TOOLS OF MANAGEMENT ACCOUNTING IN IMPROVING THE MARKETING PROCESSES OF INDUSTRIAL COMPANIES IN CUBA

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SUMMARY: *Over the years, the products and services are increasingly complex and with it the demands of customers in terms of quality, time and price. For the aforementioned, in order to be successful, is necessary to have an adequate management and relationship of the areas in the entity, relying on tools such as those that make up Management Accounting, which serve as support both for planning and for control therefore for decision making. Planning is not aimed at eliminating risks, assuming them is essential for progress, ensuring that they are detected. In this sense apply a procedure based on the Cost – Volume – Utility model, for making managerial decisions, aimed at improving the commercialization process in cuban industrial companies, constitutes the objective for this investigation, that is validated through a case study applied to an intentional sample dedicated to the production of fruit juices in Cuba; for this purpose, several methods were used at the theoretical level such as structured interviews, surveys, expert criteria and a method was formulated for the analysis of the different variables that make up the research, as well as the evaluation of two scenarios that allowed to diagnose the situation of the industry, recognizing that the proposed procedure allows decisions to be made to improve commercialization in the juice line of industrial.*

Key words: Commercialization, planning, cost-volume-utility model, equilibrium point.

INTRODUCTION

The Management Techniques since its emergence have been of great help for the continuous improvement and the gradual increase of the profitability and performance of the organizations. Over time, they have developed strong working tools, which through their use and the correct assessment of the environment, allow reaching conclusions such as: In which businesses it is better to invest, what threats or opportunities will be had in the future to come, what are the main ways to follow to achieve the defined objectives, increase profitability and the utility of the organization.

On this subject, the literature on accounting and administration has documented that management accounting helps to reduce the uncertainty, but it is still debated whether or not it improves the performance of organizations (Wang, Wee y Koh, 1998). The existing theory allows to specify that the information reduces the uncertainty understood as «the difference between the amount of information required to perform the task and the amount of information available in the organization » (Galbraith, 1973, p.5); but this systems can be rigid, not allowing organizations to react quickly (Davila, 2000). It is speculated that excess rigidity only happens in stable environments, but that harmful side effect existing in turbulent environments, is little documented (Kattan, Pike y Tayles, 2007) and particularly in Latin America (Porporato y Garcia, 2011).

Nowadays the continuous improvement of the processes has promoted the development of techniques of creation and transformation of strategic and economic scenarios, convenient for the benefit of the organization itself. Over the years, the products and services are increasingly complex and with it the demands of the most diverse customers, in terms of quality, time, design and price. The aforementioned, together with the presence of increasingly globalized markets makes companies move in very competitive media, and that in order to succeed they have to achieve an adequate management of any of the areas of their entity, being important, in addition, a correct relationship between them.

Currently, Cuba has become a major importer, and in such circumstances, taking into account the difficulties the island is experiencing, the economy is geared towards its full recovery, for this, the elevation of efficiency in social productivity should become the main way to ensure economic development. To achieve this, it is necessary to convert Cuban companies into profitable organizations and encourage the development of the competitive advantages of these entities, being necessary a correct production and commercialization of the products, besides maintaining a high availability of these items.

In the planning process, every company must be aware that it has three elements to reach its future. The key to the planning of the profits lies in the composition of the cost structure, so it is very important to know the nature of the same to make the right decisions. To increase profits, the organizations should plan based on models and techniques, and not based on empiricism, which would lead to wrong decisions that could compromise the future of the organization.

Therefore, the objective of the investigation is define as: apply a procedure base on the Cost-Volume-Utility model, for making managerial decisions, aimed at improving the commercialization process, in industrial companies in Cuba.

Among the main results obtained in the research are the management of a procedure where tools related to management accounting are linked, such as the cost-volume-utility model and the risk analysis, costs and benefits in improving the commercialization processes in industrial companies, through the application of different scenarios where possible conditions are analyzed to make decisions, diagnose and properly conduct the entity.

DEVELOPING

In the investigation, a case study is formulate taking as reference a company dedicated to the processing and commercialization of fruits and vegetables as intentional sample.

The structured interview, with the objective of delimiting the processes and activities that are developing in the company, were applied for all the managers and middle managers and the opinion of the specialists of the sub-department of quality and economy.

In general, the historical-logical method was applied, information was collected and processed for the year 2017, to evaluate and analyze the situation presented by the company in this period and be able to carry out the projection of later periods and its diagnosis.

The investigation started from the general, the study of the company, to the particular, the behavior of its results indicators and more specific, cost and marketing.

Graphs were drawn up, and an adequate tabular ordering of the information was made for a better understanding of the results.

