

# Decision Support System in a Group of Companies



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**Abstract:** *The authors rely on their previously proposed model of the strategic decision making system in groups of companies, which allows simultaneously integrating several important management functions and set clear criteria for the efficiency of future decisions with due consideration of the data on the static and dynamic conditions of the subsidiary, as well as predicting the development of the group of companies aimed at the long-term sustainable growth of its total value and business reputation. The indicators that turn the previously published theoretical model into a practical tool, which will later be tested on empirical data, are systematized and logically interconnected in this article.*

**Keywords:** *group of companies, strategic decision making, subsidiaries and affiliates, corporate governance.*

## I. INTRODUCTION

The need to balance the information analytical system of strategic management of a group of companies in order to systematically and purposefully improve the performance of all the enterprises of the group and the value of the company as a whole, in the conditions of economic stagnation or recession, is more relevant than ever. A large company can achieve this in the modern economic environment only if it provides high-quality information support for strategic decisions [1, 2]. The quality is understood as the ability of management to simultaneously possess timely, reliable and unambiguously interpreted information about the current situation and the ability to analyze all kinds of cause-and-effect relationships, formulate conclusions, and make high-quality strategic managerial decisions in this case.

Based on the well-known concepts (concept of strategic management) and approaches (systemic and process approaches), the management of a group of companies can be described as a fairly wide list of managerial competencies:

- corporate governance, including the management of subsidiaries through participation in general meetings of shareholders, nomination of candidates to the Board of Directors, appointment of company heads, and formation of standardized constituent documents;

- operational and financial analysis of enterprises, including efforts to increase the return on equity, assets, and sales, and to reduce operating costs and the weighted average cost of capital value of enterprises;
- business value analysis, where the main aspects of management are an increase in the company value (a strategic initiative is to double the value by 2025), EBITDA, free cash flow of the holding, and the efficiency of using the asset portfolio; and
- project management to increase the efficiency of managing a group of companies as a consolidation of core subsidiaries and withdrawal of noncore and low-efficiency assets from the group. The activities of the holding structure are constantly accompanied by restructuring, i.e., revision and debugging of the existing structure.

## II. METHODS

### A. General description

Managerial competencies (developed by the authors) are presented in Table 1 systematically in relation to the levels of information support for decision making.

The purpose of the Strategic Investment Decision Support System (DSS) for a group of companies is to provide persons making such decisions in difficult (multicriteria) conditions to improve the quality of managing a group of companies.

### B. Algorithm

The authors believe that the information system should satisfy the following requirements in addition to those traditionally presented to the DSS:

1. Availability of multivariate statistical analysis of multiparameter data;
2. Flexibility of query settings and a wide range of report settings;
3. Availability of interactive visualization of reports (visualization as an analytical tool!);
4. Flexibility of control panels;
5. High performance of data processing;
6. Availability of prognostic tools; and
7. Availability of tools for the use of artificial intelligence in the future.

### C. Flow chart

According to the table, DSS of the group of companies is represented by five modules, four of which are responsible for managing a specific subsidiary or affiliate, and one is responsible for general consolidation of managing subsidiaries and affiliates.

Manuscript published on 30 September 2019

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## Decision Support System in a Group of Companies

