

Building a Modern Financial Model of Company Management

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Abstract—During some years, many original and interesting papers devoted to the issue of property management were published. However, there is an acute shortage of works devoted to the system of accessing models for cost-effectiveness analysis. The most researchers adapt a certain method to assess the market value, for example, discounting of cash flows to real management process, or choose of a key performance indicator of the enterprise from the position of cost management. According to the author, when building a financial management model, it is necessary not to look for a single indicator of efficiency, but develop a system of criteria to assess such efficiency. The more capacious and general these criteria are, the less dependent the management system will be on the subjectivity of the decision-maker. The model should limit the ability of management to manipulate basic accounting values. The model should possess a normative or standard development model of the company, which would be able to ensure an increase in its cost growth. Within the framework of this model, it proves the pivotal importance to adjust the budgets of the company in varying market environment. Budget planning enables to solve the tasks of current management because even in the case of budget execution, the company can reduce its cost. The budget itself does not give answers to questions about whether the company's level of profitability, the growth of its revenues, etc., is sufficient or not. At the same time, the model of making decisions based on the criterion of cost can give a response to the shareholders on these issues when the budget is approved in any economy.

Keywords—*model, management, cost, company, growth, potential*

I. INTRODUCTION

The financial management model is a tool that enables to set up the real potential of the company, reachable and measurable goals, make a choice of the optimal ways and mechanisms of the achievement of the targets.

The financial model contributes in time, when it is possible to reach true goals and provide the basis of the chosen path. It is a flexible tool that provides scenarios and possibilities to choose appropriate options for development. The financial model structures business to understand the current situation and predict the results.

You can construct a financial model for your specific tasks. With the help of a financial model, you can "beat" different development options, choose the best ways to achieve a strategic goal, conduct a sensitivity analysis to understand

which factors have the most significant impact on the company's activities.

II. PROBLEM STATEMENT

Despite the fact that many original and interesting works on the problem of value management have been published in recent years, there is an acute shortage of works devoted to a systematic approach to the construction of models to assess the effectiveness of value creation processes. Most of the researchers are limited to either the adaptation of a certain method of assessing the market value, for example, the discounting of cash flows, to the real management process, or the selection of a key performance indicator of the enterprise from the position of cost management [1-3].

At present, discounting of cash flows in the theory of financial management is considered the most reasonable fundamental method to determine the value of the enterprise.

This statement is relatively well established in scientific literature, however, it does not apply to direct management, but to the fundamental analysis. This method cannot give management an applied management tool, and does not allow the automation of such an analytical process as periodic information support for management decision-making.

III. RESEARCH QUESTIONS

The construction of a financial model should begin with the establishment of the object of modeling, whether this model will be used for an individual enterprise or for the holding as a whole, or for a specific business or project. It is also necessary to determine the tasks and goals that we would like to solve with the help of the constructed model, because the degree of detail of the model will correspond to the purpose of its creation, take into account the peculiarities of the company's business and industry.

This can be a simplified model to evaluate the investment project, which evaluates the project cost, profitability and return on investment, by constructing a cash flow forecast [4, 5]. This may be a more complex specialized program with the calculation of a large number of indicators, which independently selects the best solution and produces predictive reports. Depending on the goal, identify key indicators and reporting forms that need to be obtained at the output.

The basis of the financial model should take into account all the factors that significantly affect the activities of the enterprise. Factors are divided into external (tax rates, macroeconomic indicators) and internal (actual and forecast data on the volume of production and provision of services, dividend policy, investment programs, schedule of attraction and repayment of financial obligations, etc.).)

The formation of the financial model includes the following sequential steps:

1. Collection and preparation of initial data.
2. Structuring.
3. Scenarios development.
4. Output of adjustable parameters to the unit "Management".
5. Creation of "Calculation mechanism".
6. Formation of output forms of financial statements.
7. Formation of key performance indicators.
8. Sensitivity analysis.

One of the main model elements is a scenario approach that enables to "play" with the model, presenting the opportunity to compare different options for company's development, and make the choice of the best options from the system of different scenarios [6]. This makes the model an effective management tool, and the scenario approach is preferable to provide separately for production options, options for sale of goods in different directions or categories of customers, options to establish macroeconomic indicators.

Once the initial information is structured and entered, basic parameters of control are determined, you can begin to calculate a mechanism, so-called "engine model". The calculations that are made in the model should also be separated into a separate unit.

IV. PURPOSE OF THE STUDY

The review of modern papers devoted to cost management helps to recognize such characteristic property as the ignorance of administrative aspect in the course of design of cost management models of the enterprise. This property is expressed in the following aspect – there is the ignorance of management goals in the process of designing value management models, resulting in a situation when it is necessary to solve management problems using cost estimation models.

