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FINANCIAL MANAGEMENT DECISION OF MERGENCE AND ACQUISITION PROCESS FOR INNOVATIVE COMPANIES

In the article the special features of the Mergence and Acquisition process for innovative companies of Internet technology industry has been analyzed. Identification and estimation of the most important factors, which influence the price of the M&A deals in Internet technology industry has been done and their using by financial management authorities both buyer and seller side in the process of the Mergence and Acquisition for improvement their knowledge of evaluation the target company has been proposed.

Keywords: mergence and acquisition process, internet technology industry, valuation methods, finical management decision, innovative corporations.

Introduction and the analysis of the last publications. Nowadays, in the highly globalize and "informative" economy the influence of innovative coast companies and small businesses, especially working in Internet technology area is crucial. The Internet technology (IT) industry has been developed very quickly into independent industry which growing fast, creates different segments, has its own processes of listing, market price changing and consolidation through acquisitions and differ of the significant rate of the mergers and acquisitions (M&As) process [1; 2; 5]. Because of this, the pressing problem for financial management decision in such industry still identification and estimation of the most important factors, which influence the price of the M&A deals in Internet technology industry and their using by financial management authorities both buyer and seller side in the process of the Mergence and Acquisition [3; 7; 19].

There were a lot of researches in the sphere of M&A markets as A. Damodaran, R. Harvey, M. Chance, T. Arnold, R. Shockley, J. Shim, J. Siegel and others [4; 5; 11; 13]. The question about IT industries and its financial management and acquisition price was analyzed mainly by A. Damodaran and some of researchers from consulting firms as McKinsey, Bain, BCG and investment banking firms such as Lehman Brothers, Merryl Lynch and venture funds [5; 9; 12]. Despite their scientific and practical investigations the actuality of the problems concerning the identification of the factors, which influence the price of the M&A agreements in IT industry, can be strengthened with the fact that the their solving can be used by the number of stakeholders in IT companies – both from the buyer and seller side. Both of these sides can see the factors which influence the price of acquisition so that the acquiring company can more fairly use these knowledge to evaluate the target company. At the same time the target company can easily indicate the factors it should pay attention the most so to be sold on the highest from the possible prices. So, the actuality of the analysis of the factors which influence IT industry M&A deals particularly its price through the pool of the biggest world IT corporations needs more deep investigation.

The aim and tasks of the research. Therefore, the aim of this paper is to analyze the specialties of the IT market industry especially from the mergers and acquisitions point of view and reveal the factors which influence financial management decision about the M&A agreement price. To reach this aim the several *tasks* should be solve, including formulation assumptions about M&A specialties in IT industry with the help of theoretical knowledge and approaches to different types of analysis; detection and estimation of the main factors which influence on the price of M&A deal in IT industry on the example of big IT corporations; analysis of how the detected factors be used by financial management authorities both buyer and seller side in the process of the Mergence and Acquisition of agreement price formation for innovative companies of Internet technology industry.

The main results of the research. The analysis of the word economy in general shows that the companies in the different countries on their development way can take different actions to respond to global changes. It means that when business is growing and operates in highly competitive environments or chooses different types of strategies it regards through various scenarios – from selling it non portfolio-oriented divisions to acquire non-portfolio oriented companies. Today it is a common pattern that "mergers and acquisitions (M&A) have become an increasingly important means of reallocating resources in the global economy and for executing corporate strategies" [3]. So the case of merger and acquisition process (further *M&A process*) and its benefits for business, especially Internet technology, factors which influence the price of the M&A contract still more and more important for investigation.

According to the definition of some researchers, M&A is a general term used to refer to the consolidation of companies [11]. Then the definition of "merger" when two or more companies form a new one and "acquisition" when one company is purchased by another are given. Another broader definition is given by the other authors that say: a merger or acquisition occurs when the assets and activities of two independently controlled corporations are combined under the control of a single corporation [6]. Then merger is explained as being negotiated directly between of the target and acquiring company and proposals are approved by separate boards of directors before shareholders vote. If target company directors do not will to merge, an acquirer can make a public tender offer to target company shareholders and if the hostile bid is accepted by the target company shareholders, the process results in acquisition. However, acquisition is commonly used even where no hostile bid occurs, for example, where a company acquires an unquoted company or a subsidiary with the agreement of the previous owners [2].

It can be seen that these two processes have different approaches but with the same result in the ends – consolidation of companies. The principle differences and similarities of mergers and acquisitions processes separately are given in the table 1.

