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# **Planning Technique for Complex Economic Object's Synergy at Mergers and Acquisitions**

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**PLANNING TECHNIQUE FOR COMPLEX ECONOMIC OBJECT'S SYNERGY AT MERGERS  
AND ACQUISITIONS**

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**Abstract**

*The paper reviews integration problems for complex economic objects aiming to achieve a synergy effect from complementary actions of their assets, which total value exceeds isolated functioning results. In the present times in Ukraine problems concerning assessment of synergy effect at M&A of companies are the new among examining objects and that is why need further development. It is shown that application of system approach to investigation the efficiency integration of economic objects at mergers and acquisitions with regards of process design peculiarities of managerial decisions allows maximum accurate analyzing the results of interaction of economic units within unified integrated structure. So, one of the main reasons to make a bargain on M&A is intention to obtain positive synergy effect because basing on management theory its appearance promotes competitiveness and efficiency increase of the company. According to carried out analysis of existing approaches to assessment of expected synergy effect mostly models offer to calculate one-off synergy effect. It is worth noting that different kinds of synergies can appear not just after combining, but with time, that requires further investigations. It has been proposed a planning mechanism developed on the base of conceptual description the function results for integrated formation, which is the key technique tool for mergers and acquisitions.*

*Keywords: Planning Technique, Mergers & Acquisitions, Integration, Complex Economic Object*

**INTRODUCTION**

In the present times in Ukraine problems concerning assessment of synergy effect at M&A of companies are the new among examining objects and that is why need further development. According to carried out analysis of existing approaches to assessment of expected synergy

effect mostly models offer to calculate one-off synergy effect. It is worth noting that different kinds of synergies can appear not just after combining, but with time, that requires further investigations. As synergy planning at mergers and acquisitions (M&A) is happening within M&A process then we shall study main stages of M&A technique for selected corporate strategy of a company.

At the first stage they determine the aims which are planned to be attained within the business. One of the main purposes of M&A are benefits growing of shareholders, having competitive advantages at the market, increasing the company's value. Herewith, one should note that such aims can be attained through both exterior methods like M&A activities and interior methods: introduction of new techniques, increasing labour and management efficiency (Ivashkovskaya, 2004).

At the second stage M&A mechanism is developed and the analysis is made for possible options for attaining the goals set at the previous stage. As there are high risks in M&A business then firstly they make analysis of alternative options for achieving the set goals. For example, they can consider offerings to change marketing policy, construct new capacities, internal efficiency increase, restructuration etc.

At the third stage they do selection of the object which will be in business, i.e. they search a company for purchasing. Within the set task at this stage you should analyze a situation and define as full as possible for a company to fulfill its purposes and opportunities at M&A (Harding & Roweet, 2007).

## **METHODOLOGY**

As shown at (Levitskiy, Frunze & Mikhaylik, 2014) implementation results for model of integration are:

- indexes of financial, economic and market efficiency of each type of economic objects integration;
- assessment of synergy effect at each type of economic objects integration.

So, methodology of analysis and interpretation the results of efficiency assessment of economic objects integration allow ranging the methods to create an integrated structure towards decreasing their reasonability. At the stage of implementing of managerial decision they perform the final version of economic objects integration and pushing the decision towards its performance.

Also, (Levitskiy, Frunze & Mikhaylik, 2014) shows that description of planning technique for M&A of economic objects integration one can outline two main components:

- a static component, which contains structural analysis of simulated process aiming to distinguish necessary and sufficient elements for studying of problematic situation;