The purpose of this study is to consider the reasons why the traditional system of analysis cannot meet the needs of modern corporate governance, which do not allow the financial model to be implemented in practical management, and the development of recommendations for model design that is adequate to the objectives of cost management and control the effectiveness of the value creation process.

The main requirement of the financial model is that the company's equity is a paid for asset whose value is determined by the shareholders' requests. Any enterprise should provide its

owners with a rate of return that is consistent with the return on investment in assets comparable in risk. With lower returns, it will be more profitable for shareholders to invest in alternative assets, because the price of missed opportunities becomes higher than the actual income. The accounting model ignores the value of the company's equity, thereby overestimating its efficiency.

Despite the fact that companies deduct the cost of borrowed capital from revenues, they do not appreciate the funds invested in them by shareholders. As a result, the enterprises whose balance sheet is positive, can destroy the shareholder value.

The financial model requires the analyst to take into account the cost of all sources of financing of the enterprise, through which income was obtained. In other words, both the cost of equity and the cost of borrowed capital, whose amount is expressed in terms, should be deducted from the income. Accordingly, the financial model involves the analytical processing of accounting indicators.

The management of the company, whose activities are evaluated based on the accounting model, has a considerable temptation, and the ability to provide such reporting, which investors would like to see. As a result, management efforts are not aimed at maximizing the value of the company, but at making only management decisions that will ensure high accounting performance in the short term.

The only way to solve this problem is to develop a single model for management and shareholders, covering all levels of management and orienting management to adopt only such projects and decisions that would actually meet the task of maximizing the value of the company in the long term.

One of the problems of management according to the accounting model is the use of accounting indicators that provoke management to make ambiguous decisions, focusing on the financing scheme of the project, and not on its quality. Accounting estimates are based on whether the project was financed from equity or borrowed capital. In most cases, the following accounting performance indicators: return on equity (ROE) and earnings per share (EPS) the greater the share of bank borrowings in the sources of financing of new projects of the enterprise [7-9].

Given that debt capital is cheaper than equity by definition, it is easier for the company's management to improve its accounting performance by covering the percentage of borrowed capital than to focus on the higher rate of return that shareholders require when issuing shares.

Management of the company to support ROE and EPS indicators at a high level should make much more effort in the issue of equity capital than by attracting credit. Moreover, borrowed capital visually exaggerates the income that the company earns from the investments, while the share capital reduces. Such a passion for management of leverage for accounting indicators can lead to a financial collapse in the long term.

The financial model does not enable management to confuse decisions on sources of financing with decisions on investments and forces to make an assessment of potential investment

projects in accordance with performance indicators, rather than looking at the structure of their financing. This management concept is based on the research of Nobel laureates such as Modigliani and Miller, who formulated in the theory of capital structure, when the value of the company is important, not the capital structure, but the cash flows generated by the business [10]. In accordance with the same theory of Miller and Modigliani, the rate of return that shareholders can expect from their own shares increases with the increase in the ratio of the company's borrowed capital to its own.

The accounting model takes out such categories as the rate of return required by the shareholder and uncertainty of the result beyond the management analysis of the company's performance indicators. At the same time, asset management in isolation from the risk scale and the corresponding distribution of the rate of return is unacceptable neither for modern management nor for making investment decisions on capital placement.

The use of accounting profit and most of the indicators based on it in economic analysis provokes the management of the company to reinvest, since these indicators do not consider capital in connection with its cost. Management has a tendency to take on such a project, which determines the highest absolute profit that the investment looks attractive.

At the same time, the attractiveness of investments should not be determined by the absolute value of profit. Financial managers should not limit themselves to assessing return on investment at just over zero, because this ignores the returns expected by shareholders. In this connection, even a project that has a significant absolute value of profit can destroy the value of the enterprise if its profitability is less than the income that shareholders expect.

Many managers gravitate to traditional interest rate measures of return on investment. The approach based on the accounting model, unfortunately, can provoke the financing of such projects that will destroy the value of the enterprise, and, on the contrary, leave without financing such projects that create this value.

V. RESEARCH METHODS

To assess changes in the value of the company, it requires a tool, a model, a set of analytical procedures that provide a complete picture and justification for a decision focusing on the main points of the enterprise and the principles of cost management. At the same time, this model is faced with such a problem as the regularity of the preparation and use of information that it produces as a result. It is the need for regular procedures in management that turns into the inapplicable method to discount cash flows in management, because it is very difficult to conduct regular quantitative valuation.

