

## BASIC ASPECTS OF CRISIS MANAGEMENT METHODOLOGY IN SMALL AND MEDIUM SIZE BUSINESS

Irina Mogorit<sup>1</sup>, Konstantin Didenko<sup>2</sup>, Anatoly Magidenko<sup>3</sup>

<sup>1</sup>Riga Technical University, Smilshu str.90, LV-5400 Daugavpils, Latvia  
Email: <sup>1</sup>irina.mogorite@rtu.lv

<sup>2,3</sup>Riga Technical University, Miezhu str.1/7, LV-5400 Riga, Latvia  
Email: <sup>2</sup>konstantins.didenko@rtu.lv; <sup>3</sup>anatolijs.magidenko@rtu.lv

**Abstract.** Concepts of crisis and crisis management (CM) are rather complex. Moreover, businessmen consider CM implementation necessary only when crisis strikes. As to small and medium size business (SMEs), CM is not considered necessary, because it has many peculiarities obstructing its introduction. Thus, it is necessary to elaborate a methodology that suits SMEs characteristics. Therefore, the task of this research is to characterize basic aspects showing the essence of CM methods in SMEs, to analyze key notions, influencing factors, CM structure and to consider implementation of these aspects in SMEs. The research evaluates also advantages and disadvantages of the developed methodology.

**Keywords:** Crisis, crisis management, time, methodology, SMEs.

**Jel classification:** B49

### 1. Introduction

Crisis in a broad sense is an integral characteristic of market economy, as a replacement of an upward tendency by a downward one. Therefore, first of all, any management should be supplemented by crisis management, and, secondly, it can be concluded that contents and methods of the efficient (usual) and crisis management are two sides of one medal.

As to methodology, in an applied sense it is a system (a complex, an interconnected set) of principles and approaches to a research, used by a researcher (a scientist) during obtaining and developing data in the frameworks of a particular discipline.

Thus, the task of this research is to characterize basic aspects necessary to show the essence of crisis management methods in SMEs. Since these two kinds of business substitute the core of any economy, crisis management is crucial in the given sphere. In order to achieve this goal, the article authors analyze key notions, influencing factors, prime causes, and the structure of crisis management, by means of economic and mathematic methods, logical and structural analysis, as well as comparative and graphic analysis. The research object is SMEs and the actions necessary for its stable development in pre-crisis, crisis and post-crisis conditions.

### 2. Definition of Crisis Management

Nowadays, the basic problem of CM is ambiguous interpretation of its principles (Baldin 2005).

Several researchers suggest an interpretation of CM based on a “narrow” approach, which describes this type of management as inefficient, because it is introduced in a company, which has already gone bankrupt, i.e. when crisis has reached its peak. At this point the company needs help in liquidation of crisis consequences, rather than in crisis overcoming.

The authors of the article assume that the basis of CM includes also forms and methods of crisis elimination at different levels rather than only the above-mentioned signs.

However, only if we understand the definition of a phenomenon, and realize its limits, it is possible to plan, forecast and control an enterprise in any difficult conditions.

In order to analyze any process, it is necessary to realize the essence of its components; and the best way to achieve this aim is to characterize the process by means of its definition. The notion “crisis” is a component of CM as a process; therefore, CM depends on the definition of the notion “crisis”.

Analysis and summary of different definitions of the notion “crisis” allow pointing out the following common features, which show the presence of crisis:

- instability;
- qualitative changes (the ways how events can develop);
- a “turning point” (in the course of a process);
- threat;
- opportunities (Dezenhall, Weber 2007).

The analysis of these features shows that crisis is a positive phenomenon (e.g. opportunities, qualitative changes). Therefore, managers should not be afraid of this process; moreover, they should learn how to control it, thus, reducing negative aspects of crisis (Fink 2007).

