ANALYSIS OF EFFECTIVENESS OF COMPANIES PARTICIPATION IN INTERNATIONAL STRATEGIC ALLIANCES

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Abstract

Strategic alliances in the global economy are seen as one of the fundamental pillars of business development sustainability. The analysis of scientific papers showed the absence of reasonable methods of analysis and assessment of the participation effectiveness in strategic alliances. The purpose of the study is to develop the analytical tools assess the participation effectiveness in international strategic alliances. The methodological basis of the research served as scientific, mathematical-statistical, analytical methods, systematic approach to assessing the effectiveness of the participation of companies in international strategic alliances.

Scientific results are systematization, analysis and development concepts, objectives and benefits of establishing an international strategic alliance development and testing methodology for identifying synergistic effects of participation in alliances that includes qualitative and quantitative components.

Keywords: strategic alliance, strategy, efficiency.

1. INTRODUCTION

The economy development at the current stage is characterized by the increased effect of factors associated with integration processes. It is obvious for the national economics and the economics of the whole world, which is noted on macro- and micro- levels [9, p.49]. The key reason for this trend is the competitive struggle escalation. People attach immeasurably a great importance to the combined actions of market participants within the current conditions.

Using of integration forms encourages participants to conduct a permanent search for the most effective

forms of cooperation. Significant attention is paid to the search of a balance between general and private interests, taking advantages of centralized and decentralized management. There is a need to use such organizational forms of integration, which is enough flexibly and perfectly correspond with modern realities. Strategic alliances can be considered as one of such management forms [14].

Such conditions can open a new horizon to researchers. Spreading the international strategic alliances makes people think about assessing the effectiveness of participation in such associations.

2. ANALYSIS OF EXISTING APPROACHES TO THE DETERMINATION OF ECONOMIC PERFORMANCE THE COMPANIES PARTICIPATING IN ALLIANCES

The first developments in this field appeared in the 60s of the last century. The discoverer was I. Ansoff. He introduced the concept of "synergism" to assess the interconnection of activities within a company.

In the original sense, the concept of synergy was a shift from economies from the scale in manufacturing to a broader principle of strategic economies from the scope of activities. The source of this economy is the mutual support of various strategic business units.

It was I. Ansoff who was the first to propose a methodology for assessing the effectiveness of organizations' participation in strategic alliances in his book "The New Corporate Strategy". He proposed two areas of analysis:

- Determination of the level of cost savings for the same income;

- Determination of profit at a certain level of investments [3, p.131].

However, the choice of the assessment method directly depends on the type of synergetic effect that will be evaluated.

As time passes the researchers continued the I. Ansoff's investigation offering improved assessment methods based on various approaches such as Panel Data Regression (R. Ferrer [6]), NPV (S. Orsag and K. McClure [16], DCF (J. Kinnunen [15]), WACC (Z. Xia and Z. Xiuzhi [20]). D. Aaker [1], Strickland A. [19], S. Orsag, K. McClure, Z. Xia, Z. Xiuzhi paid special attention to the necessity of the risk analysis for synergy effect assessment. It is connected with the possibility of losing the synergistic effect due to the high level of risk [4]. Russian scientists also developed a number of methods. The most well-known methodologies for assessing the effectiveness of organizations' participation in alliances are presented in Table 1.

Table1.

Comparative Analysis of Methods For Assessing The Effectiveness Of The Organization's Participation In Alliances

Method name	Authors	Brief description	Advantages of the methodology	Disadvantages limiting the spreading of the methodology
1	2	3	4	5
The concept of synergism	I. Ansoff	Includes two methods of evaluation: 1) determination of the level of cost savings for the same income; 2) determination of profit growth at a certain level of investments [3, p.125-131].	Simplicity, clarity, applicability almost in any field.	It does not provide a complete view of the degree of synergy effectiveness. It does not take into account the qualitative effect of participation in the alliance
Balance approach	C. K. Prahalad; I. Doz	The balance model allows to determine in which functional areas positive and negative effects can be expected[20].	Determines both the positive and negative synergies	Assumes only a qualitative assessment of the effect
The concept of profit multiplicatio n	Naumov V. N., Shubaeva V. G.	The change in the profit of each participant of the system through the profit multiplication factor (K p) is determined: K p= Ps / Po where Ps – profit as a result of synergy; Po– Profit before operational or organizational arrangements [18].	Simplicity and accessibility of the method	Considers profit as the only evaluation criterion

