METHODOLOGICAL PRINCIPLES OF ESTIMATING EFFICIENCY OF MERGER AND ACQUISITION PROCESSES OF ENTERPRISES

Abstract. The article presents the results of the study of theoretical, methodological and practical aspects of the evaluation of the effectiveness of M & A transactions. The main methods of estimating the efficiency of merger and acquisition processes of enterprises are considered. Based on the results of the critical analysis of existing developments, the methodical tools and the sequence of express evaluation of the efficiency of mergers and acquisitions were substantiated. The developed methodological approach to assessing the effectiveness of M & A transactions is based on the basic provisions of the theory of stakeholders and competitive analysis and involves identifying the effectiveness of the M & A agreement based on the assessment of the nature of the dynamics of indicators, reflecting the level of satisfaction of the enterprise participant and the effectiveness of the enterprise participant compared with the competitor. The implementation of the proposed methodological approach allows us to expand the criteria for assessing the compliance of the merger and acquisition transaction with the target parameters of the enterprise.

Keywords: merger, acquisition, company efficiency, institutional approach, evaluation.

JEL Classification: G34

Formulas: 2; fig.: 0; tabl.: 2; bibl.: 15
МЕТОДИЧЕСКИЕ ОСНОВЫ ОЦЕНИВАНИЯ ЭФФЕКТИВНОСТИ СЛИЯНИЯ И ПОГЛОЩЕНИЯ ПРЕДПРИЯТИЙ

Аннотация. В статье представлены результаты исследований теоретических, методических и практических аспектов оценки эффективности сделок М&A. Рассмотрены основные методы оценки эффективности процессов слияния и поглощения предприятий. По результатам критического анализа существующих разработок обоснован методический инструментарий и последовательность экспресс–оценки эффективности сделок слияния и поглощения. Разработанный методический подход к оценке сделок М&A основывается на базовых положениях теории стейкхолдеров и конкурентного анализа и предполагает идентификацию эффективности сделки М&A на основе оценки характера динамики показателей, отражающих уровень удовлетворения интересов предпринятия–участника и эффективность деятельности предприятия–участника по сравнению с предприятием–конкурентом. Реализация предложенного методического подхода позволяет расширить критерии оценки соответствия сделки слияния и поглощения целевым параметрам деятельности предприятия.

Ключевые слова: слияние, поглощение, эффективность деятельности компании, институциональный подход, оценка.

Формул: 2; рис.: 0; табл.: 2; библ.: 15

Introduction. Under the current conditions of globalization of the economy, one of the directions of ensuring the competitive positions of enterprises is the creation of integrated structures. Companies achieve their goals concerning expansion, strengthening of business, and increasing its efficiency through mergers and acquisitions. The lack of investment resources and increased competition make business entities implement M & A transactions that give an opportunity to approach a qualitatively new level of development, namely, to increase their market share, expand the range of products, access to resources, technologies and sales channels, increase the value of business, enter the fast growing segments of the market, reduce the tax burden.

The data of CMS Legal Services EEIG (CMS EEIG) groups of consulting and law firms testifies to the active development of the merger and acquisition market. According to the Emerging Europe M & A Report 2016/17, in 2016, the value of M & A deals in central and south–eastern Europe raised to its highest level against 2013 [1]. The activity of integration processes in different segments of the world economy aroused interest of scientists and practitioners to areas related to mergers and acquisitions in general and evaluation of their effectiveness in particular.

