MANAGEMENT ACCOUNTING IN THE RESTAURANT BUSINESS: ORGANIZATION METHODOLOGY

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Abstract. A functionally developed management accounting focused on the competitive environment will make it possible to identify information and technological processes that are a priori oriented towards the adoption of reasonable and optimal management decisions that allow timely elimination of deficiencies characteristic of accounting and financial accounting. The effectiveness of managerial control leads to the guarantee of reliable information of accounting (financial) statements, reliability, stability and security of the organization’s assets, allows you to explore the relationship of management and tax accounting, thereby contributing to successful and profitable activities. In this regard, the development of theoretical and practical recommendations, which are aimed at strengthening the role and importance of management accounting, improving the methodology of its organization in the restaurant business, is becoming very relevant. The purpose of the study is to develop the theoretical and methodological aspects of management accounting of catering enterprises, in particular restaurant services. The theoretical basis of the study was the work of foreign and domestic scientists on the formation, management and use of organization resources, management of socio-economic systems in the field of public catering. The research information base was made up of legislative and other regulatory acts of the Republic of Kazakhstan, statistical data of the Agency of the Republic of Kazakhstan on statistics, analytical materials, materials of scientific economic literature and periodicals, materials of scientific and practical conferences, electronic resources. In the research process, both general scientific methods of cognition were used: methods of induction and deduction, analysis and synthesis, classification and grouping, as well as special ones: methods of situational, comparative and economic-statistical analysis, methods of expert analytical, balance sheet and strategic analysis.

Keywords: catering; management; forecasting; management accounting; costing; restaurant business.

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JEL Classifications: M10, M11, M21

1. Introduction

Today, without further integration of supply management and overall business management, it is impossible to imagine effective management and, accordingly, the future of the company. Each organization has its own management system and management structure, with the help of which a management strategy, tactics and further vision of the company are developed.
For the normal execution of management functions, each manager needs information that forms the accounting system. It is in the accounting system that the facts of economic activity are reflected and talk about the effectiveness of management decisions made. That part of the accounting system that provides information to management personnel is called management accounting (Drury 2003; Paiva & Carvalho, 2018; Pustylnick et al., 2017).

The information provided by management accounting is focused on the needs that are associated with strategic and tactical management, the efficient use of hired resources of the company, an objective assessment of structural units and individual managers, that is, management accounting is the main part of the management process and provides information important for:
- determining the strategy and planning for future operations of the company;
- control of its current activities;
- optimization of resource use;
- assessment of performance;
- reducing the level of subjectivity in the decision-making process.

Management accounting in its nature and content is intended to serve the interests of the enterprise and in every possible way to promote effective methods of enterprise management.

Based on the analysis of existing approaches to the definition of the concept of “management accounting”, the author concluded that in the modern theory of accounting management accounting there are various approaches to the definition and composition of elements of the management accounting system. However, each of them solves its local problem and does not ensure the implementation of the whole complex of user requests, which leads to a decrease in the quality of management.

It is important to note that the role of the management accounting system in any company is very large. The implementation of this system is necessary for the leader, managers and all staff, because the importance of the correctness of management accounting provides information that is necessary to enhance attention and prioritize the organization’s tasks aimed at planning and predicting its future activities.

2. Literature review

In his publications Botobekov A.B., describes management accounting, which has a number of features:
- firstly, management accounting cannot be abstracted from technology, technology and from industry specifics of production, study and analysis of demand and supply in the market, methods of economic statistics, development of the social sphere, etc.;
- secondly, the features and criteria of management accounting are its suitability. If the information obtained through management accounting is suitable, then management accounting is considered useful. Therefore, in the management accounting system, great emphasis is placed on logic and experience. Based on them, employees of accounting services carry out effective business accounting and control in the interests of the enterprise itself;
- thirdly, management accounting is designed to serve the interests of the labor collective. The advantage of management accounting over production accounting is that it finds its application in practice (Botobekov 2010; Boyko and Derun, 2016; Král and Šoljaková, 2016; Derun and Mysaka, 2018).