**Table 1. Managerial competencies in managing a group of companies and levels of the decision information support.**

Directions (blocks) of information	Levels of information support for making strategic decisions in corporate governance in a group of companies			
	Goal setting	Process management	Development	
Corporate governance	Decision on creating (acquiring) or participating in the LLC Setting a strategic goal for the created (acquired) LLC Framework conditions for the corporate investment policy Appointment of the head of the LLC Work standards (general)	Coordination and control of organization legal documents (memorandum of association, local regulations) Participation in key events Assessment and certification of the head of the LLC Regular monitoring of the goal achievement Control over the implementation and efficiency of the investment policies (RONA)	Decisions on further development of the subsidiaries and affiliates network and each particular LLC Ensuring the optimal structure of the subsidiaries and affiliates portfolio Monitoring the implementation and efficiency of corporate investment policy in subsidiaries and affiliates HR decisions regarding the head of LLC Adjustment of LLC strategies as part of the corporate strategy Development of work standards	1. Steady growth of the corporation reputation as a partner, borrower, or employer (based on a ranking comparison) 2. Stable capitalization growth 3. Stable growth of dividends and owners' incomes
Performance measurement and current financial analysis	Optimal pricing and production program Cost minimization Increasing labor productivity – Improving bottom line, balance sheet liquidity, financial stability, business activity of the LLC	Market analysis Prime cost, expenditures, and cost analysis (ROS) Production analysis Express analysis of accounting statements (NOPLAT) Detailed analysis of financial and economic activities (ROA, OPEX, WASS)	Decisions on market strategies Decisions on improving the economic performance Search for reserves and making tactical financial decisions Decisions on consolidated tax burden optimization	
Value of the business as a whole and in parts	Improvement in the property management in subsidiaries and affiliates Increase in the forecast cash flow of subsidiaries and affiliates Increase in the market value of LLCs in 5 (10, 15) years (by balance, comparative, multiplication, etc. methods) Increase in goodwill of subsidiaries and affiliates	Efficiency of the property management (production per sq.m. of area, rental income per sq.m., passenger turnover (cargo turnover) per vehicle, etc.) Analysis of cash flow dynamics every three months Analysis of the share of intangible assets in total assets Assessment of the market value of each LLC once every three years using a uniform method	Decisions on investing in goodwill Decisions on the sale (write-off) of unprofitable and illiquid property Decisions on investing in expanding production facilities and modernization of equipment and movable property	
Project management	High adaptability to the environment Increase in competitiveness	Monitoring the dynamics of the number of projects implemented in subsidiaries and affiliates Estimation of the proportion of successful projects (on time, without increasing the budget, external and internal complaints) Competitive analysis	Decisions on the sale (liquidation, restructuring) of uncompetitive LLC Decisions on investing in the most promising projects of subsidiaries and affiliates HR decisions regarding the most successful project managers	

### III. RESULTS

Module 1. Adequacy of subsidiaries and affiliates to the corporate governance of a group of companies. The subject of assessment and analysis is largely qualitative indicators that explain the causes of the asset occurrence in PJSC TATNEFT, analyze the record of the most important decisions in subsidiaries and affiliates, as well as the efficiency of the current strategy and senior management. The main indicators that can help reliably assess this aspect should include the following:

1.1. Year of the main investment, which determines the duration of the asset's record as a subsidiary and affiliate in the group. The following considerations may serve as a basis

for including this indicator: the older the subsidiary is, the longer the corporate relationship is, the stronger the business relationships between the parent company and its subsidiaries and affiliates are, and therefore the sale of the asset or its liquidation will be more painful and risky. The following scaling is proposed for PJSC TATNEFT: prior to 2000, 2000 – 2010, 2011 – 2015, and after 2015.

1.2. Format of the asset creation. Whether to create the company "from scratch" or to buy an existing enterprise is always a question of the efficiency of the owner's decision. In the case of a group of companies, this issue is usually resolved in favor of acquiring a 100 % or less share in a ready-made business.

The parent company requires serious argumentation with the justification of poorly predicted cash flows and the return on long-term investments in conditions of poorly predictable conditions and risks to create a new asset. As such, the scaling of the corporate governance assessment indicators in PJSC TATNEFT may be as follows: creation, 100 % acquisition of the asset, and acquisition of a share in the asset.

1.3. An equity interest of the PJSC in the subsidiary or affiliate (or an equity interest of the parent company in the subsidiary or affiliate) is calculated as a percentage. According to the legislation and common sense, the equity interest determines the degree of influence and the role of the parent company in the management of subsidiaries and affiliates, up to imposing a veto on decisions of the governing bodies. The dependence of the equity interest on the degree of influence is direct in this case – therefore, the scaling of the indicator values can be as follows: 100 %, 50 – 99.9 %, 25 – 50 %, and less than 25 %.

1.4. Share of revenues of subsidiaries and affiliates formed in the main value chain of the PJSC. This is an indicator that is designed to reflect the "embeddedness" of a subsidiary or affiliate in the main value chain of the parent company, i.e., in other words, it is an indicator of the level of vertical integration in a group of companies. The indicator (as a percentage) for a specific subsidiary and affiliate for the reporting period can be calculated as follows:

$$\text{Share of subsidiaries and affiliates}_{\text{value chain of PJSC}} = \frac{\text{Revenues of subsidiaries and affiliates}_{\text{PJSC}}}{\text{Income} + \text{Other expenses of subsidiaries and affiliates}} \times 100 \%$$

The scaling of the actual values of the indicator will be as follows: 100 %, 75 – 99.9 %, 25 – 49.9 %, and less than 25 %.