The quantitative assessment of the cost or any indicator of the cost, as well as the orientation in decision making on their absolute value is fraught with the temptation of management to all sorts of machinations with artificial overstatement of accounting and management values. This problem applies equally not only to the estimation of cash flow, but also to any other indicator. It is the susceptibility of the calculation

procedure of all cost indicators known to management, the subjectivity of individual calculation stages - this is their key drawback. None of the calculated indicators, being only an approximate indicator of the cost, cannot accurately quantify the value of the enterprise [7-9, 11].

Accordingly, not agreeing with the point of view of many researchers on the studied subject, it can be noted that the use of one most recognized indicator, does not completely solve the problems to achieve effective management on the basis of the cost criterion. A management model is still required.

Let us point out the main properties of the designed model. The model should be aimed at the implementation of the main function of value management - the growth of value potential. According to the results of the above proposed analysis of the requirements of the "financial" standard of thinking, as a key indicator of cost management can be called such an indicator as economic value added – EVA [12-14].

This indicator should be the main, but not the only, criterion for decision making. The model should not reflect a quantitative assessment of the change in value through the mathematical calculation of EVA, but the assessment of the dynamics of the growth potential. EVA allows reflect the change in value in its long-term perspective, and therefore, the model should also focus on the growth potential of the value, and not on the current value.

The potential for the value growth should be expressed in the direct factors of the growth of EVA indicator, as well as in the general drivers of the enterprise value determined by the methods of strategic management, for example, with the help of Porter value chain [15].

The difference between cost drivers and mathematical cost factors in terms of EVA. It is because with factors indicators such as EVA, reflects the cost of any enterprise at all.

At the same time, management of a particular enterprise faces such a task as increasing the value for certain shareholders. The implementation of this process is already through the cost drivers, which are determined by the strategy of the company elected by the shareholders.

In this regard, one of the tasks of modeling is to link mathematical cost factors with strategic cost drivers, because only then the strategic objectives of the enterprise will be logically reflected in the current budgets of the enterprise.

The model should limit the ability of management to manipulate the basic accounting values, because even the selected indicators are the subject to artificial overstatement through accounting elements. The model must contain such indicators, which are impossible to inflate without damage to the overall. Most or all indicators of the system should be in some relationship to each other, while the effectiveness of decisions should be assessed by the impact on the change in the reference balance sheet state of the indicators. Compliance with the benchmark balance of indicators as a criterion for decision making makes it unnecessary to manipulate some of them, because this will entail disrupting the balance.

We believe that when a model is built, it is not necessary to find a unique performance indicator, and develop criteria to

evaluate such performance. The more capacious and general criteria are given, the less they will depend on the control system of the person who makes the decision.

In the model, the long-term reference model of the development of the company without a special orientation on the current market value of the shares should be developed. In this regard, the construction of the model should not begin with the analysis of the existing situation of the enterprise. The model should be assigned a normative or standard model of the development of the enterprise, which would be able to ensure its increased cost, increase in its growth. Within the framework of this model, it proves the pivotal importance of adjusting the budgets of the company in varying the current market environment.

Budget planning enables to solve tasks only of the current management, and even a five-year budget does not turn into a model of cost management, because even in the case of budget execution, the company can reduce its cost. The budget itself will not provide answers to questions about whether the level of profitability of the company, the growth of its revenues, etc. is sufficient. At the same time, the model of decision making based on the cost criterion can give an answer to shareholders to these questions when approving the budget in any economic conditions.

VI. FINDINGS

One of the main financial aspects of value management is the optimal capital structure. The accounting model to determine the level of debt financing as the main criterion assumes the effect of leverage. The composition of the criteria, from the standpoint of the financial model, also includes the following point. It is generally accepted that the cost of capital after taxes is lower than the cost of equity capital in connection with the operation of the tax shield, which allows take into account the interest on borrowed funds to calculate the profit tax, reducing its database. Therefore, the predominance minimizes the weighted average cost of capital. At the same time, we should not forget that borrowed capital reduces the financial flexibility of the company, especially in crisis periods of the market or country development. In this regard, it is important to note that the external growth of accounting efficiency can negatively affect the long-term growth of the company's value, because it makes it difficult to timely and operational optimization of the capital structure.

It should be noted that as the initial categories on the basis of which the analytical component of the business is built, the concepts of accounting act, since they make it possible to get an idea of the aggregated values of expenses, income, losses and profits, liabilities and assets. The same management accounting has an accounting basis. Despite the fact that economic measurements require adjustment of figures, which are established on the basis of accounting standards, another alternative to the collection and aggregation of performance indicators of enterprises is currently not available in companies.