Egorova L.I. describes modern management accounting as a type of activity within the framework of one organization, which provides the organization’s administrative apparatus with the information used for planning, managing and monitoring the organization’s activities. This process usually involves the identification, collection, measurement, analysis, interpretation, preparation, transmission and reception of information necessary for the
management apparatus to perform its functions (Yegorova 2008; Isniawati et al., 2018; Hilkevics, Semakina 2019).

Some specialists in the field of management and financial accounting (in particular, O.E. Nikolaeva, T.V. Shishkova) believe that management accounting is a subsystem of accounting, therefore its information base is connected with the operational area of activity.

A number of scientists associate management accounting with an integrated accounting system, which includes planning, control and analysis, the information base can be used to make tactical, predictive and strategic decisions (Romanov 2016).

Garifulin K.M. examining management accounting in his work notes that today in the domestic practice of applying management accounting secondary sources of information are used, which in a certain way reduces its effectiveness. For example, management accounting has practically no effect on the process of organizing jobs and production and technological processes, although their planning, according to experts, could really increase the efficiency indicators by at least 15-30%, and the management of innovative activities by all 50 –70% (Garifulin 2016).

According to the studies of Vakhrushina M.A., monitoring of the levels of managerial accounting and control on legal regulation showed that currently there are no unified approaches to this issue. But the general opinion is that both scientists and practitioners have to use normative acts in the field of accounting as a base (Vakhrushina 2013).

In his research, Davison J. claims and proves that in order to choose one or another calculation method, the company management must present the specifics of each of them and the result that can be obtained by their application, and which will affect the financial result of the work of the whole company (Davison 2015).

A. Sh. Margulis in his work also considers the cost accounting method and the costing method as a single process of studying the costs of certain types of enterprises for the production and sale of products from the standpoint of measuring, controlling, determining the cost of products and works; he notes that "the artificial separation of calculation methods from cost accounting methods leads to the technicalization of processes for calculating production costs and does not follow from the economic nature of cost accounting methods" (Margulis 1980).

Thus, management accounting is a system that provides management personnel with information that is used for planning, evaluation, regulation and control of the company (Horngren & Foster & Datar 2007).

According to Harrison R., the development and application of effective managerial decisions will serve as a fundamental prerequisite for a company’s competitiveness in the market and the implementation of a clearly defined personnel policy (Harrison 2014).

3. Methodology

The effectiveness of the functioning of commercial organizations in various industries, including in the restaurant business, depends to a large extent on the economic mechanism adequate to modern economic conditions, of which management is an integral part. The enterprise management system is implemented through such functions as accounting, planning, rationing, organization and control of production activities.

To increase the efficiency of the management system in restaurant complexes, it is necessary to receive timely
detailed information about the processes and results of economic activity, which is traditionally formed in the management accounting system.

Based on the analysis of the industry specifics of the restaurant business, the main features of the technology and organization of production and the nature of their influence on the specifics of the organization of management accounting at enterprises in this industry were identified (Table 1).

Table 1. The main features of the technology and organization of production and the nature of their influence on the specifics of the organization of management accounting

<table>
<thead>
<tr>
<th>№</th>
<th>Features of the restaurant business</th>
<th>Management accounting elements</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Strict adherence to production technology (formulations) and consumption rates for various types of basic and auxiliary materials</td>
<td>Costing Objects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility Centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budgeting scheme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Working chart of accounts</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reporting Forms</td>
</tr>
<tr>
<td>2</td>
<td>Dependence of the composition of costs on the collection of formulations and organization of the production process</td>
<td>Costing Objects</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Responsibility Centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budgeting scheme</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Working chart of accounts</td>
</tr>
<tr>
<td>3</td>
<td>The presence of a wide range of products and the need for daily refinement of production plans</td>
<td>Responsibility Centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budgeting scheme</td>
</tr>
<tr>
<td>4</td>
<td>The possibility of using raw materials and finished products in personal subsidiary plots</td>
<td>Responsibility Centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Budgeting scheme</td>
</tr>
<tr>
<td>5</td>
<td>Limited shelf life and product sales</td>
<td>Responsibility Centers</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Reporting Forms</td>
</tr>
<tr>
<td>6</td>
<td>Using a discount system depending on the volume of purchases, distance, delivery and other factors</td>
<td>Reporting Forms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Analysis technique</td>
</tr>
</tbody>
</table>

Source: compiled by authors

Justifying the relationship between the elements of management accounting and the specifics of the activities of public catering enterprises, in particular, the restaurant business, when forming a budgeting scheme, the separation of fixed and variable costs is also carried out taking into account the specifics of the organization of production at enterprises of this type of service.

