Total per year	30.000	-	600.000

Source:Processing according to the data of the company Sweets Industries

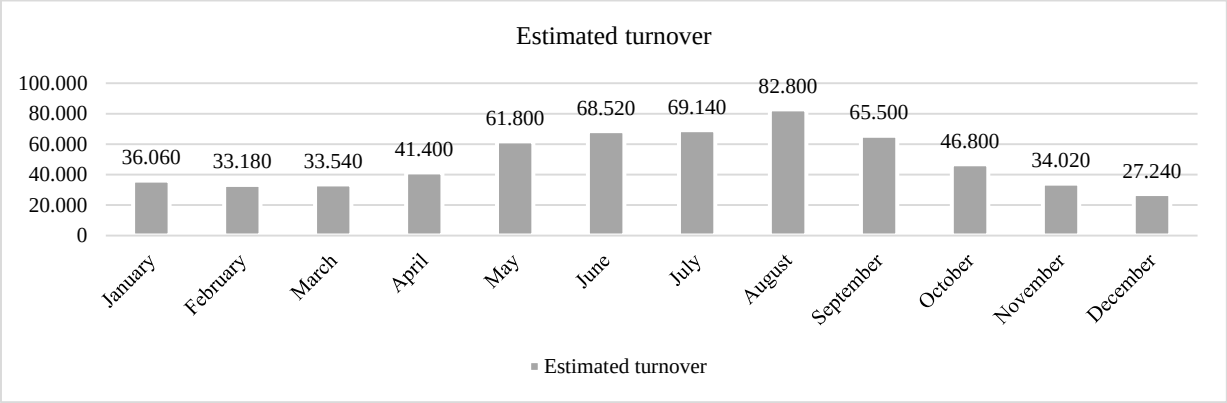

Figure 4 -Designing estimated turnover for ice cream product
Source:Processing according to the data of the company Sweets Industries

IX. COST FORECAST FOR THE PRODUCTION OF 1KG PREMIUM ICE CREAM

Using the method of the smallest squares we made a cost forecast for 2019, according to the method presented in Table 4, with a delimitation of expenses in fixed costs and variable expenses.

Table 4. Cost delimitation in fixed and variable for the year 2019

Month	Production volume	Total cost	X_t	Yt	X_t^2	Total variable expenses	Fixed expenses
January	1.803	23.439	-697	-9.061	485.809	16.227	10.000
February	1.659	21.567	-841	-10.933	707.281	14.931	10.000
March	1.677	21.801	-823	-10.699	677.329	15.093	10.000
April	2.070	26.910	-430	-5.590	184.900	18.630	10.000
May	3.090	40.170	590	7.670	348.100	27.810	10.000

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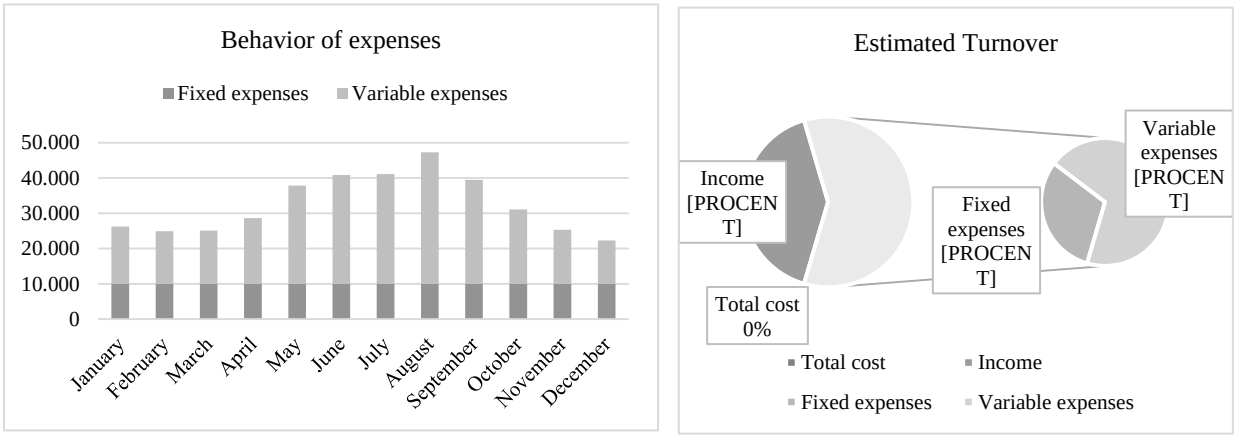
Month	Production volume	Total cost	X_t	Yt	X_t^2	Total variable expenses	Fixed expenses
June	3.426	44.538	926	12.038	857.476	30.834	10.000
July	3.457	44.941	957	12.441	915.849	31.113	10.000
August	4.140	53.820	1.640	21.320	2.689.600	37.260	10.000
September	3.275	42.575	775	10.075	600.625	29.475	10.000
October	2.340	30.420	-160	-2.080	25.600	21.060	10.000
November	1.701	22.113	-799	-10.387	638.401	15.309	10.000
December	1.362	17.706	-1.138	-14.794	1.295.044	12.258	10.000
Total	30.000	390.000	-	-	9.426.014	270.000	120.000

Source:Processing according to the data of the company Sweets Industries

In Figure 5. we have represented the expected behavior of fixed costs and variable costs. With the help of the sales forecast calculated from Table 2 in the amount of 30,000 pcs, we managed to calculate the total estimated cost of 390,000, with a weight of 59% of the figure of the affection. This total expected cost is composed of 18% fixed costs 120,000 lei [1] and 41% variable costs in the amount of 270,000 lei.



a) **b)**

Figure 5a, b. - Cost behavior analysis for the year 2019

Source:Processing according to the data of the company Sweets Industries

X.CONCLUSION

As we can see from the content of this paper, the costs have a very important role in the management decisions. The Sweets Industries company is in a very good position, because the winds represent a share of about 41% of the turnover, and the costs have a weight of 59%. Thus, it is recommended to formulate production strategies so as to increase the revenues in comparison with the costs, and in the future it is important that the company managers supervise the dashboard for all products. In conclusion, sales affect all aspects of an enterprise. Managerial decisions must be made on the basis of specific business analyzes for maximum profitability. Our analyze can be included in an integrated model of assisting the managerial decisions, by analyzing the specific indicators, so that we see the necessity of calculating the costs and the budgets in making the managerial decisions.

End Notes

[1] The leu represents the national currency in Romania, and the BNR exchange rate established on May 31, 2019 for one euro is 4,7487 Ron.

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