Objectively, crisis can be defined as a great number of interconnected situations that increase complexity and risk of management. Consequently, it is a certain state, which has to be reached, so that a certain process emerges. Any process can be better displayed in a graphic way, where the se-

quence of actions is shown (Айвазян, Кириченко 2005.).

Thus, the graphic representation of a crisis is given in Figure 1. (Kolomeychuk, Didenko 2007, 2006 b).

The figure shows that both the emergence of crisis and its detection consist of several parts, which can be called blocks. The first block is the block of questions; they can appear together with the first signs of crisis. Answers to these questions can help a manager to determine the basic steps of crisis – the second block. If a manager knows all these steps well, the crisis can be managed and the most efficient decisions can be taken. In order to take such decisions, a methodology is necessary. It is presented in the third block. This block can be changed according to the current situation; however the main directions will remain the same.

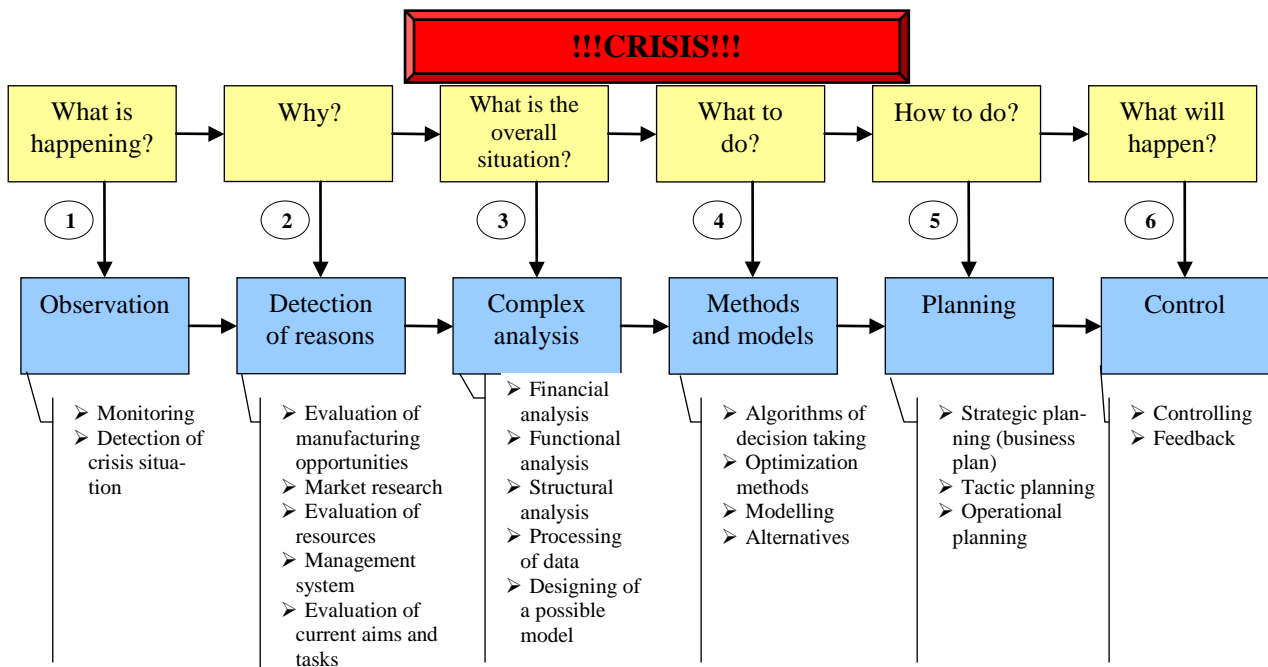


Fig.1. Definition of crisis as a process in the structure of CM (Source: Kolomeichook, 2007)

This graphic interpretation illustrates that the major characteristic features, both positive and negative ones, are present. However, the analysis of advantages and disadvantages of crisis shows that the main disadvantages, such as danger, risk, instability, unpleasant psychological environment, can be found in the first block – the block of questions. It is a common characteristic feature of the emergence of crisis, due to which crisis is viewed as inevitable evil.