Analysis of research and problem statement. Matters related to the M & A operations, the evaluation of their effectiveness and their incorporation in the development of the enterprise development strategy are discussed in the writings of such scholars as A. Damodaran [2], D. Depamphilis [3], T. Copeland [4], T. Collier [4], J. Murrin [4], A. Patrick [5], V. Hrosul [6], L. Frolova [7], L. Kuznetsova [8], O. Kravchenko [9], L. Horbatiuk [10], O. Maksymets [11], A.Oksak [12], and others. In particular, in the writings of A. Damodaran [2], D. Depamphilis [3], T. Copeland, T. Collier, J. Murrin [4], A. Patrick [5], the reasons and motives of mergers and acquisitions of companies are considered. Theoretical and methodical principles of environmental assessment and its influence on decision–making on the integration of business entities are reflected in the works of V. Hrosul [6], L. Frolova [7]. The evaluation of the effectiveness of M & A transactions is given in the works of A. Damodaran [2], L. Kuznetsova [8], O. Kravchenko [9], L. Horbatiuk [10], O. Maksymets [11], A. Oksak [12].
Despite the increasing dynamics of mergers and acquisitions in the scientific literature, there is no clear definition of these concepts; existing methodological tools for assessing the effectiveness of M & A transactions cannot always be used without caution and require adaptation in view of the completeness of the information provision of such an assessment. The above stipulates the relevance of the research to determine the essential characteristics of mergers and acquisitions and assess their effectiveness. Taking into account the stated purpose of the study is a synthesis of theoretical positions and the substantiation of the scientific and methodological approach to the evaluation of the efficiency of mergers and acquisitions of enterprises.

Research results. One of the steps of mergers and acquisitions is to evaluate the effectiveness of this process. Despite the importance of the results of such an assessment, there are different methods for assessing the effectiveness of mergers and acquisitions. In the writings of O.S. Kravchenko [9], L.V. Kuznetsova [8] this matter is considered through the criterion of synergistic effect, in the works of F.I. Yevdokymova [13], N.V. Rozumna [13] – as a system of unitary financial indicators, in the works of A.O. Oksak [12], L.A. Horbatyuk [10] – as a set of integral characteristics of the corporate structure. In order to identify the peculiarities of the M & E evaluation process, existing developments have been systematized on the basis of such features as the method and period of evaluation, indicators and methods for assessing the efficiency of mergers and acquisitions. Let us consider them closer.

Regarding the systematization of methodological approaches to the assessment of the efficiency of mergers/acquisitions, we note the following. The key to establishing a business is to increase its value. Taking this into account when assessing the efficiency of mergers and acquisitions, use income, comparative and property approaches. The criterion of efficiency is the increase in the value of the company after the transaction. According to the existing developments, the income approach is based on the discounted cash flow model, comparative approach involves evaluating the value of the enterprise using multipliers of competitors, the property approach is realized taking into account the assets of the enterprise.

The other feature of systematization of methodological approaches to assessing the efficiency of mergers / acquisitions is the assessment period which was defined on the basis of business practices and the procedures for the conclusion and implementation of M & A transactions. As O.S. Kravchenko regards: "Before making a final decision on the transformation of an existing business model of an enterprise through mergers or acquisitions and negotiating an agreement, the master phase of the process of transforming a business model of an enterprise based on mergers or acquisitions is a quantitative evaluating of the transaction." [9, p. 81]. We agree with this opinion, but we believe that in the conditions of turbulence of the environment, which, by definition of V.A Hrosul, is characterized by aggressiveness, unpredictability and chaotic influence of the factors of the business environment [6, p. 52], the assessment of the effectiveness of the transaction is important not only before the takeover, but also after the completion of this procedure. This is the approach taken by L.V Frolova. And A.Yu. Holoborodko. The authors say: "The final stage is the stage of assessing the economic efficiency and control that should be carried out after the mergers / acquisitions and based on the assessment of the synergy effects of mergers or acquisitions and comparative analysis of the dynamics of operating and financial performance of enterprises before and after the merger" [7].