EVA Model	Joel Stern and Bennett Stewart	The EVA ("economic value added") indicator is the net operating profit after tax (NOPAT) minus the cost of capital. This indicator allows you to count the value of the company as a result of raising capital (by investments) in a certain year [2].	Application of the methodology in different sectors	There is no link with the non-monetary effect of participation in alliances. Can be applied only if the company has investments
The method of premium assessment, based on retrospective analysis	A.Davidenko	To calculate the premium for a particular transaction, similar transactions that have already been committed by other companies earlier are analyzed. Based on several similar transactions, the most significant synergistic effects are identified, and a common portfolio of synergies for the transaction under analysis is created [5].	The ability to assess the effect before the merger	The possibility of the lack of a sufficient number of similar transactions in the past to build a correct statistical portfolio. Synergetic effects for each specific transaction are individual, there may cause unexpected results
Methodology for determining the effect of company's participation in alliances	Polozov-Yablonsky A.A.	It divides the effect of the participation of companies in alliances on non-economic and economic. The non-economic effect is determined on the basis of expert estimates by multiplying the factors that appeared after joining the alliance. Weights are not assigned to this factors [17].	The methodology draws attention to both qualitative and quantitative effects of participation in alliances.	Difficulty of calculations, inaccessibility of information that is necessary for determining indicators

The conducted research helps in systematizing the most specific advantages received by the companies from participation in the alliance. They can be divided into qualitative and quantitative. For example, quality benefits include an image strengthening and brand development, decrease in the risk of business due to the weakening of competition in the market, reduction of time for customer service, increase the attractiveness of the services of alliance members through the use of a common loyalty program for customers, etc.

Quantitative advantages are reflected by the increase of commercial loading of own sales points and increase in income, reduction of logistics costs through general marketing researches (market analysis, advertising, etc.), creation of common services for the material and technical supply of companies, etc.

Summing up, based on the analysis and classification of the benefits obtained by companies from participating in the alliance it was concluded that it is necessary to use an integrated approach to assessing the effectiveness of companies' participation in alliances taking into account both the qualitative and quantitative components of the synergistic effect [7].

3. METHODOLOGY OF COMPANY'S EFFICIENCY EVALUATION FROM PARTICIPATING IN THE INTERNATIONAL STRATEGIC ALLIANCES

The developed methodology implies a comprehensive assessment of the effectiveness of companies' participation in alliances including qualitative and quantitative components of the synergistic effect divided into two parts.

The first part is aimed at analyzing and evaluating the quality effect of the company's participation in the alliance.

The qualitative effect is determined by the influence of the factors that characterize the importance of the company's participation in the alliance. However, it can be hardly assessed in specific quantities or the calculation significantly complicates the methodology. Quantitative evaluation of qualitative indicators can be made using the qualitative methods (Latin origin qualitas means quality) related to a group of heuristic (intuitive) measurement methods, for example, expert assessments.

Expert judgment is the evaluation obtained on the basis of the professional judgment of highly qualified experts (Latin origin expertus means experienced) possessing such qualities as competence in the subject area of knowledge, impartiality, intuition, wideness of views and independence of judgments [12, p. 334].

The expert method involves the usage of score. Scoring methods or scoring models has been created to make decisions in conditions when the optimal solution depends on qualitative considerations (for example, maintainability and quality of service, etc.).

To assess the qualitative effect of the company's participation in alliances the following algorithm is proposed:

1) Selection of the most significant factors (advantages) that determine the qualitative effect of the company's participation in alliances using the method of expert assessments;

2) Assigning weights to selected factors and selecting an evaluation scale;

3) Calculation of the indicator of the qualitative effect (Kqe) according to the formula:

$$K_{qe} = k1 \times F1 + k2 \times F2 + k3 \times F3 + \ldots + kn \times Fn, \quad (1)$$

Where F1; F2; F3; …; Fn are selected factors (advantages) by the expert;

k1; k2; k3; …; kn are assigned weights to selected factors (advantages).

This calculation allows taking into account the fact that the components of the qualitative effect have an impact on each other. It means that companies have a lot of intersections of their impact on the company's activities.

The first stage of the assessment is the selection of the most significant factors (advantages) that determine the qualitative effect of the company's participation in alliances should include:

- Analysis of the industry's driving forces (identifying factors that affect the industry where the alliance operates and determining the nature of the influence of these forces on the alliance's activities);

- The analysis of the alliance as a whole system to identify the benefits that it can provide to other participating companies and select the most significant factors by quantifying the key success factors that the alliance provides to its members.

The study of the alliance where the company is involved and the comparative analysis of the alliance's competitors helps to identify the advantages and opportunities of the alliance in the costs, quality of services, consumer value and in everything that the alliance can provide to its participants.

