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Synergetic Effect of Merger and Acquisition of Industrial Organizations

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Abstract: Synergy creation is a dominant motive, as well as a key success factor for mergers and acquisitions. Insufficient economic justification for the transformation, based on expectations and assumptions of synergy potential, can easily lead to over-priced acquisitions. It will be difficult to achieve positive results and value for its shareholders to the acquirer if transformation of the company will not be properly assessed the planned synergies. Therefore it is important to get a comprehensive understanding of the synergy potential. The article presents the issues of solving the problems of enterprise's transformation in expanding the boundaries of the market by creating synergies in the merger or acquisition and proposed methods for estimating the synergistic effect. As well as considers the main problems faced by theorists and practitioners of transformation processes during prospecting ways to develop the business and suggests some solutions capable at the planning stage to exclude options with the least synergistic effect.

Key words: Synergy · Transformation of enterprises · Financial synergy · Operational synergy · Mergers and acquisitions

INTRODUCTION

Widening of global and, after that, of local channels of market techniques diffusion, which is accompanied of acceleration of the development rates, requires of corporate business the search of quick and effective ways to get competitive advantages [1]. The opening of borders of local markets in context of entry into WTO (World Trade Organization) can be the most illustrative example of the globalization process beginnings. This process, from one side, is characterized by the simpler obtaining of access to modern markets and technologies and, from the other side, by the toughening of competitive environment in local markets. In view of objectivity of above described facts the main problem of business is maximization of profit out of access to external markets and technologies and minimization of risk of increased competition [2]. The solving of this problem concerns not so much the internal low development potential, as the scaled business transformation, the variety of which can be the transactions of merger and acquisition. The potential of such transformation consists, in the first place, in possible synergetic effect which is able to enhance the effect of internal growth [3].

In this article the authors examine the main ways of synergy search, their advantages and disadvantages during transformation of corporations through mergers and acquisitions.

Main Part: The main motive for mergers and acquisitions is growth. Companies, which strive for expansion, face the choice between internal growth thanks to real investments and growth through mergers and acquisitions. The internal growth can be slow and uncertain as everything, connected with realization of investment projects. The growth through mergers and acquisitions can be much more rapid process, though it brings its own uncertainty. The companies can grow within its branch or can expand by entering other business fields. Expansion beyond the limits of one or another branch means diversification.

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If a company strives for expansion within the branch, then it has to alternatives of growth: internal growth or external growth. Sometimes the internal growth is not an acceptable alternative [4]. For instance, if a company has an opportunity of expansion, which exists just within limited time, it may turn out that the slow internal growth, as building of a new enterprise, is insufficient. While company grows slowly through the internal expansion, competitors can react more quickly and increase its share of market. In the course of time the advantages of the company can be graded or intercepted by competitors. Under these conditions the only solution will be the acquisition of another company which already has necessary resources such as offices, management, manufacture etc.

There are a number of situations when it is better to act immediately, otherwise all these opportunities disappear. It can be so when a company developed a new product or technology and has time advantage over competitors. Even if a product or technology will be patented, it will not prevented the competitors from development of a competitive analogue not infringing upon patent right. Another example can be the situation when a company develops a new sales concept. The priority in development of such concept gives time advantage. If not to take this advantage in proper time, this chance can slip by and become an opportunity for larger competitors which have at their disposal more resources.

Another example of use of mergers and acquisitions, which are caused by growth, is a situation when a company wants to expand into another geographic region. Such situation takes place when market of company is situated in one part of the country, but it wants to enter other markets of this country. In many cases it is more quickly and less dangerously to realize the geographical expansion through acquisitions and not through internal development. It is particularly rightly in relation to international expansion where it is necessary to have many properties to gain a success in a new geographic market. It is essentially for a company to know all the nuances of new market, to hire a new staff and to surmount many other obstacles, especially language and cultural barriers. The internal development can turn out to be much more slowly and difficult. Mergers, acquisitions, joint ventures and strategic alliances can be the most quickly and the least risky alternative [5].