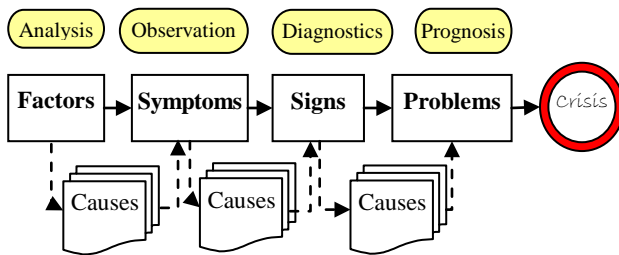
As to the second block – the block of answers – embraces more positive characteristics, which do not arouse panic, but vice versa help to find solutions for the current negative situation, thus, taking

an enterprise to the next stage of development. This is the essence of CM based on positive perception of the notion of crisis taking into account negative aspects, which can be successfully overcome.

Observations show, that the emergence of crisis is essentially more complex than represented in Figure 1. Complexity lies in the interdependence of the intermediate economic phenomena represented in a block. However, the authors of the article consider that the given definition of crisis is more visual and gives a better idea of what crisis is. Moreover, it helps to reveal characteristic features of CM.

### 3. The investigation of the circumstances in which a crisis has emerged

One of the main factors that provoke, intensify or neglect a crisis is the fact that it is rather difficult to notice its first symptoms – the signals that precede a crisis. Thus, businessmen fail to make use of the chance to overcome the crisis in a short period or prevent the crisis at all. Usually it is possible to detect quite evident signs of a developing crisis. Almost all methods of CM – management under crisis conditions – mention that. However, the application of the approach suggested below (Fig 2) can help to manage a crisis in a much more efficient way, thus enlarging the limits of CM.



**Fig.2.** What precedes a crisis (Source: Mgorite *et al.* 2008, 2011)

Quite often managers do not distinguish between such notions as factors, symptoms, signs and causes of a crisis. They see all of them as a single unit that precedes a crisis and hinders normal work of a business. Sometimes they say that it has to be analyzed. However, how is it possible to analyze it as a single unit if all these phenomena are different? So, first of all, these notions should be studied in a more detailed way.

Factors are not causes. These are the events, which can only influence emergence of a crisis. Symptoms help to determine the influence of factors (positive or negative) and to remove the causes (to prevent a crisis).

Signs are similar to symptoms. Contrary to symptoms, which can be removed, signs show the emergence of a crisis (not just a probability or likelihood). Symptoms could be overcome by means of restructurization of a business; however, the signs can be dealt with only by means of the methods of CM. In their turn, causes are the mistakes in the interpretation of phenomena.

**Factors** are the first stage of the suggested scheme (Figure 2). They can be characterized using the analytical way by means of different approaches and methods; it is desirable to use all the variety of analytical tools (Smith, Millar 2002). An analytical analysis has to be carried out continuously in spite of the situation on the enterprise (favorable, alarming, critical, calm, etc).

Having summarized several opinions of different authors, it is possible to single out two big groups of factors, as well as their subgroups.

#### I. Internal.

- Economic (market globalization; regional differentiation).

These factors characterize the situation of the company on the market. In the given case, there are the following possible changes in the factor's influence: if there is the lack of systemic approach in the company – the influence will be negative; if the strategic planning and control of its implementation are present – positive.

- Technological (new technologies; high tech).

As a rule, it is reflected in production and manufacturing of cheap highly demanded goods. The negative influence of the given factor is more pronounced if there is the lack of adequate evaluation of opportunities and resources necessary for introduction of new technologies and innovations. This influence can be minimized by means of innovation planning.

- Politically legal (legislation).

As a rule, these are new norms and requirements. In the given case, consultations with the lawyers can help, whereas reckless attitude towards economic policy and legislation in the country and in the world can do much harm.

