

## **THE BREAK EVEN POINT AND THE PROFIT IN A RESTAURANT**

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*ABSTRACT: The hospitality industry represents one of the most dynamic sectors of the contemporary society, with an emphasised role in the process of globalization. Currently, the hospitality industry does not only face the challenges of the economic crisis but the changes in the market, the consumers' behaviour and the technological trends, too. That is why, in this time, it is extremely important to apply the management accounting and the cost calculation in any entity in the hospitality industry in order to cope with the market challenges. The main services are performed through the hospitality industry: the accommodation and the restauration. These services satisfy the vital needs of the tourists, but this industry must meet other needs or requests such as the acknowledgement of the social status, the desire to know other cultures or traditions, to spend free time in a pleasant manner etc. Our intention and goal in the current article is to approach an image of the CVP analysis in the decision making process with an emphasis on the restauration in the hospitality industry. In order to cope with this critical time, the competition and to achieve the profits estimated, the managers in the hospitality industry can apply the CVP analysis, one of the simplest and most useful analytical instruments. The paper will tackle with the problem of the break even point in a restaurant, one of the main indicators of the CVP model and also the possibility of the decision making process orientation.*

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## **Introduction**

Tourism represents an economic-social phenomenon characteristic to the modern civilization, well grounded in the life of the society and, therefore, strongly influenced by its evolution. Addressing large social segments and meeting their needs, tourism is by far the sector characterised by an accentuated dynamism, both nationally and internationally. Tourism involves a vast human and material potential due to its complex content and its mass character which has important implications on the evolution of the national economies and that of the society.

The tourism is a strategic economic activity in Romania, its importance in the national economy being likely to increase in the next years. Tourism contains a large variety of products and destinations and it involves many interested parties both from the public sector and from the private sector and has as main activity subfields the accommodation and the restauration. The tourism has a great potential regarding the contribution to the achievement of Romania's several major objectives such as the sustainability, the economic growth, the employment and the economic-social cohesion as well.

The term of public food service is more and more replaced, lately with the simple one of nourishment and as the most representative type of entity is the restaurant, especially for denoting the activities performed in superior categories entities, the last years and a series of authors imposed the term "*restauration*" with its variant "*restoration*".

Public food service/nourishment/restauration contains the entire production and distribution of foods and drinks, respectively, and, according to case, the preparation of culinary dishes and pastry-confectionary products, the goods supply, the consumerism of products inside or outside the entities and the creation of an environment favourable to the clients' relaxation and entertainment (Nicolescu, 1999).

The modern life, the specialization of the individuals and the rise in the profits of a certain part of the population in the urban areas as well as the more stringent time crisis make that, nowadays, in the world each third meal is served outside the household" (Lupu, 1998). It is obvious that apart from the latter's touristic or collateral motivations; the restauration is motivated by other *four functions of consumerism in public food entities*, and respectively by:

- *nourishment*;
- *loisir*;
- *conviviality*;

- *Businesses*<sup>3</sup>.

Starting from the importance of the hospitality industry, from the perspectives of this sector's evolution but also taking into account the current conjuncture of the national economies seriously hit by the world economic crisis, the maintenance and development of the activity of an entity in tourism, the restauration industry implies the harmonization of the market opportunities with own resources and abilities, the capitalization of strategies based on information regarding the costs of the touristic products and of the complementary services, based on the financial-accounting information. The lack of a coherent management strategy implies an inherent weakness for the cost management system. Becoming aware of the benefits provided by the supply of quality services connected to a fair level of prices does not represent a common practice in the present (Dragolea and Todoran, 2009).

At the level of touristic sector, generally, but also in what the restaurants are concerned, the key factors of success are:

- the differentiation of own touristic products compared to those of the competition through a plus of attractiveness provided both by the environment and not in the last by the own offer at a competitive quality-price rate;
- the diversification of own products and services provided as well as the presentation of some integrated products meant to ensure all the facilities in the same package (meals, entertainment etc.);
- the flexibility and adaptability of the offer to the demand's tendencies;
- the constant and sustained promotion of the products on the market, emphasising the defining characteristics which differentiate them from the competition.

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<sup>3</sup> According to M. Kosossey and D. Majonchi (*Reussir en hotellerie et restauratio*, Edition BPI, 1990), quoted by Y. Tinarid (*Le tourisme-economie et management*, McGraw-Hill, 1992) and quoted by N. Lupu in the op.cit.

### **Theoretical frame regarding the CVP model – a step further from the Direct Costing method**

In the hospitality industry the method of cost calculation can be applied with the best results is the Direct Costing method and the Cost Volume Profit model.