1.5. Form of investment. The civil legislation of the Russian Federation [3] provides for the following main structures used in a merger: reorganization as a merger, creation of a business unit by partners (business entity, partnership or cooperation), increase in the charter capital, and acquisition of a "blocking" share in a business unit under a civil contract. In the case of a group of companies, which was previously defined [4, 5] as a set of legally independent, but... mutually dependent business entities united by a centralized control system..., the third and fourth cases are the most common in the practice of the Russian companies. Increase in the authorized capital (through an additional issue of shares in the JSC or through a third-party contribution to the authorized capital in the LLC). The procedure includes a decision by the governing body of the company to increase the authorized capital, transfer of property in payment of an equity interest (registration of transfer of ownership, if necessary), amendment to the charter of the company and their registration with the tax authority. The fourth option is convenient for portfolio investment. The following scaling will be considered for the conditions of PJSC TATNEFT: direct redemption of a share of participation; and transfer of property as the payment for a share of participation.

1.6. The main argument of the deal. It is proposed to divide possible arguments for creating (acquiring) an asset into market and nonmarket ones. Market prices include transfer prices, management control within a vertically integrated company, and market expansion. At the same time, control over the management of social matters and political arguments should be attributed to nonmarket ones. The

prevalence of nonmarket considerations in the acquisition and maintenance of an asset is regarded as a sufficiently risky factor for the strategic development of a group of companies even in the specific economic conditions of modern Russia.

1.7. The level of corporate standardization, determined by the share of local regulations of subsidiaries and affiliates, agreed and approved by the parent company (as a percentage). Local corporate rules consolidate the individual legal status of the organization, they are adopted by the organization's governing bodies. When adopting local corporate acts, the organization's governing bodies are free to determine the content of local regulations but must pay attention to the requirements of regulations and standards of the corporate centralized regulation. When adopting local acts of subsidiaries and affiliates, the distribution of normative competence among the governing bodies of the parent company, if any, must be taken into account. In the case of PJSC TATNEFT, where the level of standardization in the parent company is generally quite high, the scaling of the indicator should be as follows: 100 %, 75 – 99.9 %, 25 – 49.9 %, and less than 25 %.

1.8. Additional investments in subsidiaries and affiliates from the moment of the main investments. The indicator can be estimated both as the absolute value of investments (in this case, the resources of the comparative analysis are limited), and as a relative value, which is a fraction, where an amount of additional investments by the PJSC for the entire period of the relationship is a numerator, and a value of the main investments when creating (acquiring) an asset is a denominator:

$$K_{\text{add.inv.}} = \frac{\sum \text{Add.inv.}}{\text{Main inv.}}$$

1.9. Assessment of the quality of managing tangible (noncurrent minus intangible) assets, expressed by the index of change (growth rate) of tangible assets since the time of the main investment (as a percentage):

$$I_{\text{ta}} = \frac{NCA_t - IA_t}{NCA_{t0} - IA_{t0}}$$

The management will be considered of high quality in this aspect if the index value is greater than 1.

1.10. Evaluation of the performance of the head of a subsidiary or affiliate, expressed by the growth rate at the enterprise advancing the growth rate of the annual salary of the head over five years, allows assessing the quality of HR decisions of the top management of the parent company. High efficiency and quality of solutions are assumed provided that the advance is recorded (i.e., the ratio of growth rates is greater than 1).

1.11. The date of the most recent strategic analysis, which allows determining the period from the moment of such analysis, is an important indicator of the parent company's management interest in the long-term and efficient development of the asset. Determining the cycle of strategic analysis is not as straightforward issue as it might seem at first glance. It would seem that strategic analysis is necessary as an empirical basis for developing a strategy for the next 5, 7, 10, 20, etc. years. However, it is no less necessary for monitoring the implementation of the strategy, its adjustment in the face of significant changes in the organizational environment.

It is proposed to grade the indicator as follows: up to a year, one to three years, three to five years, and more than five years.

1.12. The results of the most recent strategic analysis of subsidiaries and affiliates can be considered as the results of a portfolio analysis of a group of companies. There are numerous strategic analysis techniques (from BCG and McKinsey [6] matrices to the analysis of the value chain of a company and industry). The following results of strategic analysis of subsidiaries are proposed after generalizing the methods and rewording the terms used in them: promising, neutral, and unpromising.