Corporation management has to demonstrate successful growth constantly. It is particularly rightly in case when a company or a branch achieved such growth in the past. However, when the demand for output and services of the branch decreased, it becomes harder to demonstrate the growth. When it occurs, management begins quite often to tend to mergers as method of demonstration of growth [1].

They often hope that such acquisitions will result not only in increase of incomes, but also in increase of profitability owing to synergetic gains. However, it is much easier to show the increase of incomes, just adding the incomes of absorbed targets, than to increase the general profitability of a new enterprise. Thereby, one can claim that the acquisitions make great demands of management on it improvement by a larger company (what is difficult to achieve in practice), though they bring an opportunity of synergetic benefits.

The general synergetic effect will be equal to the sum of single effects with the exceptions of cases of high correlation, if they are alternative.

Generally the formula for assessment of one-moment (for the t-point of time) synergetic effect looks in the following way (formula 1):

$$GOSE_t = SES_t + SEK_t + SET_t + SEM_{0t} + SEC_t + SEM_t + SED_t \tag{1}$$

where $GOSE_t$ ($ООСЭ_t$) – general one-moment synergetic effect for the t-point of time after the merger/acquisition;

SES_t ($СЭМ_t$) – SE of scales by achievement of more optimal volume of output and of resources complemetarity (is calculated as sum of differences between nonoptimal and optimal expenses per unit of output, which are multiplied by real volume of output on sorts of output);

SEK_t ($СЭК_t$) – SE which is obtained in market of capital (profit on credits and other capital (for example, share stock by issue of shares) which can be received just in case of merger/acquisition; difference in interests, paid for credit etc.);

SET_t ($СЭН_t$) – SE which is obtained on account of reduction of taxes, customs duties and other payments to state budget;

SEM_{0t} ($СЭМ_{0t}$) – SE which is obtained on account of monopolistic position in the market and of the possibility to influence both upon consumers/customers and upon suppliers (ability to avoid price competition, pressure upon suppliers and getting of discounts for great volumes of delivery, gaining of great contracts (including state contracts) etc,);

SEC_t ($СЭЦ_t$) – SE which is obtained on account of centralization, exclusion of backup functions and saving of current costs (is calculated as difference between the sum of expences of single internal units before merger and the expences of a centralized unit);

SEM_t (СЭУt) – SE which is obtained on account of better management and removal of uneffective processes (is calculated by means of comparison of old and new values of expences on single processes);

SED_t (СЭД$_t$) – SE which is obtained on account of diversification (increase of demand for output as a result of widening of assortment, use of advantage “all at the same hand” by securing of large orders, increase of sale in connection with use of new channels and markets under the conditions of geographic diversification, reduction of overall loss risk etc.).

As a rule a term “synergy” associates with physics and not with economy or finances. It concerns the kind of interaction which takes place when two materials or two factors have together greater effect than a sum of two independent constituents. For instance, in chemistry the action of synergy becomes apparent when two substances have greater effect by combining than the summary result of their independent influence. Bluntly speaking, synergy is a phenomenon, when “2 + 2 = 5”. In mergers it means the ability of an amalgamated structure to be more profitable than its single parts or companies which amalgamate. The real existence of synergetic benefits or effect allows the companies to bear expenses of acquisition process and, at the same time, to pay a bonus the shareholders of a target company for their shares [2]. Synergy can provide the amalgamated company for positive net acquisition value (NAV):

$$NAV = V_A - [V_A + V_B] - P - E \tag{2}$$

where:

V_{AB} - Combined value of two companies;
V_B - Market value of shares of company B;
P - Bonus, paid for company B;
E - Acquisition costs;
V_A - Own cost estimating of company A.

We changed the equality and got:

$$NAV = [V_{AB} - (V_A - V_B)] - (P + E), \tag{3}$$

The value in square brackets represents the synergetic effect. In order to cover a cost of merger this effect has to be bigger than “P + E”. If the value in square brackets is not more than “P + E”, so the buying company will overpay for target and the operation will be unprofitable.