The Direct Costing method is based on the principle of separating the variable expenses from the fixed expenses according to the behaviour of expenditure compared to the volume of production and it consists in charging on the products only the variable expenses either fixed or indirect.

At the origin of “Direct – Costing” there is a cost made up of only the volume of expenses which does not change directly with the production (with the level of activity) and not the direct costs as it wrongly might be understood from the name.

Direct costing gives the managerial team relevant information regarding the wording out of the decisions for the activity of the economic entity in the following period. This method will provide a basis for the cost forecasts, for the study of the effects of planned changes in the volume of the production, determined by the change of the economic conditions or the management’s certain open actions, as for example the changes in price, the increase or the decrease of the stock or the special promotional activity (Briciu, 2006).

The method emphasises the quickening of sales due to the fact that the size of the fixed costs is not distributed on the stocks (of unfinished products, of finished products), but it must be covered from the period’s sales. Also, the emphasis is on the analysis of variable costs and the charging of fixed costs on the (gross) margin on variable costs. The manager of any entity has the break even obligation to maximize the margin on variable costs on which the fixed expenses will be charged.

A powerful analysis instrument based on Direct Costing is the Cost-Volume-Profit analysis, being one of the most efficient instruments that the managers of any entity have at their disposal. The Cost-Volume-Profit analysis examines the behaviour of total revenues, total costs and the result from operation under the influence of the changes in the volume of production, of the sale price, of the fixed expenses or of the variable expenses.

The managers frequently use the CVP analysis to answer questions of the type: How will the total costs and the total revenues are influenced if we sell with 1,000 units more? How will the level of production be affected if we increase or decrease the sale prices? All these questions have a common subject: What if...? (Horngren, 2006)

That amount of production sold for which the total revenues equal the total costs is called the break even point; in other words, it reflects the amount of production sold for which the operating profit is zero. The managers are interested in the level of the break even point as it tells them what the minimum amount of production that must be sold not to record losses is.

In the speciality literature there are three methods to determine the break even point: the equation method, the marginal contribution method, and the graphic method.

In order to use the equation method (arithmetic calculus) in order to determine the break even point, the operating profit (the gross operating outcome) is expressed:

$$PE = CA - CV - CF \text{ or } PE = (PV_u \times Q) - (CV_u \times Q) - CF$$

$$PE = Q \times (PV_u - CV_u) - CF$$

The marginal contribution method is a variant of the equation method mentioned earlier and it considers that the balance point is that value of the turnover for which the fixed costs equal the total contribution margin on the variable expenses (Mv).

The unit variant of this margin (the unit margin on the variable expenses) expresses the increase of the profit with each supplementary unit of product sold. Thus, it will contribute to cover the losses undertaken by the enterprise until the break even point is reached. From that moment on, each extra unit sold will determine an increase in profit.

This statement hold true as long as it does not exceed the value of the floor for which the fixed expenses were determined (Albu N. and Albu C., 2003).

$$Q \times (PV_u - CV_u) = CF + PE$$

In other words

$$M_v \times Q = CF + PE$$

$$Q = \frac{CF + PE}{M_v}$$

At the level of the break even point the operating profit is by definition zero. If  $PE = 0$  the previous equation becomes:

$$\text{The breakeven point expressed in units} = \frac{CF}{M_v}$$

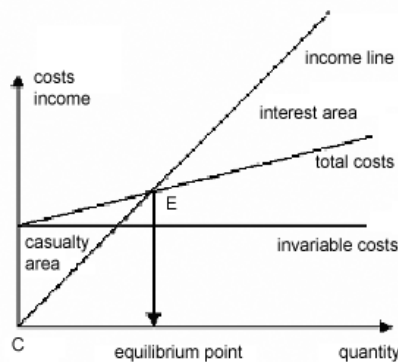
To compute the break even point in terms of revenues

$$M_v \% = \frac{M_v}{PV_u}$$

To reach the break even point the marginal contribution must be equal with the fixed costs, therefore:

$$\text{The breakeven point expressed in revenue} = \frac{CF}{M_v \%}$$

By the graphic method we present the total costs and revenues under the shape of straight lines on a graph. The point where these two straight lines intersect corresponds to the break even point.