The industrial company has several production lines, based mainly on the processing of citrus tropical fruits, with the aim of supplying the international and national market (mainly to hotels throughout the country). Within the main production lines of the entity is the development and processing of:

- Concentrated frozen juices of citrus and pineapple
- Fruit puree (both frozen and aseptic)

- Aseptic nectars (different flavors)
- Tomato and canned of the same
- Jams
- Pre fried potatoes

To plan, it is highly recommended to take as a basis not only the conditions that generate changes in activity levels, also the average historical results, that is, neither the best nor the worst, once these assessments are considered, 2017 is the standard year and its results allowed to realize the future planning for the production line of juices, for being the one that greater income provides to the industry. Starting from the fact that in this line different types of juices are elaborated with similar characteristics but with differentiated costs and prices, the corresponding expenses that facilitate its calculation are shown below as shown in table No 1.

Table No 1: Classification of expenses according to their relation with the volume of production and definition of the price of the products for the line Natural fruit juices.

Productions	**Variable expends**	**Fixed costs**	**Price**
Mango nectar	$75.00	$1173.00	$88.52
Guava nectar	77.43	1173.00	82.52
Orange-mango nectar	76.87	1173.00	89.95
Orange-pineapple nectar	64.62	1173.00	77.71
Orange-banana nectar	70.75	1173.00	83.83
Papaya nectar	75.34	1173.00	87.42
Fruits cocktail	89.68	1173.00	92.76
Orange fruit pump	75.00	1173.00	86.08

Source: Elaboration of the author from the information of the company**.**

The results of the equilibrium point calculation are show in table No 2 in units and pesos.

Table No 2: Equilibrium point (EP)

Productions	**EP in units**	**EP in pesos**
Mango nectar	87	$ 7 701.24
Guava nectar	230	18 979.6
Orange-mango nectar	90	8 095.5

Orange- pineapple nectar	90	6 993.9
Orange-banana nectar	90	7 544.7
Papaya nectar	97	8 479.74
Fruits cocktail	380	35 248.8
Orange fruit pump	106	9 188.08

Source: Own elaboration

The safety margin (SM) is calculate for each product for the year 2018, the results of its calculation are show below in table No 3:

Table No 3: Safety margin

Productions	**Expected sales (u)**	**Sales in PE (u)**	**% Safety margin**
Mango nectar	**8700**	**87**	**99**
Guava nectar	**4300**	**230**	**95**
Orange-mango nectar	**9000**	**90**	**99**
Orange-pineapple nectar	**9500**	**90**	**99**
Orange-banana nectar	**9850**	**90**	**99**
Papaya nectar	**9700**	**97**	**99**
Fruits cocktail	**3800**	**380**	**90**
Orange fruit pump	**1060**	**106**	**90**

Source: Own elaboration

When analyzing the values determined above, it can be seen that sales can fall from 90 to 99% and even the production line would not incur losses, which shows that safety levels are very high and operational risk is negligible.

Below is an analysis that show how profits and profitability change when the sales by productions vary as shown in table No 4 and 5.

Table No 4: Profits for productions

Benefit = incomes – costs			
Productions	**Benefit**	**Incomes**	**Costs**
Mango nectar	$779.92	$2168.44	$1388.52
Guava nectar	779.91	2150.43	1370.52
Orange-mango nectar	779.92	2149.87	1369.95

Orange-pineapple nectar	779.91	2407.62	1627.71
Orange-banana nectar	779.92	2343.75	1563.83
Papaya nectar	779.92	3448.34	2668.42
Fruits cocktail	779.92	3872.68	3092.76
Orange fruit pump	779.92	3126.00	2346.08

Source: Own elaboration

Productions	**% of Profitability**
Mango nectar	56.17
Guava nectar	56.91
Orange-mango nectar	56.93
Orange-pineapple nectar	47.91
Orange-banana nectar	49.87
Papaya nectar	9.23
Fruits cocktail	25.22
Orange fruit pump	33.24

Table No 5: Profitability of productions

Source: Own elaboration

Once the fluctuations of sales and profits have been calculated, the calculation and analysis of the degree of operating leverage (DOL) are carried out and the comparative analysis with respect to safety margin and profitability for productions as shown in table No. 6.

Table No 6: Safety margin, cost effectiveness y DOL for productions.

Productions	**Sales**	**Benefit**	**Cost effectiveness**	**SM**	**DOL**
Mango nectar	$2168.44	$779.92	35.97	99	0.1
Guava nectar	2150.43	779.91	36.27	95	0.2
Orange-mango nectar	2149.87	779.92	36.28	99	0.1
Orange-pineapple nectar	2407.62	779.91	32.39	99	0.1
Orange-banana nectar	2343.75	779.92	33.28	99	0.1
Papaya nectar	3448.34	779.92	22.62	99	0.1

Fruits cocktail	3872.68	779.92	20.14	90	0.2
Orange fruit pump	3126.00	779.92	24.95	90	0.9

Source: Own elaboration

As sales increase, profits grow and therefore profitability, this is due to the high levels of leverage. Operational leverage and profitability are indicators that always go together, the greater the profitability, the greater the leverage. Between risk and security there is no contradiction, the first has already been explained previously, the second is associated with the level of sales projected with respect to these at equilibrium point.

This is the effect of the operating leverage that occurs as a result of the existence of fixed expenses, which do not vary with the increase in sales and therefore the profits grow more than these. The above may seem perfect, however, risk should not be forgotten, which grows proportionally to the level of leverage and manifests itself in two ways:

1. In the elevation of the equilibrium point as fixed costs increase
2. If the sales forecast was very optimistic and these decrease instead of increasing the benefits will decrease much more than them.