Summing up, based on these analysis, companies will be able to assess the effectiveness of the alliance from the view of its participants. Considering this information we can talk about the effectiveness or ineffectiveness of the company's participation in this alliance.

The method for quantifying the key success factors should be carried out according to the scheme shown in Figure 1.

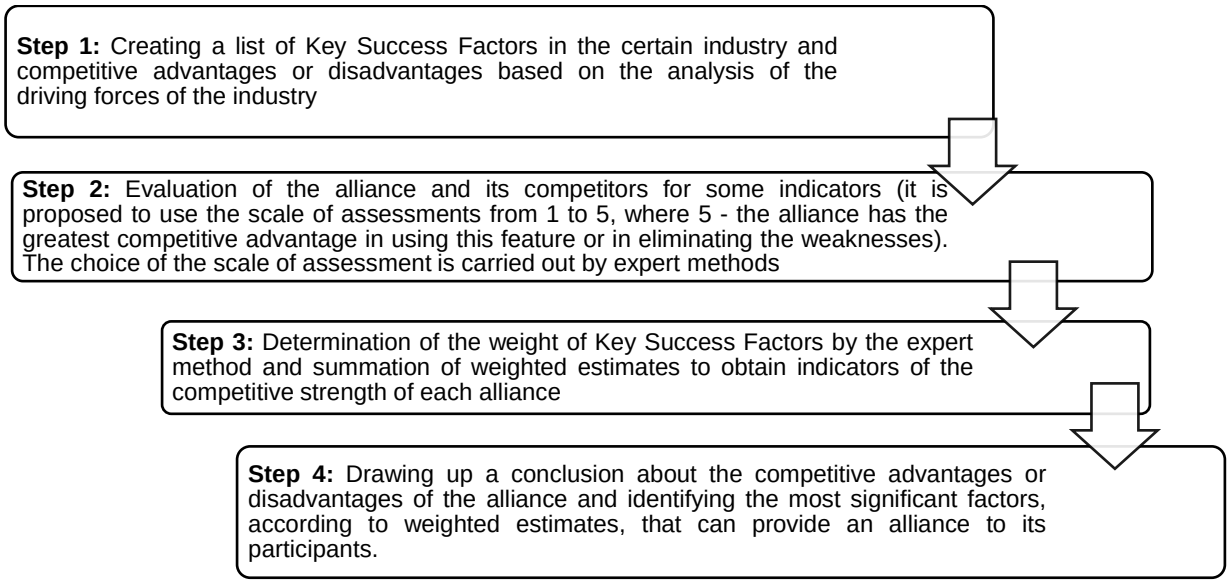

Fig. 1. Scheme for the quantification of key success factors

After the first stage of the assessment which is the stage of identification of the most significant factors that the alliance can provide to its participants, it is necessary to assess how these factors affect the alliance members. And next comes the second stage of the evaluation.

This stage is also produced by an expert method. Participants in the assessment must assign weight to the

factors and select an evaluation scale. As a simplification of the analysis it is recommended to use the same scale of assessments as in the quantitative assessment of Key Success Factors.

If several experts take part in the analysis the summary table is compiled according to the questionnaire of selected experts to assess the qualitative effect of the company's participation in alliances. In the table the experts' points for each selected factor are placed. To determine the total value of the qualitative effect for each element it is necessary to add the obtained points and calculate their average arithmetic values for each factor and then multiply the resulting amount by the weight of the corresponding factor.

In this case, experts are proposed to assess according to the scale from 1 to 5. The satisfactory value for the expert equal to three points for each factor analyzed. It can be considered as the expression of the positive view.

The final stage is the calculation of the indicator of the qualitative effect. If Kqe> 3, the quality effect is more than average and it has a tangible positive impact on the company's future performance. In case when Kqe is less than 3 and the effect is negligible it can be neglected.

The next step is considering the procedure for analyzing the quantitative effect of the company's participation in the alliance.

The effect of the participation in the alliance can be estimated as:

- The difference in costs of products (works or services) of the companies belonging to the alliance at the current moment and the period prior to this type of a partnership;

- The difference in the income of companies before and after the company's entry into the alliance.

However, if you take the difference in costs or incomes without considering the volume of provided services or the number of works performed and the number of products sold during these periods this calculation will be incorrect. It is necessary to discount the amounts of money to the comparable period.

The quantitative effect can be obtained by saving on the number of production and diversifying the activities of companies that participate in alliances.