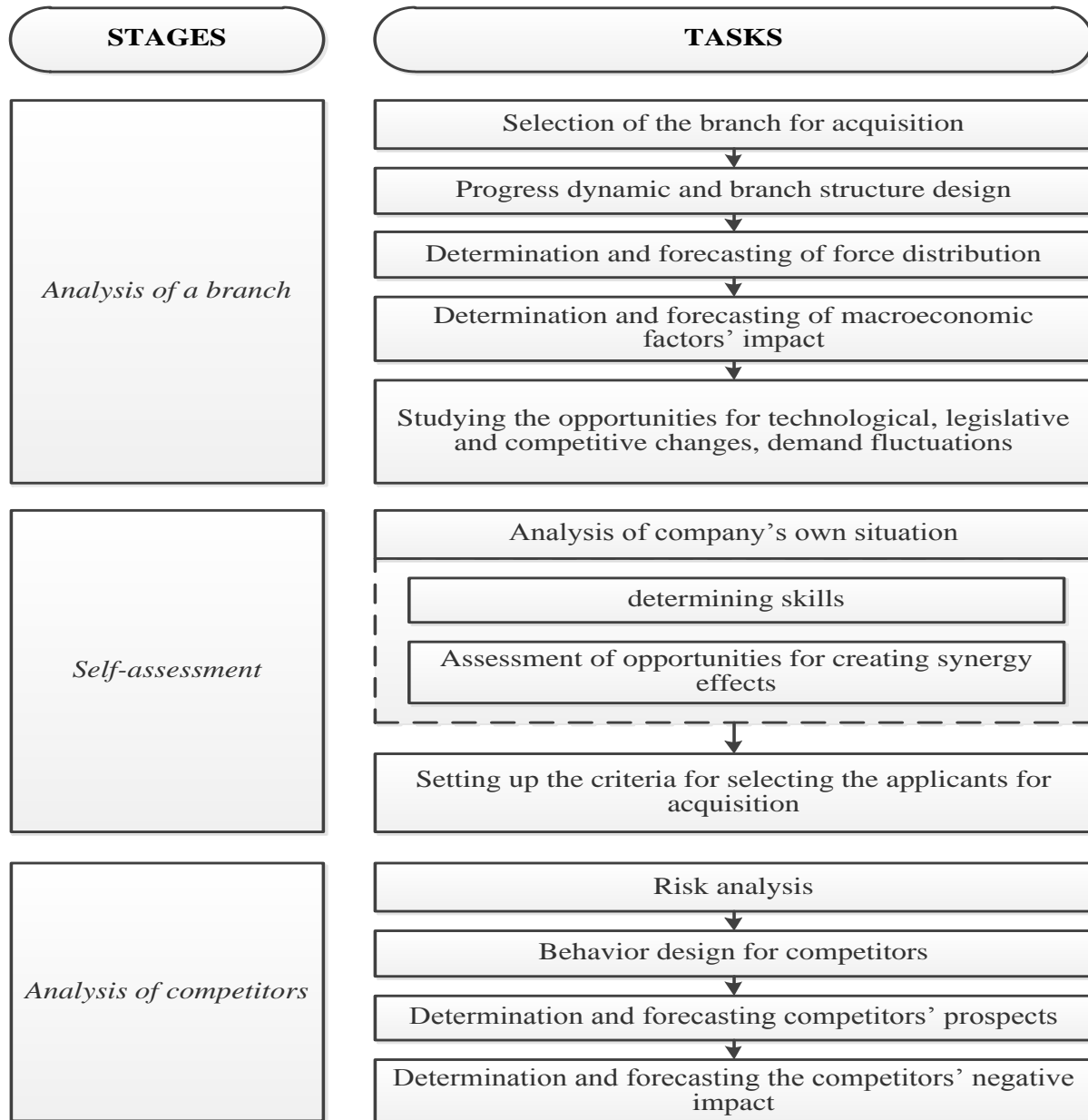
- a dynamic component, which contains an model of M&A of economic objects integration, which allows to trace changeability dynamics for process characteristics in order to substantiate and accept a decision on performing integration in concert with the chosen integrated method.

So, accepting system approach to investigating of M&A for integration efficiency of economic objects considering the specific developing process features for managerial decisions allow as accurate as possible to analyze the interrelation results for economic units within unified integrated structure.

## RESULTS

The preparatory stage of the business includes some steps, which are presented on the fig. 1.