Table 1. **Differences between mergers and acquisitions**

Criterion	**Mergers**	**Acquisitions/ takeover**
Further classification	Private/public	Private/public
"Friendliness" of the deal	Friendly, can transfer into unfriendly	Unfriendly
Financing	LBO, shares, assets	Usually shares

There is also a classification of the *types of mergers*. It includes horizontal, vertical and conglomerate mergers. These different types of mergers may vary according to industry, economic development stage of the country and other prospects. Moreover, each type of merger has its own goals such as economies of scale or reducing costs via vertical integration. The main features of types of mergers are given in the table 2.

The fundamental role of M&A activities is to enable firms to adjust more effectively to new challenges and opportunities.

If done efficiently, M&As can increase revenues and market share, improve profitability, and enhance enterprise values [13]. Apart of external factors such as "new challenges and opportunities", competitors, global economy developing and others there are some internal manager`s and stockholder`s incentives which influence the decision of M&A.

The economic value of the merger, for example for two firms A and B, can be determined in Present Value (*PV*) at the period (t):

$$Gain_t = PVAB_t - (PVA_t + PVB_t) = \Delta PVAB_t,$$
$$Cost_t = CashPaid_t - PVB_t,$$
$$NPV_t = Gain_t - Cost_t = \Delta PVAB_t - (CashPaid_t - PVB_t), \quad (1)$$

where $Gain_t$ – is the economic gain from the M&A (defined by the differences in merged company`s present value and discrete present values of the companies); $PVAB_t$ – the present value of the companies` cash flows after acquisition; PVA_t, PVB_t – present values of *A* and *B* companies before the acquisition; $Cost_t$ – cost of acquisition which is defined as the paid cash by company *A* or the company *B* (based on the Present Value of company *B*; NPV_t – net present value of the project, the excessive amount of company`s value after acquisition. This is "mathematical" approach to the M&A agreement benefit for the company which acquired.

Table 2. **The principle types of mergers and acquisitions processes**[1]

Objective	**Horizontal**	**Vertical**	**Conglomerate**
Description	Two firms in the same line of business	Involves companies at different stages of production	Involves companies in unrelated lines of business
Economic gain	Economies of scale	Decrease in costs[2]	Economies of scale, others
Industry, ex.	Banking	Heavy metal industry	Different industries
Implied reasons	Increase in competitiveness – acquiring the competitor	Declining operational risks, centralized control	Diversification, surplus funds

[1] Based on aggregate classification from the Brealy Myers Corporate Finance, source: [2, p. 930–945]

[2] Because on the in-house production the firm can economize on the operational costs, but another point is that firm can decrease it costs while outsourcing the production of separate items in contrast to its in-house production. source: [2, p. 932].

Table 3. **Classifications of the principal stages of the M&A process**

Stage	Formulation	Location	Investigation	Negotiation	Integration
Key activities	Set business strategy; Set growth strategy; Decline acquisition criteria; Begin strategy implementation	Identify target markets and companies; Select target; Issue letter of intent; Develop M&A plan; Other letter of confidentiality	Due diligence analysis: 1)Financial, 2) People; 3) Culture; 4) Legal; 5) Environmental, 6) Operational. 7) Capitals	Set deals terms: 1) Legal, 2) Structural, 3) Financial Secure key talent and integration teams; Close deal	Finalize and execute integration plans: 1) Organization, 2) Process, 3) People, 4) Systems
Issues/ Risks	Costs Channels Content Competencies Customers Countries Capital Capacity	ROI/Value Strategic fit Cultural fit Timing Leadership fit Potential synergy Viability	Liabilities Human capital Retention/eliminate Financial viability Integration issues Synergies Economy of scale	Price Performance People Protection Governance	Speed Disruption Costs Revenues Results Perception (shareholders, public, customers, employees)

Also, it's very important to mention that, the M&A process runs through different stages and for different dimensions, the most common classifications of which are given in table 3 and in the fig. 1.

While deciding to merge or acquire the company a wide range of factors should be considered because a long process of M&A requires deep documentation analysis, strong strategic preparation and may lead to different risks from operational to financial ones. So it is crucial for the firm to understand its objectives for the M&A and pay attention not for the first three M&A stages but also for the process of post-acquisition, espessially it's important for the companies of IT industry.