This is the basis to recognize the value management innovation in management, which finds its practical application in the economies of States with a developed capital market. At the same time, it is very important that such management

innovations are also necessary for the economies of developing countries, one of the main characteristics of which is the problem of the lack of financial resources. This problem has a very important management aspect: according to the basic provisions of financial management, the necessary financial resources can be attracted not just by profitable companies, but only by those companies that can provide, at least, the required (expected) rate of return on invested funds.

Despite the multiplicity of indicators of the financial model, it can give a clear assessment of the decision or the effectiveness of the company for a certain period. Widely used decision making models, which are based on the key performance indicators of the enterprise, cause the use of weights to calculate the integrated indicator KPI (Key Performance Indicator) – a key performance indicator. The values of these weighting factors have an impact on the final assessment of the operation of the enterprise, while they are little related to the increase in value in economic sense. The model based on the criterion of value growth, should give a final assessment, avoiding such errors that are associated with side factors.

As a certain step to the construction of the model, we can recognize the approach to the formation of the model criterion based on the following assumption: the economic process of value creation occurs over time. Also in time, there is the development of this process.

In fact, there are two possible criteria: dynamic and static. Dynamics and statics can be considered not as properties of the analyzed object, but as special methods of its investigation.

The dynamic criterion is much more complex by nature. It sets the trend of development, displays at each time a state to which you should strive. One of the properties that distinguishes the dynamic criterion from the static criterion is the form of its representation in the form of a dynamic vector, which characterizes the state taken as ideal.

The dynamic criterion of the decision making model forms a structure that would provide an optimal trajectory for the development of the economic process of value creation. The values of the parameters in the case of the dynamic criterion are generally not fixed values. All of them can vary in some interval. This criterion sets not certain values of parameters that need to be achieved to consider the process of value creation effective, but establishes a relation between the parameters whose compliance will ensure the growth of the enterprise value.

A characteristic peculiarity of this approach to the criterion of the model is that the dynamic criterion does not bind the decision making to any evaluation indicator or to a group of indicators. It reflects the quality of the state of the value creation process at each of the moments of its implementation with respect to a certain ideal state, which should be approved by the Board of Directors of the company. There is a significant reduction in the role of the subjective factor in the evaluation of the enterprise.

The model parameters should reflect as much as possible the cost drivers that have been identified in the process of strategic analysis. At this stage, the company's task is to find the maximum number of relationships between the parameters that

characterize the cost drivers in order to build their strict dynamic order, to understand which of the parameters should grow faster than others.

The use of dynamic criteria gives an opportunity to look very differently at the company's potential for the value growth. The value of the company can be established with some degree of potential growth. Most of the work on value management reduces this potential to an assessment of a value indicator, including such an indicator as economic value added. The growth potential value is system results that are meaningful for its creation. This raises the question of how significant these results are and how they can be related to each other. The potential for the cost growth includes all kinds of modes of interaction of the model parameters. However, they are all comparable to the most effective. In this situation, the state of the value creation process at a certain point in time is understood as a mode. Each company has its own potential for the value growth. To correlate one or another degree of efficiency of the value creation process, it is necessary to talk about the degree of realization of the potential of its growth or the effectiveness of this process.

VII. CONCLUSION

Thus, there is the need to focus the financial management model of the company not on the absolute values of the planned budget indicators, but on the direction of their changes in order to be able to assess any absolute values of the budget and manage the value of the enterprise, changing the dynamics of indicators. The first place should be the mutual agreement of the growth rates of the main indicators of the company, not their absolute values. Such an approach to decision making will make it possible to implement the principles of consistency, complexity and conceptuality in the decision-making process. The model should focus on rational, from the standpoint of cost growth, decision making, but not on the decisions themselves. The models should be given some framework when assigning certain budget indicators and in accordance with these acceptable frameworks to assess the actual performance of the company.

The model is important not the number of indicators involved, but the fact that all indicators, as well as the algorithm of their interaction would correspond to the objectives of the growth of the potential value of the company. The system of indicators should be in accordance with the cost drivers in order to judge the change in value by the dynamics of the indicators that reflect them. If the set of indicators is to a small extent correlated with cost drivers, the resulting assessment lacks information value, rather it will be disorienting.

Accordingly, EVA indicator in the designed model should increase at a faster rate than any other indicator of the company, because it is the direct indicator of the value of the enterprise and it reflects the main process of value creation.

Indicators of the value creation process can be represented as time series. By determining the growth rate of the indicator, you can find the speed of its movement, which makes it possible to fix the acceleration. This algorithm makes it possible to reduce all indicators to a single measurement axis. In case of acceleration values for all indicators, it is possible to assess the state of the value creation process. After defining the dynamic criteria of the priorities of temporal changes in all parameters, a comparison criterion of the condition of the value creation process is the same, which was, in fact.

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