Fig. 1. Steps for preparatory stage of the business



After finishing the preparatory stage where they provide interior and exterior environment analysis for expected company, a process begins on searching an applicant company that is the most problematic for the stage. By the beginning of the stage they have already had the certain criteria for selecting applicants for acquisition. Usually the primary criteria are the following (Grechukhin, 2005):

- branch;
- goods or services;
- sales volumes;
- incomes;
- geographical position;
- private of public companies.

The next step after criteria selection is done is searching of real acquisition targets that can be done by two methods shown at fig 2.(Evans F. Ch., Bishop D. M., 2004).

Fig.2. Searching methods of real acquisition targets

METHODS	CHARACTERISTICS	NOTES
<i>Using the intermediaries for trading the companies</i>	Trade brokers and investment bank agencies represent the interests and customers, and the companies for being sold. Giving to such agencies the purchaser's criteria inform them about customer's being in search putting the signs in reference with his demands	A customer should realise that using of intermediaries can result in offering a number of unsuitable applicants .
<i>Using the contacts in a branch</i>	Targets can be found due to personal contacts within desired branch	This method is more efficient when desired companies are in the same branch as a customer, because it increases a number of companies and trade groups, with whom a customer has got good ties.

At the fourth stage of M&A mechanism they appraise the applicant company (Copland T.,KolerT.& Murrin J., 2005).

Fig 3. Assessment steps for applicant company

STAGES	CHARACTERISTICS	NOTES
<i>Applicants' assessment for merges or acquisition</i>	Matching their own expectations from merging and applicants' parameters - operational characteristics, structure of property, financial indicators.	Allows to determine the most attractive candidates for merging.
<i>Determining the opportunities for creating synergies</i>	Analysis of production, research and other capacities in applicant company's ownership	Bargain success depends greatly on assessment the ability to create a price as a result of strengthening market positions, integration of trade, production and other capacities, shortening the staff, transfer of technology etc.
<i>Determining the opportunities for creating a price due to restructuring of a company</i>	Comparing the target company with top companies in a branch	M&A often means changes as in having been acquired and being acquired companies, They can be used with a profit for making transformations
<i>Financial assessment of an applicant</i>	Carrying out a cost assessment of target company using internal (discount financial flows in reference with synergy effects) and external indicators (market assessments, similar bargain cases etc)	The first agreement is achieved in the bargain's cost, its structure and it is started an integration process (talks with antimonopoly authorities, inside preparations to integration process, assessment of a size and sources of synergies)
<i>Final check of company's trustworthiness</i>	Basing on the information checked they specify company's acquisition price	Agreements in the intention memorandum can be changed

At the fifth stage of M&A there is accepting of the solution and making up an integration plan.

At the sixth stage they provide implementation of set tasks on M&A considering the changes. One should note that this stage has got algorithms which influence this or that type of M&A. Companies' integration has been one of the difficult tasks of management. Due to a number of difficulties and niceties in the process the companies often make some mistakes. In spite of rather big background in M&A activities there is no unique algorithm now that is clear because of great peculiarity of the companies to be incorporated (Ivashkovskaya, 2004).

Successful integration generally rather depends on ability to implement unique chances merged during M&A process not only ideally planned work and duties distributed exactly (Harding & Roweet, 2007).

Herewith the world experience shows that often as M&A results a company not only fixes its market position but sometimes loses the previous ones. Such incorporation creates indefinite situation when a company could lost its clients and fellow workers that will cause unregulated expenses and a result to reducing a cost.