For example, in contrast to traditional approaches to the separation of costs into fixed and variable, fixed costs in this industry include the costs of energy and fuel for technological purposes, which are independent of the volume of baked products, since the baking time and temperature regime remain unchanged at any load of the furnac. The budgeting of direct labor costs is affected by such a feature of the industry as the use of a piece-rate brigade wage system for the main production personnel. Currently, in many restaurant business enterprises there are no norms for the complexity of the product in standard hours, and wages are calculated at piece rates per unit of finished products established by the organization.

As a feature of this industry, it is necessary to note a limited shelf life of products, therefore responsibility centers should reflect information on product balances in the developed reporting forms in order to prevent the formation of significant residues of finished products in warehouses.

Today, when the company’s ability to optimize internal resources has become the key to business preservation, its own employees are becoming significant capital, and in-house marketing and in-house strategic management and properly structured management accounting are of particular importance.
It should be noted that the catering market is very diverse and promising, as more and more modern companies consider it necessary to provide their staff with hot, nutritious meals during working hours. The market potential is evidenced, in particular, by the fact that only about 30% of Kazakhstan companies today outsource the organization of catering, while, for example, in the USA this figure is 97%.

On the number of catering enterprises for the period from 2006-2017. The following data attest (Figure 1) (Data of the Agency of the Republic of Kazakhstan on statistics for the period from 2006-2017).

![Figure 1. The number of catering enterprises in 2006-2017.](image)


Speaking about the public catering market in Kazakhstan, I would like to note that changes in the total volume of the market for food and beverage services (catering) in the Republic of Kazakhstan for the period from 2006 to 2017 show a pronounced positive trend.

To determine the predicted value of the growth of public catering enterprises in Kazakhstan, an exponential trend model is best suited. The results of data approximation are presented in Figure 2 (Sedelev 2009).

![Figure 2. Exponential trend model.](image)
Using the obtained trend model, we determine the predicted values of the number of catering enterprises for 2018-2021 (Table 2).

**Table 2.** Forecast calculation

<table>
<thead>
<tr>
<th>Year</th>
<th>t</th>
<th>Number of enterprises</th>
</tr>
</thead>
<tbody>
<tr>
<td>2018</td>
<td>13</td>
<td>32710.09</td>
</tr>
<tr>
<td>2019</td>
<td>14</td>
<td>39032.07</td>
</tr>
<tr>
<td>2020</td>
<td>15</td>
<td>46575.92</td>
</tr>
<tr>
<td>2021</td>
<td>16</td>
<td>55577.78</td>
</tr>
</tbody>
</table>

Based on the calculations, a dynamics was built that shows that by 2021 there will be an increase in the number of catering enterprises in the restaurant business in Kazakhstan (Figure 3) (Yemelina & Kozlova).

The following is a change in the size of the market for catering services in the Republic of Kazakhstan for 2006-2017 (Data from the marketing company “IMSR Elim” as of 2017).
Characterizing the applied forecasting method, it can be noted that the forecast values obtained on its basis coincide with the development trend reflected by the simple extrapolation method. However, the forecast obtained only on the basis of the time series, by the method of simple extrapolation, without any a priori information, it is recommended to develop for sufficiently long periods of studying the economic process in order to identify patterns in the change in the process under consideration, i.e. not for the factor attribute given in table 3.

Table 3. The number of catering enterprises in 2006-2017

<table>
<thead>
<tr>
<th></th>
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<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Quantity</td>
<td>4521</td>
<td>5239</td>
<td>6389</td>
<td>6543</td>
<td>6845</td>
<td>6987</td>
<td>7177</td>
<td>17211</td>
<td>19853</td>
<td>19343</td>
<td>20208</td>
<td>23241</td>
</tr>
</tbody>
</table>

Source: compiled by authors

If the coefficients of the equation describing the trend remained unchanged in the time interval under study, then the least squares method would be completely justified for constructing a forecast model. However, often during the analyzed period, these coefficients change in time. For short time series, capturing such changes is extremely difficult. In such a situation, the application of the least squares method to determine the parameters of the forecast model can lead to significant errors.