Module 2. Management of operational activities of subsidiaries and affiliates. Mainly qualitative indicators that help evaluate the basic aspect, the basis for obtaining the added value of a subsidiary, are again the subject of evaluation and analysis. In terms of IFRS, operating activities mean the main activities of the company, as well as other activities, excluding financial and investment activities [7]. The All-Russian Classifier of Economic Activities [8] (OKVED 2), which is part of the National Standardization System of the Russian Federation, is used for the definition of the main and additional types of economic activities in the Russian Federation. OKVED 2, inter alia, is used in solving the problems related to the determination of the main and additional types of economic activity carried out by business entities. The formation of an accounting policy, rules for generating revenue, cost, tax base for profit tax, etc. all depend on the OKVED code of the enterprise. However, in our case, the operational activities of subsidiaries and affiliates are indicative of assessing the prospects for using nonfinancial instruments to increase the asset value: by expanding client base, by reproducing and strengthening the production potential, by balancing and optimizing the product portfolio, and by increasing the efficiency of labor resources, etc.

2.1. Life cycle stage of an industry or a product (service) in the region. Determining the stage of the market development is necessary for an organization to obtain a basis for comparing partial indicators of the organization's operating activity and general indicators for the industry (region). In this case, the excessive fragmentation of the steps and stages of the life cycle can lead to inaccurate definition and mistakes in attributing certain trends to the signs of stages. Therefore, it is proposed to distinguish four main stages: childhood, adolescence, maturity, and old age.

2.2. Balance of the product portfolio is an indicator that is proposed to describe the positive and growing value of return on the product portfolio, found as the average return on individual products (services), weighted by the cost of sales of these products:

$$R_{port} = \frac{\sum_{i=1}^n Q_i \times R_i}{\sum_{i=1}^n Q_i},$$

where  $Q_i$  is the volume of production of the  $i$ -th type in value units;

$R_i$  is return on the  $i$ -th product (service), which is found similarly to the return on sales:

$$R_i = \frac{(B_i - C_i)}{B_i}.$$

The indicator can be found as the average return on individual products (services), weighted by the volume of

sales of these products. In this case, the usual method of conditional equivalents is used to bring the volumes of a wide range of goods to a comparable form.

If the indicator for the last three years has negative values only and the positive trend is not expressed, the situation can be regarded as an unbalanced product portfolio. In the case of steady growth of positive values of the indicator, the situation is considered as a balanced product portfolio. The intermediate situation is regarded as 50/50.

2.3. It is proposed to evaluate the company's pricing mechanism from the perspective of the availability of market fundamentals. In case of subsidiaries and affiliates, predominantly market (or marketing-based) pricing applies for most products and services, i.e., the main reference point for an enterprise when establishing wholesale/retail prices is the competitors' prices, which force the market situation to tend to equilibrium. From the standpoint of a group of companies, such a subsidiary is less exposed to the risks of political decisions, has greater independence, and is more adaptive to changes in the environment. Therefore, the following scaling of the indicator is proposed: market (marketing-based) and costs plus the rate of return and transfer (to cover costs).

2.4. The dynamics of production in physical terms is estimated by the growth rate (indices) of production for the main groups of goods (services). The negative dynamics over three years are regarded as a negative situation.

2.5. Relative labor productivity expressed by the ratio of labor productivity of employees of subsidiaries and affiliates in the reporting period to the similar average industry indicator.

Labor productivity at the enterprise is found according to the method of Rosstat [9]. Obviously, a favorable situation is considered when the indicator takes values greater than 1.

2.6. The competitive position of the enterprise in the local (regional) market is one of the most important characteristics of the organizational environment. It is proposed to evaluate using the following indicator:

$$CP = \frac{Share_p}{100\%} \times N_c,$$

where the first factor is the market share of subsidiaries and affiliates, reduced to fractions of units;

$N_c$  is the number of direct competitors.

The value of the indicator more than 1 indicates the leading position of a subsidiary or affiliate in the local (regional) market.

2.7. The adequacy assessment for the production strategy should be based on an important methodological position on the essence of the production strategy. According to individual authors [10], it consists in balancing production capacities, labor force, and production volume. According to the above, the following types of production strategies are distinguished:

- a pursuit strategy (satisfaction of demand), which consists in the production of the volume that is needed at the moment (a volume of production corresponding to market demand is secured with constant stocks);

- a uniform production strategy, where the volume of production is at a constant level for a long time (the level corresponds to the average level of demand over a long measurement horizon);
- a subcontracting strategy involving the output of products at the minimum acceptable level (lack of supply is compensated by attracting subcontractors at some points); and
- a hybrid strategy, consisting in a combination of the above approaches.

The authors believe that any of the first three production strategies can be justified for subsidiaries and affiliates. The fourth strategy is not efficient in a small enterprise and contains a lot of risks of shortage or inefficient use of production capacities.