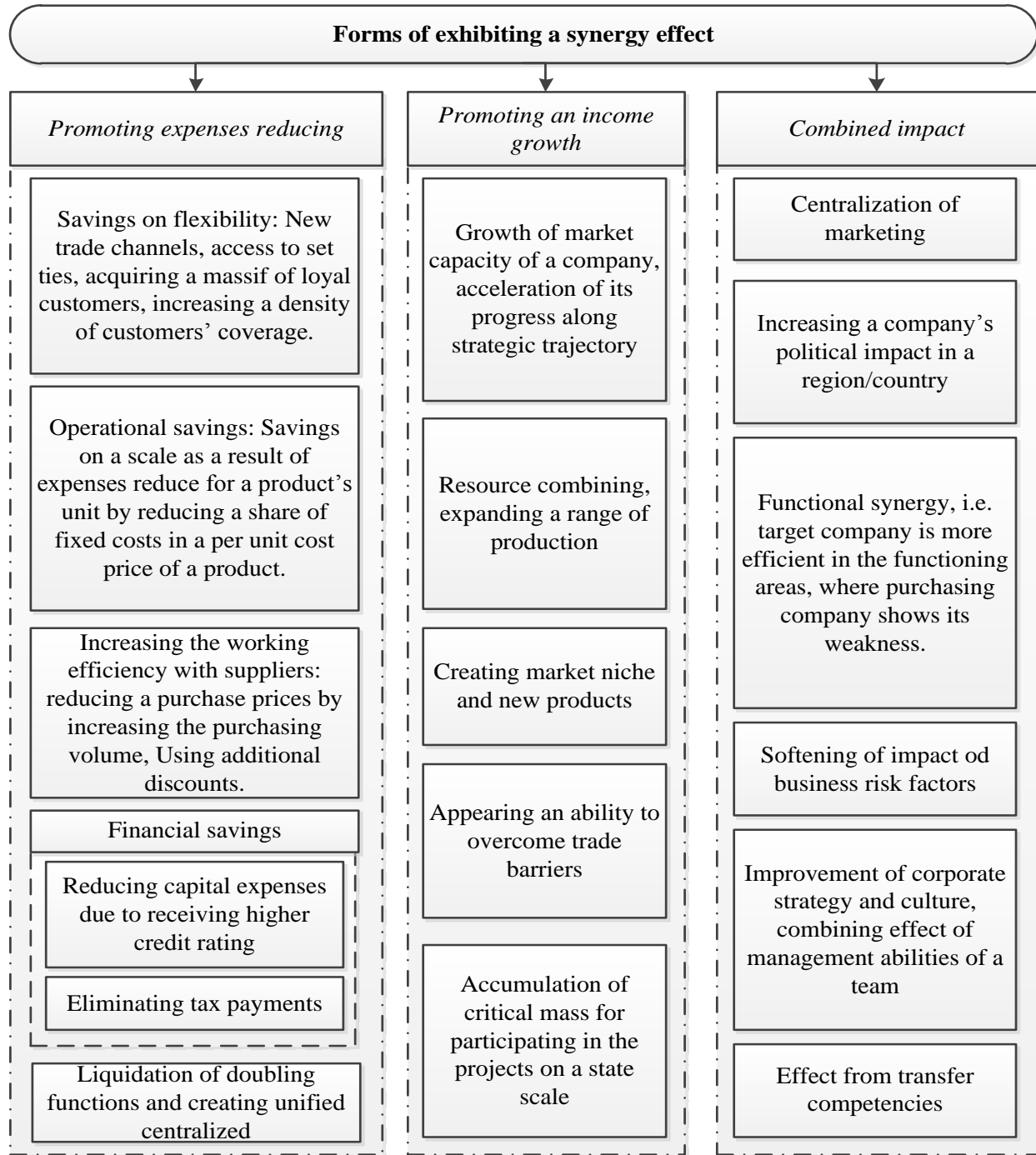
At the seventh M&A stage they make assessment of a business results and formulate their conclusions on the actual performance of set goals. It is worth noting that when defining the reasonability of a business on M&A we calculate a synergy effect.

A synergy effect from M&A of companies is added value from agreed actions and corporate business that occurs as a result of efficient using of production factors.

Synergy allows receive and improve competitive privileges of the combined system, which could not be received by business units themselves if separated and they are a total sum of all profits when integrated system is created (Levitskiy, S.I., 2012).