According to the results shown in table No 6, the productions present a high margin of safety, therefore the benefits are lower, the profitability and the degree of leverage are very low, in all cases they do not reach the parameters that according to the theory must achieve these indicators that demonstrate and adequate planning of resources and projection of sales.

To anticipate positive results, different alternatives of income, costs and expenses are evaluate to define the most optimal variant, in which a maximum number of profits or minimum losses without deterioration of the quality standards is reached. His practical demonstration is introduce in order to facilitate the interpretation of the results and illustrate the advantages offered by this method. To do this, we work with two scenarios, as shown below:

Scenario 1.

The first scenario is design taking into account the variability in the demand of juices and their empirical planning, which causes that the levels of projected sales are well below the demand and production capacity of the line, therefore, in this first moment, the volume of sales is increased by 5% which leads to an increase in variable costs in the same proportion, as shown in table No. 7.

Table No 7: Results of scenario 1

Productions	Current					Scenario 1				
	EP	Benefit	Responsibility	SM	DOL	EP	SM	Benefit	Responsibility	DOL
Mango nectar	87	$779.92	35.97	99	0.1	120	98.69	$88075.95	10.89	0.11
Guava nectar	230	779.91	36.27	95	0.2	963	78.68	4328.53	1.16	0.01
Orange-mango nectar	90	779.92	36.28	99	0.1	127	98.66	86111.92	10.13	0.10
Orange-pineapple nectar	90	779.91	32.39	99	0.1	119	98.81	97170.52	12.54	0.13
Orange-banana nectar	90	779.92	33.28	99	0.1	123	98.81	97520.31	11.25	0.11
Papaya nectar	97	779.92	22.62	99	0.1	141	98.61	83494.90	9.38	0.09
Fruits cocktail	380	779.92	20.14	90	0.2	3,011	23.08	351.89	0.10	1.00
Orange fruit pump	106	779.92	24.95	90	0.9	160	85.62	6985.29	7.29	0.07

Source: Own elaboration

Scenario 2.

In the second scenario, the continuous acceptance of the product was taken into account and, therefore, the progressive increase in demand and production capacity, which is why an increase in prices is propose by 5%, considering that this does not mean that affects the commercialization of the line of natural juices. As seen in table No. 8.

Tabl3 No 8: Results of scenario 2

Productions	Current					Scenario 2				
	EP	Benefits	Responsibility	SM	DOL	EP	SM	Benefits	Responsibility	DOL
Mango nectar	87	$779.92	35.97	99	0.1	77	99	$807,241.68	23.7	0.19
Guava nectar	230	779.91	36.27	95	0.2	149	97	371,207.28	10.3	0.10
Orange-mango nectar	90	779.92	36.28	99	0.1	78	99	848,657.55	18.5	0.18
Orange-pineapple nectar	90	779.91	32.39	99	0.1	96	99	773,529.54	20.7	0.21
Orange-banana nectar	90	779.92	33.28	99	0.1	91	99	865,447.95	19.5	0.19
Papaya nectar	97	779.92	22.62	99	0.1	162	98	887,704.28	17.8	0.18
Fruits cocktail	380	779.92	20.14	90	0.2	401	89	367,019.64	7.6	0.08
Orange fruit pump	106	779.92	24.95	90	0.9	153	86	93,460.96	15.8	0.16

Source: Own elaboration

In the analysis of the results obtained in the previous scenarios, it was found that the increase in variable costs causes and increase in the break-even point and, as a result of the increase in sales, the profit levels rise. On the other hand, in the analysis of operational risk, it is concluded that the safety margin is high, therefore the profitability decreases with respect to the current situation and the degree of operating leverage is negligible, which indicates that the entity working on this line of production with little risk and does not fully exploit its capacity.

In scenario 2, the situation with an increase in prices does not vary significantly with respect to the previous one, only a decrease in the balance point is observe all of the above allows to affirm that the decisions related to production planning affect the commercialization of the natural juice line by not making the most of the capacities and market demand, also the concentration of a discrete average price

with a low level of sale, generates a level of insufficient incomes with respect to the volume of fixed expenses derived from the operations of the entity.

In short, doing things well taking into account, internal and external factors, take advantage of opportunities to learn from other specialized organizations and with more experiences, it is a way to avoid failures and a way to be more productive and efficient, not so much by trying to reduce costs, but by trying to increase the rationalization of processes.

CONCLUSIONS

The Cost-Volume-Utility model is an effective tool for decision-making and the projection of sales levels. For its part, the proposed procedure allowed to take decisions to improve marketing in the line of natural juices of the industrial company sample.

The application of the scenarios in the investigation corroborated the limited process of planning and use of capacities of the natural juice line of the industrial company.

The application of the procedure allowed corroborating the utility of the use of tools belonging to the management accounting for the improvements in the processes of planning, decisions making and marketing of the juice line of the company under study.

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