The question of what should be included in synergetic effects is quite controversial. Some researchers consider the synergy as a broad concept and include, for example, the liquidation of ineffective management by means of bringing the cleverer managers of buying company to power. Though it is quite reasonable to define the synergy in such a way, in this article this term is determined more narrowly and examine the benefits, which are connected with change of managers, separately. Such approach is more compatible with widespread interpretation of term “synergy” [2].

Two main kinds of synergy are operating synergy and financial synergy. Operational synergy is shown in two forms - increase of incomes and reduction of expenses. At the same time increase of incomes and effectiveness increase, or savings of transaction costs, can appear both on horizontal and on vertical mergers. Financial synergy is a possibility of capital costs in result of merger of one or more companies.

It is considered that it is more difficult to achieve the operating synergy than the synergy of reduction of expenses. That is to say that it is a revenue-enhancing opportunity (REO). It can be represented as a newly-produced or improved product or service, which are formed by synthesis of two different qualities of merger partners and create immediate and/or long-term increase of incomes. For example, the synergetic effect of merger of “Rosneft” with TNK-VR in 2013-2015 is appraised at $2.4 bn. [3]. The effect at the rate of $3.4 bn. is expected as a result of capital costs optimization and $6.6 bn. more - as a result of operational effectiveness increase. In whole the management of “Rosneft” prevaluates the general synergetic effects of company amalgamation at $10 bn.

According to data of news agency AK&M, which are set out in bulletin “The market of mergers and acquisitions” for 2010, one made the bargains with Russian assistance at $64.6 of 528 bn. in market of mergers and acquisitions in all. There is the leadership of the branch that made 39 bargains to the total sum of $12.8 bn. from the merger of “Vympelkom” with “Kievstar”. In chemical and petrochemical industry 16 deals went through to the total sum of $9,8 bn. (purchase of “Uralkaliy” by group of investors for $5.3 bn., acquisition of 50% of SIBUR Holding for $3.7 bn., acquisition of 50% of Ruhr Цl by “Rosneft” for $1.6 bn., purchase of 51% of “Sibneftgaz” by NOVATEK for $1.2 bn.). As well as in fuel and energy complex 29 deals went through almost at 8.6 bn. of roubles (purchase of 51% of “Sever Energiya” by “Yamal razvitiye” for $1.85 bn. from “Gazprom” [6].

Table 1: Branch segmentation of M&A-activity in 2010

Branches	Volume of transactions, \$ mln.	Number of transactions
Communication	12 765,4	39
Chemical and petrochemical industry	9 809,4	16
FEC	8 555,2	29
Food industry	6 783,5	53
Mining operations (except the fuel minerals)	4 650,3	21
Trade	4 225,5	62
Building	3 034,4	30
Metallurgy	3 033,6	25
Financial institutes	2 284,3	45
Power industry	1 889,2	24
Transport	1 830,1	27
Services	1 673,4	49
Machinery construction	1 072,6	22
Mass media	735,6	27
IT	600,5	18
Agriculture	436,8	18
Electrical equipment industry	381,2	7
Insurance	294,1	4
Wood and pulp & paper industry	246,5	7
Sport	200,0	1
Other manufactures	118,5	4
Total:	64620,1	528

The branch activity on mergers and acquisitions, according to data of “News agency “AK&M”” is represented in Table 1.

It is shown in Table 1 that such branches as communication (20%), chemical and petrochemical industry (15%), fuel and energy complex (FEC) (13%) takes the most active part in market of mergers and acquisitions.

There are a number of potential sources of income increase and they can differ to a considerable degree in different transactions. They can result from mutually beneficial widening of market opportunities by means of mutual marketing of products of both partners. Disposing of broader assortment of output, each company can sell its customers more products and services. Cross marketing has a potential for increase of incomes of each merger partner, thereby permitting both companies to increase incomes quickly.

There are many ways to achieve the synergy of incomes increase and they defy brief description. For example, synergy can arise by using the reputation of a company with famous trade mark for promotion of new output of the merger partner. In another case synergy appears when a company with advanced network of commodity distribution combines with another company, products of which have great potential, but its possibilities to bring the products into the market before the competitors will have time to react are limited.