All levels of observation must be analyzed, but earlier observations are given less weight than later ones. It is precisely these principles that the method of exponential smoothing developed by R. Brown meets. The essence of the method of exponential smoothing is that the time series is smoothed using a weighted moving average, in which the weights obey the exponential law, i.e. this average can serve as an estimate and current correction of the mathematical expectation of the process. A weighted moving average with exponentially distributed weights characterizes the value of the process at the end of the smoothing interval, being the average characteristic of the last levels of the series. It is this property that is used in forecasting. Based on the existing inertia of economic processes, as a result of which the process in the forecast period proceeds under approximately the same conditions as in the analyzed period, such a weighted moving average can be a very effective tool for developing forecasts.
The time series forecasting scheme by the method of exponential smoothing, thus, consists of the following steps.
1. The type of the exponential smoothing model is selected.
2. The parameter $\alpha$ is determined by the formula:
   \[ \alpha = \frac{2}{m + 1} \]  
   (1)
either asked by the researcher.
3. The initial conditions are calculated.
4. Exponential averages are calculated.
5. Estimates of the coefficients of the forecast model are determined.
6. A forecast is made one point forward.
7. The deviation of the actual value of the time series from the predicted one is found.
8. According to the recurrence formula:
   \[ S_t^{[k]}(y) = \alpha S_t^{[k-1]}(y) + (1 - \alpha) S_{t-1}^{[k]}(y) \]  
   (2)
new exponential averages are calculated, and according to them, the estimation of the coefficients of the forecast model is determined.
9. A forecast is made two points ahead, and so on.

To build forecast models, the formulas were used:
Model Type: Linear
\[ y_t = a_0 + a_1 t + \varepsilon_t \]  
(3)
Initial conditions:
\[ S_0^{[1]}(y) = a_0 - \frac{1 - \alpha}{\alpha} a_1 \]
\[ S_0^{[2]}(y) = a_0 - \frac{2(1 - \alpha)}{\alpha} a_1 \]  
(4)
Exponential averages:
\[ S_t^{[1]}(y) = \alpha y_t + (1 - \alpha) S_{t-1}^{[1]}(y) \]
\[ S_t^{[2]}(y) = \alpha S_t^{[1]}(y) + (1 - \alpha) S_{t-1}^{[2]}(y) \]  
(5)
Ratio Rating:
\[ a_0 = 2S_t^{[1]}(y) - S_t^{[2]}(y) \]
\[ a_1 = \frac{\alpha}{1 - \alpha} \left[ S_t^{[1]}(y) - S_t^{[2]}(y) \right] \]  
(6)
Forecast Model:
\[ \hat{y}_{t+1} = a_0 + \hat{a}_1 \]  
(7)
Forecast Errors:
\[
\sigma_{y_{t+1}}^* = \sigma_{e_t} \sqrt{\frac{\alpha}{(2-\alpha)^3} \left[1 + 4(1-\alpha)^2 + 2\alpha(4-3\alpha)t + 2\alpha^2 t^2 \right]} \tag{8}
\]

The boundaries of the interval in which 95% of the possible values of \( Y \) will be concentrated with an unlimited number of observations and

\[
t = 1 (a + bt \pm \varepsilon)
\]

where

\[
\varepsilon = t_{\text{crit}} S_y \sqrt{\frac{1}{n} + \frac{(\bar{t}-t_p)^2}{\sum(t-t_p)^2}}; \tag{9}
\]

As a smoothing interval for calculating the parameter \( \alpha \), we take a three-year period. Hence, the value \( \alpha \) calculated by the formula is 0.3.

![Figure 5. Estimated forecast graph. Source: compiled by authors](image)

<table>
<thead>
<tr>
<th>Table 4. Forecast values of the developed forecast model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Indicator</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Number of catering enterprises, units</td>
</tr>
<tr>
<td>The equation of the model:</td>
</tr>
<tr>
<td>Determination coefficient ( R^2 )</td>
</tr>
<tr>
<td>Standard error of the equation</td>
</tr>
<tr>
<td>( F ) statistics</td>
</tr>
</tbody>
</table>

Source: compiled by authors
Based on the study, we see that every year there is an increase in the number of enterprises engaged in the restaurant business. This indicator indicates that the number of catering enterprises is more influenced by the factor in the volume of the market for catering services than the average per capita cash income of the population.