- Social cultural (demography; level of culture).

The result of the influence of the given factor is the changes in the demand structure. Especially destructive influence of this factor will be evident if there are no criteria of how to control the efficiency of the changes implemented in the work of the company. It all can be prevented by collecting and analyzing statistical data, conducting marketing research.

- Physical ecological (climate; ecological environment).

Different situations connected with the changes in the kind of activity of the enterprise are meant here. As a rule, in order to decrease the influence of the factor, it is necessary to pay attention to the information about the current events given in the mass media. A possible way out is reorientation of business.

#### II. Internal

- Production (strategy; technology)

The following approaches can make the situation worse: nonsystemic approach to the reorganization of the enterprise, as well as considerable setback of the actions from the moment when it has been decided to implement some changes. As a result, there is the lack of desire to change production technology, working technology of the enterprise.

- As to improving the situation, it is possible by the following means: overuse of technical and technological innovations; introduction of automatized management systems; increase in the quality of goods and services, their standardization, production of new kinds of goods and services (Borodzicz, Edward P. 2005).

- Financial (financial indices)

The signs are as follows: increasing degree of dependence from external creditors and investors; inefficiency of economic and financial operations; presence of insolvent debtors.

The main mistake made by businessman is that they monitor only main quantitative indices, not paying attention to the tendency of their development. The situation can be improved by means of controlling the costs and by elaboration of an adequate index system.

- Staff (Personal ambitions; staff psychology; possibilities of professional growth). The behavior of the factor can be seen in the following situations: changes in the aims of the leaders, i.e. owners and holders of the company or changes in the aims of the staff.

The following aspects can increase the influence of the factor: strict separation of subdivisions; absence of enthusiasm concerning the changes among the majority of the staff; the fear of the majority of managers to lose the influence on the decisions and control; the majority of the staff is not willing to take the risk and additional responsibility.

The following aspects can improve the situation: significant changes in the management system of the company concerning all its aspects; as well as growing potential in business cooperation.

**Symptoms** are the following element of the scheme.

What concerns symptoms, it is much more complicated to analyze them. For their evaluation, it is more optimal to apply methodological approach. The problem is that it is difficult to work out the methodology because clear symptoms of a crisis emergence have not been clearly described. The symptoms, as a rule, depend on the kind of business and they are possible to reveal only by subsequent and methodical collection of information. It can be achieved by applying methods of CM at the initial stage of company existence.

In order to have an opportunity to define the symptoms, it is helpful to enumerate potential ones. Having analyzed the literature and personal experience, the authors single out the following most significant symptoms for SMEs (Jarnyh 2007):

- Oscillations in the production process due to unclear reasons
- Discrepancies, deviations in the registry documents

- Growing number of credits borrowed from one creditor
- The money is not returned in time
- The lack of experience of the company in the given branch or direction of business
- Return of the problems solved in the past
- The company's inability to qualitatively plan its activity

The authors recommend using the SWOT analysis for revealing first signs of an approaching crisis.

If any symptom has been left without proper attention, more evident **signs** appear.

In order to evaluate, detect and eliminate them, theoretical approach is needed. The theoretical knowledge available so far should be enough, because in many sources they are well described, classified and quite accurately verified.

As a rule, in such conditions, the correlation of signs and consequent problems is clearly seen. The manager's task is to find the possible way out of the situation. Consequently, it is necessary to define the basic signs characteristic for SMEs and the subsequent problems, as well as to define the result of the given correlation, i.e. the influence on the company's work (Mogorite *et al.* 2008) (See Table 1).

According to Table 1, the possible outcome is the stable systematic or increasing problem.

### 3. Detection of **causes** of a crisis.

In order to detect causes, practical skills and experience, especially in the sphere of CM, are necessary. Also the manager has to have the feeling and intuition, the so-called fourth resource (entrepreneurship).