Compliance of the production strategy of subsidiaries and affiliates with external and internal economic conditions can be assessed by experts as complete, 50/50, and noncompliance.

2.8. Reserves of activation (expansion) of operating activities mainly imply the possibility of building up the production scale and can be assessed by experts as available and absent.

2.9. The security zone of the enterprise (as a percentage of actual revenue) is important both as an independent indicator and in relation to the previous indicator because it demonstrates how sales can be reduced without risk of losses, and also how important for the enterprise is to increase the fixed costs needed to expand production. The sufficiency of the security zone depends on many factors: industries (less capital-intensive industries should demonstrate a large security zone), the organization's life cycle stage (a young and growing enterprise can afford a smaller security zone), the general strategy of the enterprise (a smaller zone can be justified when implementing an offensive strategy security), etc. Therefore, it seems appropriate to evaluate not a change in the indicator over time, but rather a deviation of the security zone of the subsidiaries and affiliates from the security zone of the parent company:

$$\Delta SZ = SZ_{\text{subsidiary and affiliate}} - SZ_{PJSC}$$

A negative deviation will indicate the relative riskiness of the asset, while the aggravation of this trend in the three- to five-year cycle should seriously alert the top management of the group of companies.

Module 3. The current financial analysis of subsidiaries and affiliates. Mainly quantitative indicators are a subject of evaluation and analysis in this case, which fulfill a prognostic function in addition to the analytical function, once a sufficient weight is accumulated. The current methods of financial analysis involve the calculation of about 100 indicators, interrelated to a certain degree. It is proposed to calculate and analyze a limited set of indicators in accordance with the optimality principle.

3.1. Balance liquidity indicators are important for assessing the possibility to cover the liabilities of subsidiaries and affiliates with their assets.

3.1.1. A general indicator of the balance liquidity of an enterprise, reflecting the ratio of the sum of all liquid assets of the enterprise weighted by the importance to the sum of all similarly weighted payment obligations (short-term, long-term, and medium-term). There is a traditional

calculation formula [11]. A coefficient value from 1.5 to 2.5 is considered normal depending on the sector of the economy.

3.1.2. The equity ratio reflects the share of working capital in all current assets of the enterprise. This indicator is important as an assessment of financial management of subsidiaries and affiliates because it indicates whether the given enterprise is capable of financing the current activities only with its own working capital, or whether the external aid, including that of the parent company, may be required. According to the law [12], the normal value of the working capital ratio should be higher than 0.1.

3.2. Financial stability in the modern theory and practice of economic analysis is considered as the most important factor in the enterprise stability.

3.2.1 The financial leverage ratio is the ratio of borrowed capital and equity of the organization. In the Russian practice, the value of the financial leverage ratio equal to 1 is considered optimal. A value up to 2 may also be acceptable. The most common value of the ratio in world practice is 1.5.

3.2.2. The autonomy ratio in this case is important as an indicator of financial independence of subsidiaries and affiliates. The generally accepted normal value of the autonomy ratio in the Russian practice is at least 0.5. Up to 30 – 40 % of equity are considered acceptable in developed economies.

3.3. Business activity is a characteristic of the quality of asset management or the speed of financial and business operations. The asset turnover ratio was chosen for its assessment, which indicates how many times the complete cycle of production and turnover takes place.

The normative value of the indicator also depends on the industry. Therefore, it is certainly worth considering the indicator over time and comparing the value of the indicator in subsidiaries and affiliates with similar values of direct competitors as well, if possible.

3.4. Return on sales (ROS) as an indicator of the financial performance of the organization, indicating how much of the organization's revenue is profitable. It has various options for calculation and analysis. It is proposed to calculate and consider for the indicator of operating return or, in terms of the RAS, the return on sales found on the basis of profit from sales for the DSS of a group of companies when making decisions and forecasting. This indicator will allow to exclude other (in particular, financial) activities from the factors influencing the efficiency of subsidiaries and affiliates. The optimal value of the indicator is largely defined by the industry of the enterprise. Therefore, it is advisable to evaluate the dynamics of the indicator or compare it with the industry average values, as in many other cases.

3.5. Return on assets (ROA) has been the subject of many public sources. It can be noted that it is more logical to use the return on investment assets indicator in the DSS of a group of companies, which is understood as the assets directly involved by the enterprise in routine (operational) activities.