Restaurants constitute a special group of catering enterprises. According to the degree of comfort, level of service and the volume of services provided, restaurants are divided into three classes: luxury, highest and first, which determines the amount of necessary capital costs when creating a restaurant (Aminov & Sadykova 2016). In this regard, the restaurant business is characterized as conditional that at the stage of establishment of the institution, the amount of necessary investments and future operating expenses directly depends on the strategic choice of the owner for a set of specific characteristics of the institution (Denisov & Landau 2017).

For the segmentation of management information regarding the relationship between management decisions of the strategic choice of restaurant development areas and the level of reimbursement of operating and investment costs in the process of its operation, it is proposed to use the mechanism of stepwise calculation of total costs. This mechanism consists in grouping costs that are relevant to the level of strategic choice and determining the appropriate target and actual indicators of marginal income (Gorynina & Prostova & Sosnina 2017).

At the first stage, it is necessary to carry out:
1) analysis of the restaurant’s revenue generating factors (by indicators: number of seats for guests, number of revolutions of 1 seat for guests per day, average length of stay of 1 guest in a restaurant, average check for 1 guest);
2) determine the target level of revenue per year or quarter.

The next step is the grouping of costs by the levels of strategic choice and determining the amount of expenses for 1 year (quarter). The first level of strategic choice is the choice of a restaurant class. For this strategic choice, it is necessary to analyze the location of the institution, staff and technical equipment. The values for these indicators are calculated for 1 year (quarter) of the restaurant based on the standard period for covering capital costs (Ryabchukova 2017).

With production and car potential, companies must follow a course aimed at the competitiveness of restaurant services and the most complete customer satisfaction. For this it is necessary to implement policies and strategic development aimed at the main areas (Figure 6) (Burmenko & Danilenko & Turenko 2014).
In this regard, there are market requirements for the restaurant business, which are:
- uninterrupted provision of services;
- providing projects with qualified personnel;
- a wide range of dishes on the menu;
- variability of the menu;
- bilateral quality control of products and services (customer / contractor);
- the presence of a corporate style of the food operator.

Conclusions

The restaurant business is one of the few activities that became popular in ancient times, despite the rapid development, this activity has not lost popularity to this day. For two centuries, experts have been studying the problems of identifying success factors in the restaurant business. The relevance of this topic is not lost in our time.

The desire to control the state of the business is a modern trend for managers and owners of large networks and holdings. It gives the right to the existence of various management and analysis tools. The desire for a real assessment of the financial component of any business leads to the need for an additional type of accounting at the enterprise - management accounting.

The direction of the study is very relevant in modern conditions, because when evaluating the work of public catering enterprises, it is important to realize that the restaurant business is different from all other types of business. This enterprise combines art and traditions, mechanisms of activity and the experience of marketers, a service philosophy and the concept of building a potential audience. From year to year, the restaurant business is developing rapidly. Competition for visitors is getting tougher. It is this factor that directs managers to think out not only the main strategy of the restaurant, but also the details that will give the institution a uniqueness and originality.

Modern management accounting in the restaurant business is, on the one hand, an already established comprehensive accounting model that does not have a dynamic development. However, on the other hand, its intensive introduction in the organization of various forms of organization and industry affiliation is observed. And this process requires a deep study of the developed methods of management accounting and rethinking the practical experience of their application (Lebedeva 2016).
Based on the foregoing, the author came to the following conclusions that must be used in the management accounting of public catering enterprises:
- the formation of an adequate system of indicators, in accordance with which to use the classification of income and expenses, taking into account the specifics of the organization of the restaurant or cafe;
- formation of a management chart of accounts, reflecting the features of accounting at public catering enterprises;
- a clear definition of all areas of cash flows by areas of activity;
- the creation of the so-called operations log for management accounting purposes;
- the creation of summary analytical tables having a sufficiently universal character to make it possible to use them for a number of reporting periods;
- generation of reports on cash flow directions and profit and loss.

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Data from the marketing company “IMSR Elim” as of 2017


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