At figure 4 there are main forms of synergy effect (Copland T.KolerT.& Murrin J., 2005).

Fig 4. Forms of synergy effect



One should note that the value of total synergy effect from companies' M&A is influenced by its forms at certain cases of making a deal, and you need to find out and consider all benefits from resource integration which a company can manage with (Frunze, I. A., Levitskiy, S.I. &Ilyasova, I. G., 2012).

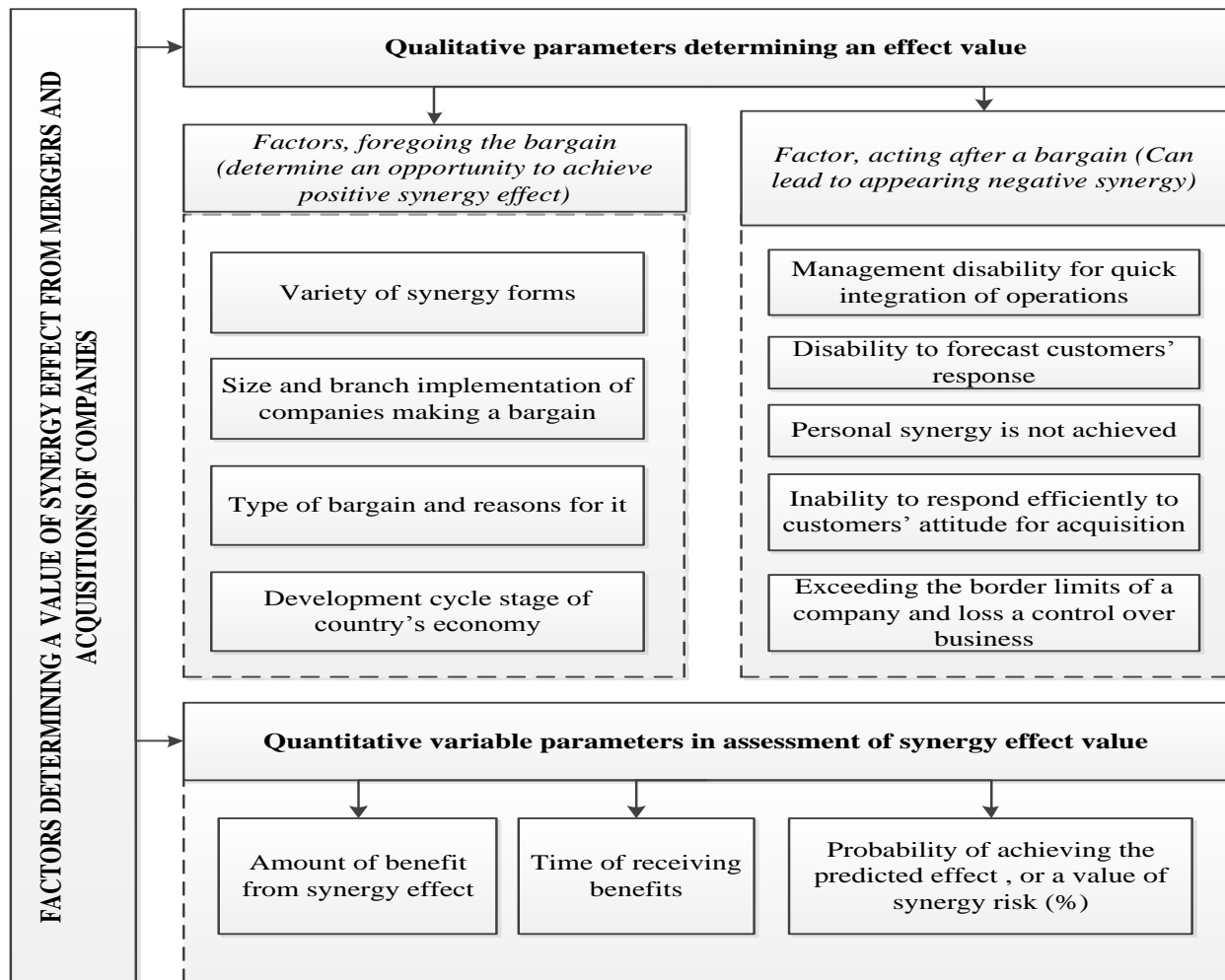
The most accurate determining all forms of synergy effect considering features of each deal is provided by accurate classification of the reasons arisen at M&A as well as analysis of the most frequently occurred synergy effect forms for separate economic sectors. Assessment