Regarding methodological principles, at the stage of preliminary assessment of the efficiency of mergers and acquisitions, it is expedient to adhere to the methods of assessing the value of an enterprise, that is, income, comparative or property methods, described above. With regard to the assessment of the effectiveness of M & A transactions after the completion of M & A procedures, it is also acceptable to use these methods. But it should be noted that after the completion of the transaction when assessing the value of the enterprise, rather the actual value of discounted cash flows, financial multipliers, assets than predictable ones should be taken into consideration. In addition to income, comparative and proprietary, financial, market, and combined approaches can also be followed during retrospective assessment of M & A performance. The essence of the financial approach consists in use of a set of financial indicators, the values of which are compared before and after the merger / acquisition process; market approach involves research on changes in the company's stock price in the financial market; the combined method is based on a combination of financial and market approaches, in particular the establishment of the relationship between the performance of the enterprise and the market value of its shares.
According to O.V. Maksymets the models of the efficiency of mergers / acquisitions developed by scientists can be presented by two groups, namely models based on the flow of funds and the others based on financial variables. In turn, within each group, the author identified direct (absolute) and indirect (relative) methods of evaluation. The direct methods, by O.V. Maksymets, include models of discounted income, option pricing and economic value, the indirect methods include models, based on the ratio of enterprise prices and certain indicators, such as profit, book value, sales proceeds [11, p. 257].

Taking into account existing publications, the delineation of models for assessing the effectiveness of mergers / acquisitions to those based on cash flows and financial indicators is objective and consistent with the approaches to assessing M & A transactions presented in the scientific literature. In particular, F.I. Yevdokymova and N.V. Rozumna consider M & A operations as investment projects and suggest to use the indicators of net income, profitability index, internal rate of return, payback period for estimation of their effectiveness. At the same time, the authors do not exclude the possibility of using financial models and recommend such indicators as coefficient of coverage, autonomy, absolute liquidity, depreciation of fixed assets and others for their formation [13 p. 56].

The key to determining the methodological bases for assessing the effectiveness of mergers and acquisitions is to identify the essence of the criterion of "efficiency". Oksak A.O., based on various conceptions of the company's theory, singles out resource, cost, target and institutional approaches to measuring performance, each of which reflects a specific target of enterprise performing. The resource approach involves providing a certain ratio of results and resources, cost approach – the ratio of results and costs; target approach – the achievement of a certain goal, institutional approach – the interests of a group of stakeholders [12, p. 228].

In our opinion, the delimitation of these approaches is conditional. They complement each other and determine the perception of efficiency as a complex category. Target guidelines for M & A transactions are mainly general, i.e. an increase in market share, cost reduction, access to new markets, and so forth. However, target guidance is formalized into certain indicators, which are usually presented as a ratio of results and resources or results and costs. In particular, there is a tradition to set target objects for the enterprise in order to achieve certain values of the profitability of assets, equity, operating costs, etc. In this case, there is a combination of resource or cost–effective approaches to determining the effectiveness of the target approach.

Regarding compliance with the institutional approach when assessing the effectiveness of M & A transactions, it involves the use of a set of characteristics that reflect the interests of different participants of economic relations. Actually, A.O. Oksak, defines the united corporation, shareholders, the state, suppliers, consumers, banks as the main stakeholders, interested in mergers and acquisitions [12]. The author also defines the key performance indicators of M & A transactions, namely, the return on costs, equity, assets, activities, as well as the income per unit of tax arrears and accounts payable for each of these groups. As we can see, indicators based on resource or cost–based approaches are also used when complying with an institutional approach.

Without rejecting existing approaches to assessing the effectiveness of mergers / acquisitions, we note the need to take into account such a factor as the depth of the research and the source of information. We believe that these factors are crucial in choosing a methodological tool for evaluating M & A transactions. If M & A information provides information on the volume of the transaction, as well as available financial statements, both before and after implementation, any of the direct valuation methods based on both cash flow and financial variables may be used to assess the effectiveness of this agreement. However, the specificity of M & A transactions in Ukraine is that the sum of the merger / acquisition transaction is quite often unknown. Information about assets, capital and results of operations of economic entities that carried out such an operation is also limited. As the researchers point out [8–2], the peculiarity of Ukrainian agreements is the opacity of companies and significant costs for due diligence.