Of course, practical aspects are desirable at all the stages, but unfortunately it is not always possible to find such a universal specialist, who would have experience in all the spheres. If a company has found such a person, it is guaranteed to find a quick and painless way out of any crisis (Mitroff, Gus Anagnos 2000).

As Figure 2 shows, causes can be present at any stage. They are abundant and any of them can be crucial and significant. For each particular kind, size, scope, etc. of business, there could be its own specific causes. As an example, the following causes can be taken:

- emergence of a new rival;
- weak management training;
- additional source of financing has not been found;
- someone conspires to lead the business to the bankruptcy;
- overload of the company or its several key employees;

**Table 1.** Correlation of signs and problems (Source: Mogorite *et al.* 2008)

Signs	Problems	Influence
1. The demand on the company's goods has fallen	Population's buying potential has fallen down, demand on rivals' goods and services have increased.	The sales become lower, the number of orders decreases, and less and less customers are served.
2. The parameters of the production factors have become worse	The supply of raw materials and material resources has decreased, prices of raw materials, equipment have increased, licenses have become more expensive	The rhythm of technical and financial processes is irregular.
3. Competition	Much tenser competition between rivals, active "shift" of customers to the goods-substitutes, price wars.	Customers start leaving, they complain about the unsatisfactory quality of services or goods.
4. Unfavorable changes in the work of state and government structures	Higher tax rates, introduction of new taxes, unfavorable change of currency rates, unstable legislation.	Not quite optimistic plans for the future are made
5. Unpredictable phenomena	The company is situated in the region subjected to floods, earthquakes, storms, etc., external policy is unstable, sudden scientific technical know-how have been discovered and used by the rivals.	"Something is wrong... I don't know what exactly, but something is really wrong..."
6. Technical resources of the company have become worse	Technological equipment has become old; materials that lower company's competitiveness are applied; old systems causing losses are used.	The quality of work becomes lower; management of the company has difficulties to control the work.
7. Indices of technological resources of the company have become worse	The lack of potential for implementing systematic elaborations of scientific researches.	Technical and organizational processes in the work of the company are not developed enough.
8. Staff potential has weakened	The staff is oriented on order administration methods and execution of traditional kinds of work; technical, social and ecological security is not paid proper attention.	Company has problems with hiring the staff, loses its image as an attractive employer; The discipline among the staff becomes low.
9. The lack of flexibility of organizational structure	The structure is rigid and oriented on execution of functions and bureaucracy.	There are problems with the process of setting aims.
10. Financial policy – credits	Constant attraction of loans, which lower the cost of company's shares.	There are difficulties with payments; SMEs dependence on one customer (or one supplier) becomes stronger; Contract conditions for the company become more strict

- finding a new market or introduction of new business lines;
- illogical and unequal division of duties (Gamza 2007).

This is just a short list of possible causes of a crisis emergence. As a rule, these causes appear when the managers evaluated the situation in a wrong way and made a wrong conclusion.

If the causes have not been eliminated (it is too late, ideas did not work out, etc.) **problems**, which cannot stay unnoticed, arise. These problems show that the crisis is inevitable, and as a consequence, it has to be overcome. The main problems are considered in Table 1.

When real problems appear, it is necessary to elaborate the system. In fact, on the given stage it is not so difficult, because there is sufficient information basis and analytically practical material

(Alekseev 1999). After having been systematized, it can be transformed into a system by means of which it is quite easy to find the way out of the crisis. Thus, application of system approach is justified.

Crisis emergence is the final stage.

On the given stage, it is much easier to apply already existing or elaborated methods of CM.

Figure 3 shows the summary of the above-mentioned approaches and methods, which are the part of general methodology of CM.

Thus, according to the suggested scheme, it is possible to implement the following methodology of CM:

- To characterize factors, which can influence the formation of a crisis situation, thus determining possible causes of their emergence.