model for synergy efficiency value is one of the selection tools for perspective business. While choosing process among some kinds of companies for M&A activity the priority should be given to the one whose integration will provide the greatest synergy effect (Levitskiy, Frunze & Mikhaylik, 2014).

If company-the goal is the only option for making a deal then decision on acquisition or merger with this company will depend on an opportunity to achieve positive synergy effect. At sufficient respond a decision on prospects and rationality of the deal made is accepted. In reverse case considering all bargain characteristics and on the assessment results of possible exhibits of synergy along with their comparing with possible losses incurred for providing a bargain a company receives negative value of synergy effect as a result, and in this case company-buyer has to deny such a bargain if even the possible certain positive effects can be obtained. In this situation synergy effect is turned out to be negative and, on contrary, will result in reducing the combined cost of both companies (Levitskiy, S.I.; Frunze I.A. & Zaitseva N.M., 2010). At figure 5 there is classification of parameters, which determine a value of synergy effect.

Fig5. Classification of parameters, which determine a value of synergy effect



At figure 6 there is presented an analysis of existing approaches to determining a synergy effect (Frunze, I. A., Levitskiy, S.I. & Ilyasova, I. G., 2012).

Fig 6. Comparing characteristics of approaches to determining a synergy effect

	Advantages	Drawbacks
Income approach	High accuracy of calculations, as synergy effect value is connected with changing the risk factors риска of a company's activity	Complexity of substantiation the level of discount rate
	Assessment methods have clear quantitative expression	
	Assessment is agreed with a main purpose of company's activity	Labour content and complexity of calculations
	Approach considers that synergy effects are necessary to provide appeared benefits flow	Additional investments are not considered for restructuring and outlays occurred during acquisition
	Approach allows to evaluate and consider all synergy effects occurred in this bargain	
	Approach is based upon the principle of expectation	Complexity of making accurate forecast of incomes and expenses of a company after the bargain is made
Market approach	Growth of share yield of a company visually shows how the wealth of shareholders have increased	Difficulty of selecting an analogue-company
		Assessment methods are not formalized
		Approach does not allow to find out and estimate all possible sources of synergy
		Approach is applicable only to public companies, whose assets actively are marketed at stock exchanges
	Allows to consider exchange market behavior after advertising about M&A of companies	Assessments on the base of this approach are only indicators of short-time perspectives and effects from mergers of companies
		Difficulty in making accurate forecast of changing assets rates of a company
Outlay approach	Approach allows to develop correcting ways for wrong decisions accepted during formation of property complex of an enterprise	Approach has limited application, as it is not a business which is often bought, but a set of assets without non-material assets built-in business in a whole
	Simple calculations	Approach allows consider only one of the forms of synergy effect appearance

Most precisely a value of synergy effect is possible to determine by calculating an index of «Net Present Value of Synergy» (NPVS). Calculation formula is as follows (Ishchenko & Badokina, 2010):

$$NPVS = \sum_{i=1}^n \frac{\Delta FCFE_i}{(1+r_e)^i} - P - E, \quad (1)$$

$$\Delta FCFE = \Delta S - \Delta C - \Delta T - \Delta NWC - \Delta Capex \pm \Delta L + \Delta Debt - \Delta I, \quad (2)$$

where, NPVS – net present value of synergy;

$\Delta FCFE$  – money flows for shareholders;

$\Delta S$  – revenue growth savings;