As it can be seen the M&A process can be chosen by the firm among other possibilities for growth. It has different approaches and forms and can be friendly or hostile, horizontal, vertical or conglomerate, and may vary according to different factors. The M&A process has different external and internal factors which influence the decision and form of M&A. The main three forms of risks during M&A are operational, overpayment and financial risks and to minimize these risks the company should precede right the M&A process during its four main stages on the valuation stage during due-diligence and especially for IT companies. The term IT covers a number of related disciplines and areas, from semi-

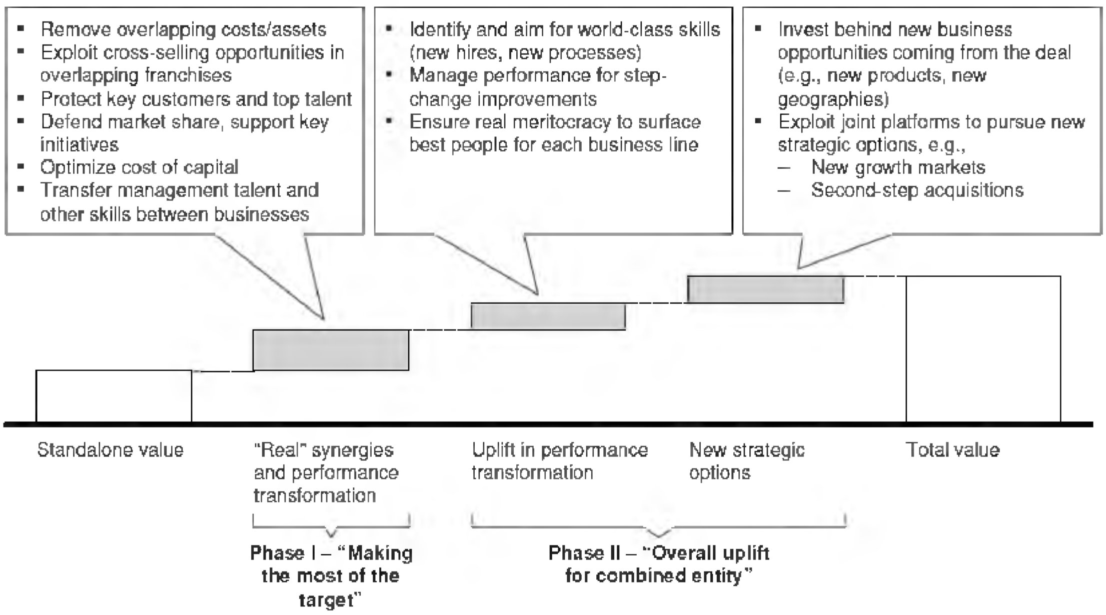

Fig. 1. Implications for deal process for different dimensions of M&A

conductor design and production, through hardware manufacture (mainframes, servers, PCs, and mobile devices), to software, data storage, backup and retrieval, networking, and, of course, the internet [9]. As it can be seen, information technology industry today supplies a variety of different products which are connected with each other by its "information" relation when all the products to produce, process and store information.

If to consider technology industry M&A, which is represented by 5 bigest corporations as Google. Microsoft, Apple, IBM, and Cisco, it shows the positive dynamics (which is shown on the fig. 2 below) with a some decline in 2012.

According to the latest research in M&A in United States, the biggest rise in deals while comparing 2012 with 2013 was in miscellaneous services, broadcasting and real estate [12]. At the same time there was a decline in M&A in Office equipment and hardware, computer software, supplies and services (2 and 84 respectively).

On the other hand office equipment and hardware industry has risen significantly from $67.5 bln in 2012 to $70.4 bln. in 2013. At the same time there is a tremendous decline in US Computer software, suppliers and service industry – from $18.3 bln in 2012 to $3.8 bln in 2013. Moreover, the M&A in IT industry despite its slowdown in 2012 is one of the biggest in its volume. Information technology industry has various sub-sections from the hardware and semiconductors to the telecommunications equipment. All of these sectors have its leaders and specialties, but all of the leaders in the sectors have performed the acquisitions of smaller companies with different aims – from the hostile acquisition of a competitor to the technological acquisition.

Another point here is that the valuation of IT companies might be challenging and significantly depends on the stage the companies are in. Is there is a start-up company; the implied rates of return may be higher than in the stable company.