**Fig. 2:** Accounting rationament of the cost-volume-profit analysis

The break even point can be used also to determine the physical volume of the activity so that a certain profit is obtained (P) (Caraiani and Dumitrana, 2004). The calculus relations are:

$$\text{In physical units } Pr_p = \frac{CF + P}{Ca^*}$$

where :  $Pr_p$  = break even point to reach the profit P

$$\text{In monetary units } CA_p = \frac{CF + P}{R_c}$$

where :  $CA_p$  – the necessary turnover to obtain the profit P

$R_c$  - the rate of global contribution

With the help of the equilibrium point or the break even point the necessary turnover to reach a certain rate of return (profit/sales) can be computed. If the managerial team of an economic entity decides to reach and maintain the enterprise at a certain rate of return, they can find with the help of the break even point what volume of activity ensures this target. The calculus relation is

$$CA_{RP} = \frac{CF}{R_c - R_p}$$

where:  $CA_{RP}$  – the necessary turnover to reach a certain rate of return

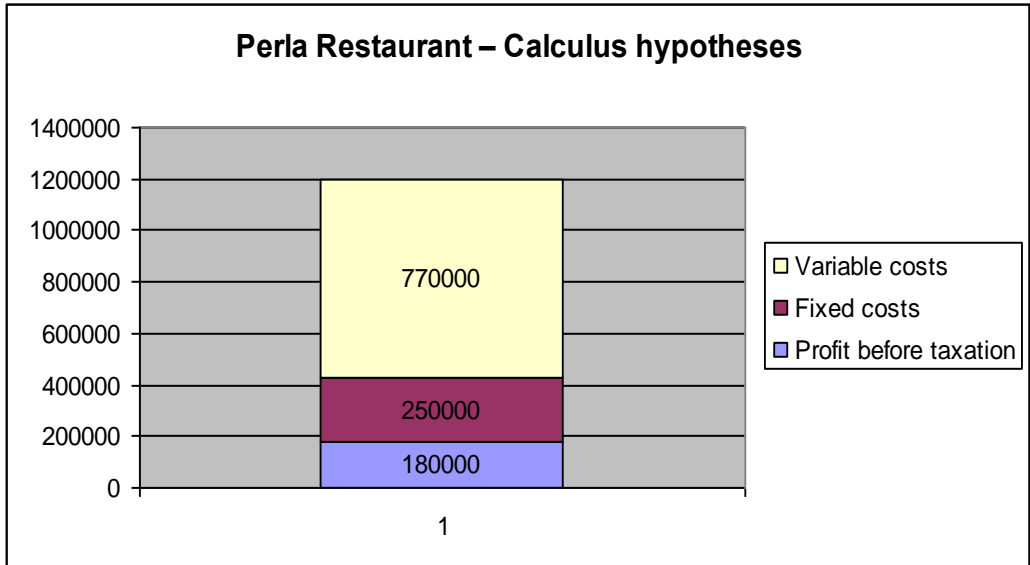
$R_p$  – rate of return

### **The equilibrium point and the foreseen profit in a restaurant**

From a restaurant owner or a restauration entity manager's perspective the problems are:

1. How many clients should I serve on average in a month to wholly cover the expenses?
2. Starting from a certain level of return that I target or it is imposed on me, how many clients should I serve in a month on average?
3. Suddenly some fixed costs rose, as well as the cost of utilities or the level of rent. What is the impact on the number of clients that I should serve so that I do not reduce the business' profitability?

To answer these questions, some simple calculus can be made for the last year activity of Perla Restaurant, a category I restaurant, about which we know that it had a turnover of 1,200,000 RON, it had approximately 20,000 clients in a year, had a gross profit before taxation of 180,000 RON and the fixed expenses for the year reached the value of 250,000 RON.



With the help of these figures we can calculate how much a client on average for the meal served in Perla Restaurant that is 60 lei.

If the profit of the restaurant was of 180,000 lei, knowing that the value of the fixed expenses is of 250,000, it means that the difference to the turnover is the variable costs of this restaurant which amount to 770,000 lei. If the number of clients is of 20,000 it means that the value of the variable cost on the client is of 38.5 lei.

Using the Cost-Volume-Profit analysis we can answer the most interesting questions with the help of the instruments available to us:

1. The number of clients absolutely necessary to cover all the expenses (this point is called in the Anglo-Saxon system Break Even Point):
- 2.

$$\text{Break even point number of clients} = \frac{\text{Total fixed costs}}{\text{Average bill} - \text{Variable cost on the client}}$$

$$\text{Break even point number of clients} = \frac{250,000}{(60 - 38.5)} = 11,628$$

Therefore the entity analysed needs 11,628 clients to cover all the costs, this means on average 969 clients a month or 32 clients a day. Any



supplementary client served over this point starts to build the profile of the Perla Restaurant.