$\Delta C$  – expenses savings;

$\Delta T$  – income tax savings;

$\Delta NWC$  – net working capital savings;

$\Delta Capex$  – investment savings;

$\pm \Delta L$  – revenue growth (+) / savings on revenue growth (–) owing to companies' combining;

$\Delta Debt$  – changing the net debt in reference with financial synergy;

$\Delta I$  – extra investment for restructuring;

$r_e$  – profitability of stock capital;

$P$  – award being paid at acquisition by a company-buyer to shareholders of target company;

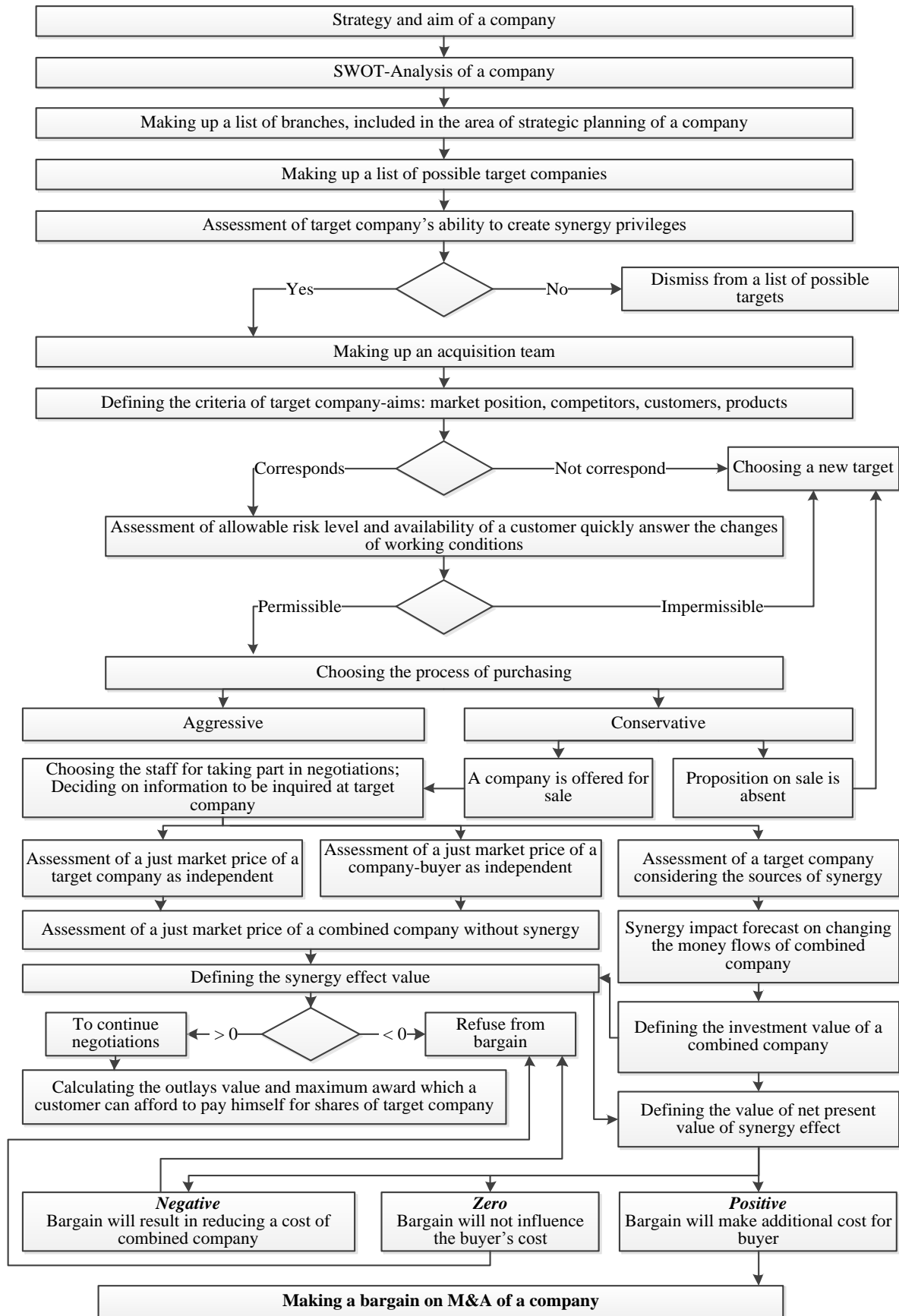
$E$  – buyer's expenses at M&A process.