3.6. Cost intensity is not a particularly common indicator in microeconomic analysis. Nevertheless, its use can yield decent results in a comparative analysis of the level of costs for a group of multipurpose companies. It represents the ratio of the total cost of production and sale of products (or prime cost) to the cost of products manufactured in the current prices (or revenue). The value of the cost intensity should be at least less than 1. Any strong deviation of a partial indicator for a specific subsidiary and affiliate from the general indicator for a group of companies or a sharp increase in the indicator (especially with a strong approach to the figure of one) should attract the attention of both analysts and decision-makers.

Module 4. Company and business value. The International Valuation Standards Committee identifies [13] three approaches to the evaluation of any asset: direct market comparison approach, income approach, and cost approach. The first is based on a comparison of the valuation object with peers with reliable price information. The second is based on determining the expected income from the use of the valuation object. The third is based on determining the costs required for the complete reproduction (restoration) of the valuation object.

4.1. Efficiency of using the property of subsidiaries and affiliates. The value of the property in the DSS of a group of companies includes all noncurrent assets of subsidiaries and affiliates (including intangible assets), stocks, and cash. An indicator of the efficiency of the use of property should be considered as the annual total cash flow (from all types of activities) per 1 thous. rubles. of the property value:

$$K_{prop} = \frac{CF_y}{(NCA+S+C)}$$

The optimal values in this case can be determined during testing. However, it is most advisable to evaluate the dynamics of the indicator or compare it with the average value for a group of companies.

4.2. Cash flow forecast for five years. A free cash flow and discount ratio are the key parameters for the implementation of this forecast model. Cash flow forecasting can be carried out by linear regression. The object of forecasting may be profit before tax or cash flow generated by net profit, depreciation, and balance on investment activities, working capital, and investment. The cash flow discounting method is based on the fact that the asset value today is equal to the adjusted present value of future cash flows to be generated by the assets. The subject of the final assessment is the annual cash flow growth rate in five years relative to the current moment. The scale of exact values can be formed during testing.

4.3. General assessment of the value of subsidiaries and affiliates. Since the majority of subsidiaries and affiliates are nonpublic companies, any methods for assessing the value of a firm (and its business), mainly based on the market price of shares, are not applicable in this case. The income approach is the most objective in determining the market value of a nonpublic company's business. However, the results of testing new approaches – for example, a hybrid cost-income approach [14] – to assessing business value are published quite actively these days. The income approach is based on the principle of expectation: any asset acquired for generating income will cost exactly as much as the profit it will generate

in the future, taking the time factor into account.

4.4. The efficiency of the recent investments is intended to demonstrate the success of subsidiaries and affiliates in the implementation of investment projects. It is proposed to use a net present value and a return on investment as two main indicators of valuation.

4.5. The availability of growth reserves in the market (industry), in which the subsidiaries and affiliates operate, can be determined by the market volume index:

$$I_p = \frac{Q_{t-1}}{Q_t}$$

At the same time, it is not difficult to determine market volumes on the basis of official statistics on GDP produced on terms of OKVED – in particular, by region.

Module 5. Project management. The prospects for the development of subsidiaries and affiliates depend not only on the external favorable conditions and the available potential of the enterprise, but also on how management is able to use the opportunities, in the first place. Therefore, the ability to manage dynamic characteristics, such as the ability to set and achieve specific goals, manage a team, control budget execution, plan time, etc. should be evaluated in a separate module.

5.1. The number of projects in subsidiaries and affiliates (by date) may indicate both the project activity or initiative of the management and the level of trust in them by the top management of the group of companies. The absolute value (in units of projects without taking the budget and terms of the project into account) can be compared with the average value of the indicator for all subsidiaries and affiliates. The projects existing in the parent company should not be taken into account.

5.2. The share of successful projects over the past five years (as a percentage) can be defined as the ratio of the number of projects successfully completed on time and without allocating additional funds to the total number of projects launched in subsidiaries and affiliates:

$$Share_{sp} = \frac{N_{sp}}{N_y} \times 100 \%$$

5.3. The impact of the current (completed) projects of subsidiaries and affiliates on the net profit of the group of companies can be defined as the percentage deviation of the current net profit of a group of companies from the modeled net profit if, for example, the project of a subsidiary or affiliate was not implemented in the current year.

## IV. CONCLUSION

As such, the authors suggest that the above measures of the activities of subsidiaries and affiliates from the standpoint of the parent company are objective in nature and can really contribute to the correct valuation of the assets of a public company in the aggregate. These methodological foundations underlie the research currently being conducted.

It must be noted at the end of describing the method for the formation of a set of indicators for the DSS in a group of companies that both the set of indicators and the calculation methods can be adjusted following the results of the nearest testing.

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