The technical analysis in this research was a challenging task because of the lack of data (a lot of companies which were intended to be analyzed are private, for those that were not – there is a short period for financial report statements to be performed). In spite of this fact the choice of the companies for analysis was restricted by the circumstance mentioned above. For this research one company which was acquired by Google, Microsoft, Apple, IBM or Cisco was taken. For most of these companies different types of valuation were approached – DCF, relative and option pricing valuation to define in technical way the value of the acquired companies and compare it with the real price of the M&A agreement.

As it can be follow from technical analysis of the 5 companies – Motorola, aQuantive, AuthenTec, Kenexa and scientific Atlanta which were acquired by top-5 giants in tech industry such as Google, Microsoft, Apple, IBM and Cisco respectively. These were one of the largest (or the largest) acquisitions in these companies' history and according to the

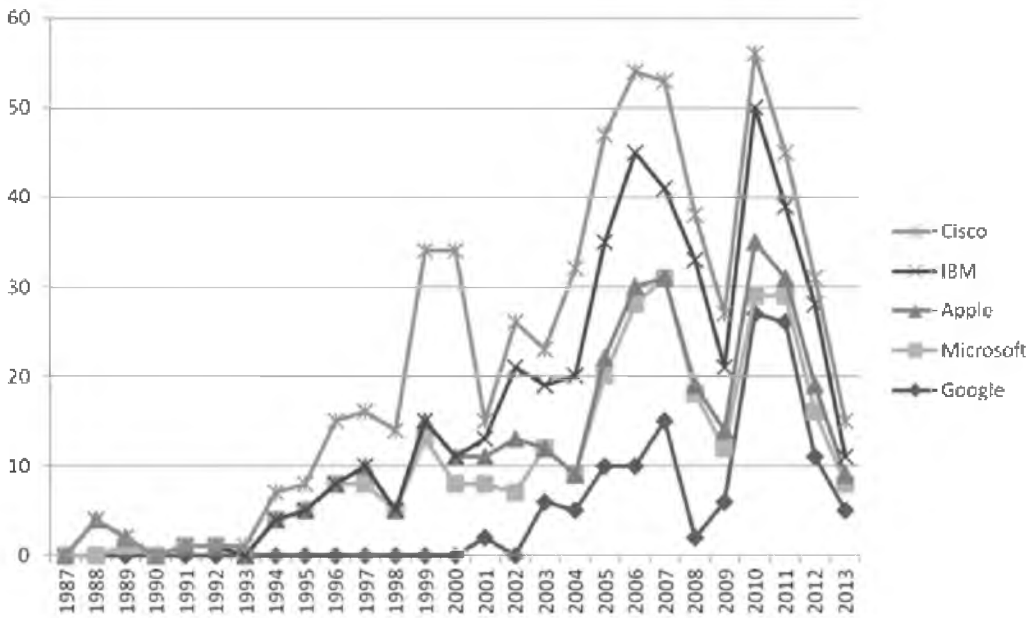

Fig. 2. The dynamic of acquisition of Google, Microsoft, Apple, IBM and CISCO companies for the period (1987–2013)
Source: The fig. is based on the aggregate data from the site wiki.com, Google.com. cisco.com.

model assumptions such as revenue growth, cost growth, WACCs for the companies and their terminal growth we did DCF analysis of them and assumed that this was the basis for the M&A agreement price. On the other hand for some companies (where it was possible) we did a comparative analysis with valuation not with the peer group but with the average market ratios. In addition we made assumptions for option pricing model for companies where we suggest the investments will make the cash flow growth to these companies so we got the values of the call options for these companies to particular investment and return. The another factors which can influence the M&A agreement price were also analyzed. The material for the analysis are firm`s financial reports and official statements and expert comments about Companies` strategies and deals. As a consequence, the analysis has been based on the expert opinions and general assumptions about these expert opinions. After the practical approaches and application of the different methods which were mentioned above it can be assumed that there are two big groups of factors which influence the M&A agreement price – the first is the group of factors which influence the value of the firm during technical valuation and the second are the ``non-technical`` factors which imply more strategic approaches of the company and the ``managerial hybrids`` of its top-management. So for the technical valuation there is a variety of factors which influence the price of M&A agreement main of them are summarized in the table 4, moreover an evaluation of the importance of these factors are given and its influence on the company.