Though the sources can be promising, the synergies of incomes increase are sometimes hard-hitting. Potential increase of incomes is quite often called as benefits of merger, but it is impossible to measure these benefits legibly. It is one of the causes because of which some transactions don’t provide expected benefits. One can also find a cause in a bad planning before the merger which is caused by inability to measure the increase of incomes for certain.

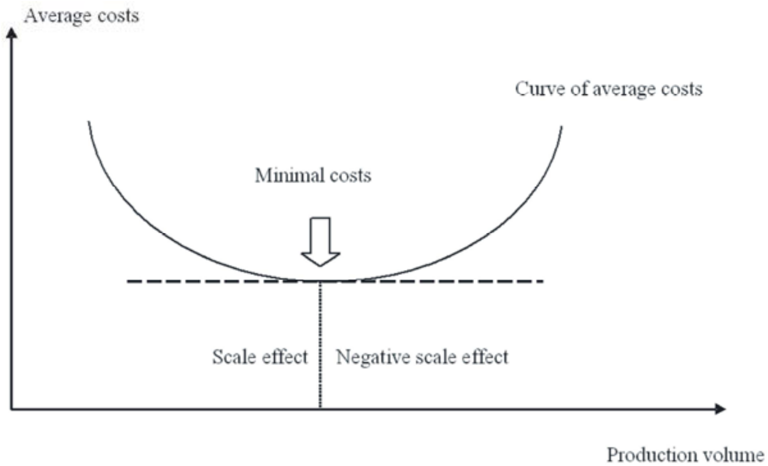
Therefore by planning of mergers they usually find the synergies which reduce expences, as a main source of operating synergies. Reduction of expenses can be a result of economies of scale or scale effect - reduction of expenses per unit of output which appears as a result of increasing of company activity scale.

In view of low production volumes the companies, as a rule, work with high costs per unit of output [7]. It occurs, because the fixed charges, which are connected with operation of production ecquipment, are allocated within the relatively small volume of output. As the production volumes increase, the expenses per unit of output are reduced. Other sources of such economy are labour specialization by management and more effective using of fixed assets. It is possible by a certain production output, after that the costs per unit of output can increase, because a negative scale effect appears at the enterprise.

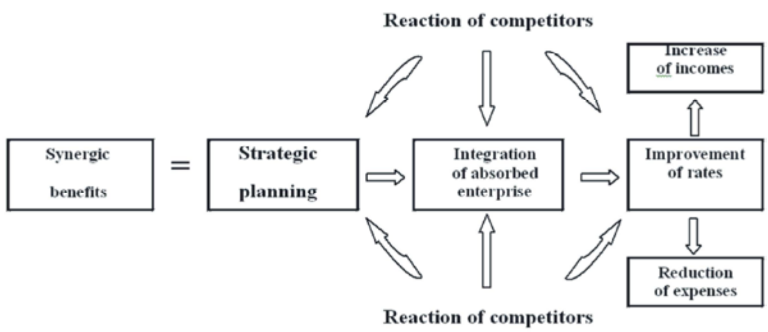
For instance, Picture 1 shows the economy and cost escalation of scale and characterizes that optimal level of production output takes place when the costs per unit of output are minimal.

This is the demonstration of the fact, that expansion by horizontal merger of competitors can rack up the output of merging company and reduce the expenses per unit of output.

Another concept, which is associate with economies of scale, is economies of scope which represent the ability of a company to use one bundle of charge stock for production of the broader assortment of products and services. A good example of economies of scope is bank branch [8]. Here by substantiation of mergers and acquisitions of company the economies of scope can be just so important as economies of scale. Striving for achievement of these kinds of economies is one of the factors of consolidation in bank branch in period of the fifth wave of mergers. One of representative examples of such merger in history of modern Russia can be the transaction of the bank “VTB” on purchase of control packet of shares of the bank “Bank of Moscow”. In this case it is a question of double synergy: from one



Pic. 1: Positive and negative scale effect



Pic. 2: Process of realization of synergic benefits

side - scope effect - PC “Bank of Moscow” gains access to the cheaper rationing from sources of the bank “VTB”, from the other side - scale effect - PC “Bank VTB” on basis of one service platform serves the extra volume at the expense of client base of “Bank of Moscow” [9].