Under such conditions, indirect measurement methods should be used to determine the effectiveness of M & A transactions in the absence of information on the amount of the merger / acquisition transaction, the official financial reporting by the participating entities, information on changes in the quotations of securities, and also during the express evaluation. In such a case, when
investigating the effectiveness of M & A transactions, we consider it appropriate to follow an institutional approach whereby an agreement is considered effective if stakeholders are satisfied with the results of the transaction. Just that very approach is given in the work of A.O. Oksak [12]. Agreeing generally with this concept, we consider it expedient when assessing the effectiveness of M & A transactions to take into account not only the interests of stakeholders, as the author suggested, but also the changing situation in a competitive market. After all, for a company it is desirable not only to satisfy the interests of the parties, but also to maintain / improve its position as compared with the competitors. As for the indicators, we consider it reasonable to use those ones to be obtained from open sources, in particular, the return on assets, equity, operations, etc.

Summarizing the above mentioned material, a methodological approach based on the theory of stakeholders and the foundations of competitive analysis for the express evaluation of the effectiveness of the M & A agreement for the enterprise has been developed. The developed methodological approach is based on a combination of coefficient, ball and matrix methods and involves identifying the effectiveness of the M & A agreement on the basis of evaluating the dynamics of indicators reflecting the level of satisfaction of the interests of stakeholders and the effectiveness of the participating enterprise as compared with the competing one. The developed methodical approach proposes to figure on in a certain order.

1. Make up data on operating rates of both the enterprise which is the party of the M & A agreement and its rival for the period before and after the transaction. In view of the sources of information and the composition of the stakeholders the data array should include findings on profits, equity, assets, sales proceeds have been [12, p. 231].

2. Calculate the operating rate of the participating company and its main competitor before and after the conclusion of the M & A agreement. Depending on the information enquired for comparison, the indicators of return on equity, assets, activities should be used. The results of the evaluation are recommended to be presented in the form of a table holding to the 3-grade scale, taking into account the following requirements: if the indicator the enterprise-participant (compared with the competitor's) increases over the time periods – 2 points; if the indicator of the enterprise-participant (in comparison with the current competitor) over the periods of time remains unchanged – 1 point; if the indicator of the enterprise-participant (compared with the competitor) over the time periods decreases – 0 points.

3. Summarize the results of the calculations and draw a conclusion on the effectiveness of the M & A agreement. This stage involves the combination of information on the change in the performance of the participating company before and after the transaction, and compared with the competitor, and the calculation of the efficiency ratios for the participating company (CPE) and the participating company compared to the current competitor (CECE). The efficiency coefficients can be figured on by the formulas:

\[
K_{EIP} = \frac{\sum_{k=1}^{n} B_{ppe (k)}}{\sum_{k=1}^{n} B_{max (k)}}, \tag{1}
\]

\[
K_{EIK} = \frac{\sum_{k=1}^{n} B_{ppc (k)}}{\sum_{k=1}^{n} B_{max (k)}}, \tag{2}
\]

where

- \( K_{EIP} \) (CEPE) — coefficient of efficiency of the M & A agreement for the enterprise-participant, coefficient;
- \( K_{EIK} \) (CECE) — coefficient of efficiency of the M & A agreement for the participating enterprise comparing with the competing one, coefficient;
- \( B_{ppe (k)} \) — the actual estimation of the efficiency of the transaction by the \( k \) indicator for the participating enterprise, point;
- \( B_{ppc (k)} \) — the actual estimation of the efficiency of the transaction by the \( k \) indicator for the participating enterprise and competing enterprise, point;
- \( B_{max (k)} \) — the maximum estimation of the efficiency of the transaction by the \( k \) indicator, point;
- \( n \) — number of indicators.
To formulate conclusions on the results of the evaluation of the effectiveness of the M & A agreement, it is proposed to use a uniform scale of distribution of the values of the efficiency coefficients of the transaction. The conditions for concluding the effectiveness of the transaction are as follows:

- \( 0 \leq \frac{CEPE}{CECE} < 0.33 \) – the transaction is ineffective, indicating that most of the target merger / acquisition targets of the participating company have not been achieved;
- \( 0.34 \leq \frac{CEPE}{CECE} < 0.66 \) – average transaction efficiency, which indicates that not all target merger / acquisition guidelines of the participating company have been achieved;
- \( 0.67 \leq \frac{CEPE}{CECE} \leq 1 \) – high transaction efficiency, which means that most of the target merger / acquisition targets of the participating companies have been achieved.