So, the participant receives a quantitative component of the synergetic effect when entering a global, strategic or marketing alliance of companies defined by two components:

1. Reducing the cost of production (works or services);

2. Increase in the amount of revenue received and sales volumes of companies.

If the analysis contains the data both for large groups (at cost and revenue in general) and for certain groups, for example, data on marketing costs, etc., then the effect for each small group should be determined.

The proposed methodology for determining the quantitative effect of the company's entry into the alliance uses indicators of revenue, cost, commercial and management costs per unit of sales of products (works or services). The obtained indicators per unit of sold products can be discounted to the basic period which is the period before joining the alliance for a more objective assessment of monetary amounts over time. However, this procedure is not mandatory.

If the analysis is based on the financial statements and the amounts are taken at the end of the reporting period the analysis should be compared with the year before joining the alliance and the year following the year of joining the alliance considering the fact that the year of joining to the alliance may not show all the changes of the association.

The analysis method tested on the data of the public company "Siberia Airlines", a member of the alliance "ONEWORLD", is presented in Table 2.

In the proposed methodology in order to determine the quantitative effect from the airline's entry to the alliance it is proposed to consider the following indicators such as Revenue (S), Cost of sales (COGS), Distribution costs (SC) and administrative expenses (AC) per flight.

Table2.

Determination Of The Quantitative Effect Of The Participation Of PJSC "Siberia Airlines" In The Alliance "Oneworld", In Thousand Rubles.

№	Indicators	Formula	Year before joining the alliance	Year after joining the alliance	Diff. +/-	Rates of growth, %	Rates of Additional growth, %
1	2	3	4	5	6	7	8
1.	Revenue per flight	S / количество рейсов (Q)	866,18	919,00	52,83	106,10	6,10
2.	Cost of sales per flight	COGS / Q	717,76	750,40	32,64	104,55	4,55
3.	Commercial costs per flight	SC / Q	36,24	36,91	0,67	101,84	1,84
4.	Administrative expenses for one flight	AC / Q	42,73	41,61	-1,12	97,38	-2,62
5.	The total effect:	Line 1-line 2-line 3-line 4	-	-	20,64	-	-

Based on the results of the calculation, the data for column 6 in Table 2 should be called the quantitative effect for the corresponding group. The effect for any group is calculated as:

$$\mathrm{Ei} = \frac{\mathrm{Ii}_{t+2}}{\mathrm{N}_{t+2}} - \frac{\mathrm{Ii}_{t}}{\mathrm{N}_{t}}, \quad (2)$$

Where Ei is the effect of the i-index;

Iit и Iit+2 is the indicator for the year before joining the alliance and the year following the year of joining the alliance, respectively;

Nt and Nt+2 is the number of products sold (works or services) for the corresponding years.

A positive effect for the income group comes with the sign "+" and for expenses with the sign "-". Negative effect for the group of incomes comes respectively with the sign "-" and for expenses with the sign "+".

Summing up, in general, the total quantitative effect of the company's participation in the alliance is defined as the sum of the effects of the revenue minus the sum of the effects of the expenses part. The form of cooperation between companies and the type of alliance determines the presence or absence of indicators of quantitative effect. The total quantitative effect shows the additional profit (loss) from sales per unit of sold

In accordance with the performed calculations, it can be concluded that PJSC "Siberia Airlines" received a positive effect in the following year after joining the alliance according to the following indicators:

1) 52.83 thousand rubles was the additional revenue per flight;

2) Savings on administrative costs in the amount of 1.12 thousand rubles for each flight are calculated .

Negative effect occurred on the following indicators:

1) The costs for each flight have increased by 32.64 thousand rubles;

2) Commercial expenses for each trip have increased by 0.67 thousand rubles.

However, the overall quantitative effect regarding to each flight was positive and was equal to 20.64 thousand rubles as the additional profit from sales for each flight.

This effect is connected with the increase in the flight network, the improvement of the quality of services, the increase in the occupancy of aircrafts and everything that the oneworld "Oneworld" provided to its new

member. Thus, the developed methodology allows to prove how qualitative criteria has influenced the increase in quantitative indicators especially in net profit.

4. CONCLUSIONS

The proposed methodology allows us to evaluate not only the received material benefits, but also quantify the intangible effect of joining the alliance, which sometimes is more significant for a company operating on the international market. Considering the globalization of the economy and international integration this method can become an important stage in the adoption of strategic decisions by the business. It provides tools for justifying the purpose and prospects for development as well as assessing the economic consequences of companies' participation in international strategic alliances. This methodology can be applied in the audit of the group of companies [13, p.1103], in the monitoring system [10, p.650] and in the economic security control of various big companies [8, p.89], justifying the strategy of management of complex economic systems [11, p.165].

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