## DISCUSSION

Development of the enterprises on the basis of merges and acquisitions is getting more important and demanded comparing to natural increase due to their own resources. Number and volumes of operations increase fast both in industrial and developing countries. In the conditions of financial crisis the merges of companies being considered as reasonable have failed because of the faults made during this process, and also because of quick changes in exterior market conjuncture. Classifying and analyzing world experience one can note emphasize the main reasons for merges and acquisitions of companies: achieving the synergy effect; saving, caused by volumes; monopolism; management quality progress; taxes; difference in market cost of a company and its replacement cost; difference between residual value and current market cost; diversification of production.

Therefore, the main reason of reorganizing the company in the form of merges and acquisitions is their desire to increase financial stability using complementarity of assets operation. In forecast a total result from merge must exceed the resulted sum of individual acts of each participant of the action. As competitive privileges and price increase of combined company mostly depends on quality of a bargain and existence of clear strategy for integration on the base of mechanism for synergy effect assessment on M&A they have offered an algorithm of selecting the perspective bargains, which is given on figure 7.

Fig7. Algorithm of selecting the perspective bargains on M&A on the base of synergy effect assessment



Hereby, one of the main reasons to make a bargain on M&A is intention to obtain positive synergy effect because basing on management theory its appearance promotes competitiveness and efficiency increase of the company.

## REFERENCES

- Copland T., Koler T., Murrin J. (2005). The value of companies: measuring and management. M.: CJSC «Olymp-Business». 576 p.
- Evans F. Ch., Bishop D. M. (2004). Companies assessment at mergers and acquisitions: value creation in private companies. M.: Alpine Business Books. 332 p.
- Frunze, I. A., Levitskiy, S.I. & Ilyasova, I. G. (2012). Modelling of Design Integration in Organizational Structure of ME «Company «Water of Donbass». Business Inform. Vol.4. p. 229-233.
- Grechukhin, R.A., (2005). M&A strategy of companies: planning stages. Russian entrepreneurship. Vol.9. Available at: <http://www.creativeconomy.ru/articles/7150/>
- Harding, D. & Rowe S., (2007). M&A art: Four key solutions on which the success of a deal depend. Minsk: Grewtsov Publisher. 256 p.
- Ishchenko S.M., Badokina E.A., (2010). Algorithm for selecting the perspective bargains on companies M&A basing on synergy effect assessment. Bulletin of the Research Center of Corporate Law, Management and Venture Capital of Syktyvkar State University. Vol.2. Available at: <http://koet.syktsu.ru/vestnik/2010/2010-2/3/3.htm>
- Ivashkovskaya, I.V., (2004). Mergers and acquisitions: growth traps. Company management. Vol.7. pp.26–29.
- Levitskiy, S.I., (2012). Modeling of project management of complex economic objects: monograph. Yugo-Vostok, Ltd., 340 p.
- Levitskiy, S.I.; Frunze I.A. & Zaitseva N.M., (2010). Integrated information system of enterprise's resource management. Ekonomichna Kibernetika [Economic Cybernetics], Vol. 61-63(1-3), pp.87-95.
- Levitskiy, S.I.; Frunze, I.A. & Mikhaylik, D.P. (2014). Assessment techniques for integration efficiency of economic objects. International Journal of Economics, Commerce and Management. Vol. 2, Is.2. Available at: <http://ijecm.co.uk/wp-content/uploads/2014/02/222.pdf>