Table 4. **The importance of "technical" factors for technical company's analysis which influence the company's price for M&A agreement**

Factor for the acquiring company	Influence on acquired company's value	Importance of the factor for both companies
Revenue growth	The higher revenue growth rate – the higher the company's value.	High
Cost to revenues	The higher the cost to revenues rate the lower the company's value.	High
D&A	Does not influence significantly on a company's value because is added to the Net Income	Does not influence significantly
NWC	Increase in NWC negatively influence the company's value.	High
Terminal growth rate	The higher the growth rate – the higher the value of the company.	Very High
WACC	The higher the WACC the lower the company's value.	Very high
EBITDA	The higher the rate the higher the company`s value.	Very high
Earnings		Very high
Std CF deviation	The higher the std. dev – the higher the price of the option	High
Projected year revenue	The higher the revenue – the higher option price.	High
Investment	The higher the investments the lower the option price.	High

Table 5. **The importance of "non-technical" factors for technical company's analysis which influence the company's price for M&A agreement**

"Non-technical" factor for the acquiring company	Influence on the acquired firm's value
Patent portfolio of the acquired company	High influence for companies (such as Google) which have the complementary technology usage of patents. Decrease patent costs and increase the cash flows from patent ownership from other companies.
Company's technology acquisition	If the acquired company has and appropriate technology it has higher chances to be acquired. If the technology is the only component of the acquired firm – its can be the only reason for acquisition especially when there are other competitors. The firm's value depends on its technology development.
Competitor's acquisition	For acquired company it should already have a strong product with a market share. The quality and product market define the firm's price for M&A agreement during the negotiation process.
New market entrance	The higher the market share and the lower the competition level – the higher the value of the company will be.
Competitive response	If the company is presented in the interest market or has the characteristics which help for the acquiring company to develop it self on particular market or to hold the competition the price of such company will increase.
Talent acquisition	The price of the M&A agreement depends on the negotiation results about the employees benefits and on the risks of the employee retention fail
Tax provisions	So for the acquired company an additional benefit which may increase the acquisition price is to be located in the country with low tax rates.

Another group of factors which influence the M&A agreement price are "non-technical" ones and which are related to the company`s development and that is why to acquisition strategy too. These are the factors which can be related to the factors mentioned above and then summarized in the table 5.

To summarize, there is a variety of "technical", which used during technical valuation of the company, and "non-technical", other, factors which influence the price of M&A agreement in IT industry. Among all the factors which were mentioned above for a company which wants to be acquire by the big tech company for a igh price the highest attention should be paid to the revenue and cost of revenue growth, terminal company`s growth and the company`s risk level. Moreover, for tech companies the EBITDA and Earnings rate should be as high as possible for the year of acquisition. Among "non-technical" factors, which usually influence the company`s price during the negotiation process the most valuable are: patent portfolio, technology, people`s talent and market niche.

Conclusion. As it can be seen from the research made, there are different intentions for the big IT companies such as Google, IBM, Microsoft, Apple and Cisco during its acquisition process. The core basis for the acquisitions is still company`s business strategy and acquisitions is a tool for developing its business strategy. IT companies disclose only a few prices of the all amount of acquisition they made but it still enough to see that the acquisition may vary from several millions of dollars to more than $10 bln, which is an evidence that IT companies have a lot of free capital to invest into other companies. Moreover, the IT companies usually have an excessive about of cash and as a consequence, a huge amount of acquisitions are paid by cash, not by equity.

According to the results of the research the main "non-technical factors" for acquisition agreement price are: patent portfolio of the acquired company, its technology, whether it is a competitor to the acquiring company, whether it is a target for new market entrance for the acquiring company, whether with the help of this company the acquiring company can make a competitive response, talent acquisition and tax provisions. All these factors in mix may influence the M&A agreement price and the higher the relevance of these factors to the acquiring company – the higher the price of the acquisition will be. However, it should be mentioned that there can be other significant factors which may influence the M&A agreement price in particular situation and acquisition.

The complied research allows to give main recommendations for the companies which are to be acquired by the big corporations from IT industry and willing to have the highest from possible prices: show high revenue growth and decrease in costs, show as much as possible stable growth, a strong patent portfolio and technology will be a plus, good talent, special geographical situation and strong position on the market also will influence the acquisition price for the company which is interested in its particular factor (or group of factors). In addition there should be made one remark, that despite the technical valuation a lot in defining the M&A acquisition price in the IT industry depends on the negotiation stage.