Process of realization of synergetic benefits is represented in Picture 2.

Success in obtaining the synergetic benefits begins with careful strategic planning. Such planning has to rely on deep technical economic investigation.

After acquisition or merger the next essential step is integration of two separate enterprises. The more strongly two corporative culture differ from each other, the more difficult this problem is [10].

The final reaction of synergetic benefits can be divided into two parts: increase of incomes and reduction of expenses. In the course of the acquisition process a customer needs to know about the factual and expected reactions of competitors.

The increase of the market share can appear at the cost of competitors’ incomes. When a company demonstrates the improvement of its result through merger or acquisition, the competitors can respond by their own program of acquisitions or by other means. Of course, it is complicated to model the infinite number of possible reactions, though they have to be closely analyzed. It is very easy, for instance, to build a financial model which shows any result that they want to see. In order to show both the increase of incomes and reduction of expenses, one can build into the model of assessment one’s own assumptions. The approach, which is based on assumptions and not on strict calculation of consequences and reactions of competitors, is typical for the markets, where the state corporations play the leading hand. In other words, there where the change of geopolitical position of corporation and not its profitable for shareholders, has critical importance. The demonstrative example is the transaction on purchase of control packet of shares of “TNK VR” by PC “Rosneft” at the price, much higher than the market price, for the purpose of gaining the access to key oil and gas fields, of weakening of monopolistic role of Gazprom in the market of gas production and of getting the additional entry into the international market on account of projects of “TNK VR” [11].

Financial synergy is the influence of merger of acquisitions of enterprises upon capital formation of merging company or of merger partners.

The merger of two companies can reduce the risk, if their money flows don't completely coincide. If acquisition or merger decreases the volatility of money flows, the investors can consider the company as a less risky [12].

As a result of acquisitions a company can get economies of scales. This economies is usually considered as a result of reduction of enterprise expenses. The result of acquisitions can be the financial economies on scale in form of a less rate of interest and less transaction expenses.

In the financial markets the larger company has some advantages which can reduce for it the capital formation costs.

A vital synergetic effect can be gained by diversification of companies' activity. By diversification it is meant the company growth outwards its branch.

The economic profit of diversification shows up in the effect of mutual insurance. The example of it are the companies with not completely competitive benefits, which amalgamate and get the amalgamated profit flow, that is not so volatile as the flows of incomes in each of firms separately. Co-variation is a statistic measure of degree of linear relation of two variables, in this case - benefits of two candidates for merger - of companies A and B. If, for example, co-variation between $E_{À}$ è $E_{â}$ is negative, then there can appear a possibility for benefiting of mutual insurance by merger of firms A and B:

$$Cov(E_A, E_B) = E[(E_A - \mu_{EA})(E_B - \mu_{EB})] < 0. \quad (4)$$

Summary: The enterprises strive for diversification as for mean to become more stable in financial respect. But in theory of corporative finances the question of acquisitions, by which the diversification is a main motive, is sufficiently problematic. At bottom of fact, by diversification the purchasing company renders to the shareholders the service that they can realize better by themselves.

Another disadvantage of mergers, motivated by diversification, is tendency of diffusion of management skills of merging company. The ability to manage the company successfully in one branch isn't extended to the enterprises of other branch.

Conclusion. Summing up, one can separate out the most perspective ways of synergy search by transformation of the enterprises through mergers and acquisitions. They lie in careful planning of transactions, as well as in different scripts of prediction of their consequences along with using of scale effect and reduction of expenses as the main source of operating synergy. The ways of search of incomes increase of operating synergy, as well as inter-branch diversification of business (which defies the prediction because of significant differences in area of corporative culture and market management mechanisms) remain the most problematic sides of transformation.

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