To approbate the developed methodological approach, an agreement on the acquisition of the ‘Elada’ oil extraction plant by the ‘Kernel’ company (2016) was chosen. The indicators of both the ‘Kernel’ Agrarian Group [14] and the vertically integrated ‘Myronivskiy Khliboproduct Holding’ [14] are given in Table 1, the results are presented in Table 2.

Taking into account the efficiency factors over the time periods, it was concluded that the agreement of 2016 concerning the acquisition of the ‘Elada’ oil extraction plant by the ‘Kernel’ company is effective (Table 2). During 2016, the performance indicators of ‘Kernel’ were increased, the company improved its production efficiency compared with its rival’s. The growth of production efficiency indices showed both in evolution and in comparison with the competitor allows us to draw a conclusion on the quality of the M & A deal (2016) in favor of ‘Kernel’.

Table 1

<table>
<thead>
<tr>
<th>Indicator</th>
<th>‘Kernel’</th>
<th>‘Myronivskiy Khliboproduct’</th>
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<tbody>
<tr>
<td>Revenue, million US dollars</td>
<td>2359.5</td>
<td>1988.5</td>
</tr>
<tr>
<td>Profit, million US dollars</td>
<td>106.9</td>
<td>225.2</td>
</tr>
<tr>
<td>Assets, million US dollars</td>
<td>1465.6</td>
<td>1509.4</td>
</tr>
<tr>
<td>Equity, million US dollars</td>
<td>890.8</td>
<td>997.1</td>
</tr>
<tr>
<td>Profitability,%</td>
<td>4.5</td>
<td>11.3</td>
</tr>
<tr>
<td>Return on assets,%</td>
<td>7.3</td>
<td>14.9</td>
</tr>
<tr>
<td>Return on equity,%</td>
<td>12.0</td>
<td>22.6</td>
</tr>
</tbody>
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Table 2

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Dynamics of performance indicators for the participating enterprise</td>
<td>Profitability,%</td>
<td>2</td>
<td>2</td>
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<tr>
<td></td>
<td>Return on assets,%</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Return on equity,%</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CEPE</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dynamics of performance indicators for the participating and competing enterprises</td>
<td>Profitability,%</td>
<td>2</td>
<td>2a</td>
</tr>
<tr>
<td></td>
<td>Return on assets,%</td>
<td>2</td>
<td>2</td>
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<tr>
<td></td>
<td>Return on equity,%</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>6</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>CECE</td>
<td>1</td>
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</table>
Conclusions. One of the lines for enterprise development is the consolidation of business through mergers and acquisitions. In the process of mergers and acquisitions, it is important to evaluate the effectiveness of such transactions. According to the results of the conducted research, existing methodological approaches to assessing the effectiveness of M & A operations are systematized based on such features as: a method for evaluating the value of an enterprise, the period of evaluation, indicators used, methods for assessing the effectiveness. The methodological approach to assessing the effectiveness of merger and acquisition transactions based on the theory of stakeholders has been grounded, and it provides an assessment of the effectiveness of M & A transactions taking into account the interests of participating companies. According to the results of the approbation of the developed method, the growth of the efficiency indices of the ‘Kernel’ Agrarian Group operation both in dynamics and in comparison with the competitor was diagnosed, which made it possible to conclude on the effectiveness of the M & A transaction.

References


Стаття надійшла до редакції 22.04.2017 ©Крупкова О. А., Зубков С. О.


Received 22.04.2017 ©Kruglova O. A., Zubkov S. O.