References

1. Amiri S. Internet Penetration and its Correlation With Growth Domestic Product: an analysis for the Nordic Countries / S. Amiri, B. Reif // International Journal of Business. – Vol. 2, No 2. – February 2013. – P. 50–60.
2. Brealey R. A. Principles of Corporate Finance / R. A. Brealey, S. Myers. – 7th ed. – McGraw-Hill/Irwin, 2003. – 1056 p.
3. Copeland T. Valuation.Measuring and managing the value of companies / T. Copeland, T. Koller, J. Murrin. – John Wiley&Sons Inc., 2000. – 492 p.
4. CBI research on M&A volume from 2012 [Electronic resource]. – Mode of access: www.cbinsights.com/blog/acquisitions/technology-acquisition-deal-volume.
5. Damodaran A. Valuing Young, Start-Up and Growth companies: Estimation Issues and Valuation Challenges / A. Damodaran. – USA-Stern. edu, 2009. – 341 p.
6. Hooke J. M&A: Practical Guide to Doing the Deal / J. Hooke. – John Wiley & Sons, 1997. – 340 p.
7. Lukianenko I. G. Estimation of the investments and equities in Financial management : book / I. G. Lukianenko. – K. : NaUKMA, AgrarMediaGroup, 2012. – 227 p.
8. Lukianenko I. G. Capital active valuation in Financial management / I. G. Lukianenko // Scientific papers NaUKMA. – 2007. – Vol. 68 : Economic science. – P. 47–52.
9. Materials from the MkKinsey site [Electronic resource]. – Mode of access: www.mckinsey.com
10. Rose T. The 10 steps to successful integration [Electronic resource] / T. Rose, T. Frame T. Bain and al. – Bain&Company Inc., 2009. – 10 p. – Mode of access: http://www.bain.com/BB_The_10_steps_to_succesful_M_and_A_integration.pdf.
11. Shim J. A Practical Guide to Mergers, Acquisitions and Divestitures / J. Shim. – Delta publishing company, 2009. – 80 p.
12. "US Flashwire monthly factset for April 2013" through Factset.com [Electronic resource], 2013. – 7 p. – Mode of access: https://www.factset.com/mergerstat_em/monthly/US_Flashwire_Monthly.pdf.
13. Weston J. Mergers and acquisitions / J. Weson, S. Weaver. – McGraw-Hill, 2001. – 264 p.

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ПРИЙНЯТТЯ РІШЕНЬ ФІНАНСОВИМ МЕНЕДЖМЕНТОМ ЩОДО ЗЛИТТЯ/ПОГЛИНАННЯ ІННОВАЦІЙНИХ КОМПАНІЙ

У статті проаналізовано особливості прийняття рішень щодо злиття/поглинання інноваційних компаній в галузі інтернет-технологій. Досліджено та оцінено основні фактори, що впливають на визначення ціни при злитті та поглинанні, а також їх врахування при прийнятті рішень фінансовим менеджментом у процесі підготовки до злиття та поглинання та удосконаленні знань щодо стану цільової компанії як з боку покупців, так і з боку продавців.

Ключові слова: процес злиття та поглинання, галузь інтернет-технологій, методи оцінювання, прийняття рішень, фінансовий менеджмент, інноваційні компанії.

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THE PROBLEMS OF DEFINING ENTERPRISE CRISIS MANAGEMENT

In the article, the main scientific approaches to defining and understanding enterprise crisis management are analyzed, the contradictions in the theoretic field are presented and discussed, as well as other problematic issues of crisis decision making are identified. Based on the analysis, conclusions have been made regarding further development in the crisis management scientific research field.

Keywords: enterprise crisis, crisis management, risk management, business continuity management.

Introduction and statement of the problem. While everyday management has been sufficiently covered inacademic literature, crisis management remains largely anecdotal and ad hoc [7, p. 126]. Only recently certain scientific attention has been given to crisis decision-making processes in organizations [6, p. 181]. As enterprise crises are becoming more and more frequent, the role of crisis management mechanisms in companies should inevitably increase to ensure the stability not only of individual enterprises,but also of entire industries and economies. However, prior to developing and implementing any crisis management decisions, the concept of crisis management itself needs to be thoroughly investigated and clearly defined. Only in this way, relevance and objectivity of crisis decision-making actions are not compromised.

Analysis of the recent research and publications. The topics of crisis management and, more common, topics adjacent to crisis management are represented in works of both Ukrainian and foreign scholars. Among the originators of crisis management research are Das [6], Barton [2], Mitroff et al. [16; 15], Shrivastava [29; 30], Rosenthal & Kouzmin [26], Rosenthal & Pijnenburg [27]. Most of the authors addressed the problem of defining crises; they also investigated the role of manager in dealing with crises and often described what effective crisis