3. How many extra clients should have come in Perla Restaurant for the profit to be 200,000 lei?

$$\text{Number of clients} = \frac{\text{Total fixed costs} + \text{Desired profit level}}{\text{Average bill} - \text{Variable cost on the client}}$$

Adding in the previous formula the value of the desired profit, the result becomes 20,930, that is 9,302 clients extra a year, or an average of 25 clients a day. How do we bring these extra clients in Perla Restaurant, what promotion campaigns should we initiate, what changes are required, can we do anything in this view? It results from here, from these dry figures a series of problems occur related to the management of the restaurant, the concept of the restaurant, the planning of the menu, the constant analysis of sales using well known instruments such as “Menu Engineering”, the measures taken in the menu as a result of each analysis, the promotion actions etc.

4. Let us assume that Perla Restaurant has a period of negotiations with the owner of the location regarding the rent. The fixed costs will increase with 10% if the restaurant’s operator accepts this increase.

$$\text{Number of necessary supplementary clients} = \frac{\text{Supplementary fixed costs}}{\text{Average bill} - \text{Variable cost on the client}}$$

The increase in rent will bring supplementary fixed costs of 25,000 RON and the impact on this rise in the supplementary number of clients rises to 1,163.

These are only some of the questions that can be answered with the instruments of the Cost-Volume-Profit analysis. The principles according to which these formulas are build and changed in order to find the necessary answers are sufficient and they represent the basis for the solving of the problems regarding the reaching the profit targets not only in the restaurant but also in the accommodation division or another centre of profit important for a business entity in the hospitality industry.

The use of these formulas is not very complicated but as it can be seen there is a need for healthy financial information to be able to work with accurate figures. To get here, if we are talking about a hotel, its financial statements must suffer a series of operations. A separation of revenues and

expenses of each profit centre must be made and once this operation is achieved, in the concrete case of the restaurant, in most cases there occurs a supplementary problem because it obtains the turnover from several types of activities than the sale in a la carte system.

If in the restauration sector there are revenues even from the event organization, breakfast is served, half-board or full-board meals are organized etc., and then it is necessary supplementary work to delimitate these activities. By correctly organizing the informational system, through a correct implementation of the restaurant software, a large part of these activities can be made yet automatically. It is up to the financial service or an expert in the field to find the best way to reduce the complexity of the case for the formulas of the type exemplified to be applied.

The Cost-Volume-Profit is one of the main instruments in the administration of any business in the hospitality industry. Adopting these work methods represents a huge step forward compared to the pub system well spread in Romania.

### **Conclusions**

Just as the light industry, constructions or the metallurgic and car making industry can be the basis of a strong economy we express the belief that the restauration industry in particular and the hospitality industry in general can be another underlying pillar of the society. This statement is based on the following arguments: for a business entity from the hospitality or restauration industry to work you need a location, you pay a rent, you hire an interior design company, you need utilities, furniture, kitchen equipment etc., therefore a multitude of contexts have been created. Then, there are other very important consumptions, the raw materials which move along the agriculture. This leads to the question which percentage of the active population in Romania works directly or indirectly in this branch?

To cope with the current conditions in the national economy, the service supply firms and the restaurants generally can take precautions in order to avoid quality variations, which have an impact on the number of clients, on the turnover, on the profit, too:

- *careful personnel selection, hiring and training;*
- *incentives for the employees meant to emphasize the importance of their work's quality, for example, rewards of the "the employee of the month" type;*
- *freedom for the employees to see and talk to the client in order to particularize the offer;*

- *the improvement of the employees' work by installing helping technology (professional equipment)*

The service suppliers must make efforts to refresh the identity of the goods in the relation with the consumers as the services have as a characteristic the lack of ownership (an exquisite dinner in a restaurant providing a pleasant environment is just an impression as compared to a good which you use for a long time). This can be achieved through the following methods:

- *Stimulants for the consumers frequently using their services (discounts for the clients of the restaurant);*
- *Creation of special events for the clients, a type of exclusive club.*

The Cost Volume Profit model, as it has been mentioned before, can be the main key for an efficient management of a business in the hospitality industry, due to the fact that it allows the calculus of some indicators with decisional valences, and not only, indicators which will provide information regarding the production, sales and short-term promotion decisions.

The break even point represents that degree of the production capacity usage (accommodation, production section) where the costs are fully recovered without obtaining a profit. For the culinary dishes the calculus of the break even point can be done on each sort or group of dishes. Thus, those dishes requiring a high consumption of work and which do not bring profit can be eliminated from the production.

Each of these indicators have a special importance in capitalizing the short-term decisions, that is why we intend to analyse them and the influences that they have, in our future scientific approaches.

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