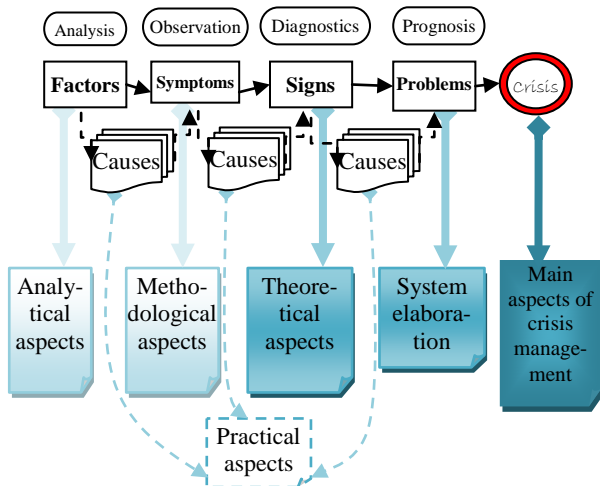


Fig. 3. Approaches for evaluation of the root causes of a crisis (Source: Mogorite et al. 2008)

- To observe symptoms of a crisis. If they appear, to determine the causes of their emergence and eliminate them.
- If some symptoms are left unnoticed, there appear more definite symptoms, which can be diagnosed as an early stage of a crisis.
- To determine the causes of a crisis: at an early stage, if some insignificant symptoms are left unnoticed, or at the stage of an acute (or chronic) crisis, if more significant signs were left without any attention. At the given stage, crisis overcoming is impossible without methods of CM.
- If the causes were not eliminated (if it is too late, failure to do it, etc.) there appear problems, which are impossible to be left unnoticed. These problems show that crisis is inevitable and as a result, there should be some attempts to overcome it (Medvedev 2000.).
- Emergence of a crisis. In the given case, a crisis can be characterized as a negative phenomenon.

#### 4. Introduction of CM system in the company

As it was mentioned above, there is a possibility that the company will have a lack of both money and time to introduce the CM system and to restore its solvency. This problem can be solved, if another viewpoint is taken into consideration, which is based on the opinion that crisis is a temporal notion that is why, it is better to prevent it than to liquidate its consequences.

Thus, one of the essential characteristics of a crisis and, consequently, of subjective reaction is the factor of time. However, in the company, which is facing a financial crisis, the standard logic of financial and economic calculations cannot be applied in this case.

Let us examine the correlation between crisis and time in more detail. For this purpose let us place the potential points at the time axis (Fig. 4):

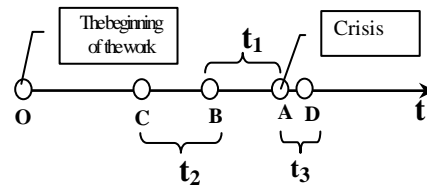


Fig.4. The points when the CM system is introduced (Source: Kolomeichook, Didenko 2006.)

Let us have a closer look at the given points on this time axis.

We start with point D, because according to managers' opinion this point is considered to be the most appropriate one to start the introduction of the system of CM in a company.

Point D indicates activities, which are taken immediately after the crisis situation has been detected. However, to begin the process of introduction of the CM system at this point is the most inefficient alternative, because time has been already lost, it is much more expensive to find all the necessary information, moreover, it is very complicated for the company to overcome the crisis situation. In other words, actions of the manager in this situation can be described by the following proverb: "better late than never", the whole procedure is inefficient, but he or she should do something anyway.

The result in this case can be shown with the help of the following formula (Kolomeichook, Didenko 2006):

$$\begin{cases} t(D) = 0 \\ I_{CM}^{(D)} \rightarrow \max \\ E(D) \rightarrow 0 \end{cases} \quad (1)$$

where:

$t(\dots)$  – time, which is necessary to make management decisions, which can help the company to overcome the crisis situation at any given point (the point is given in brackets);

$I_{CM}(\dots)$  – costs related to the overcoming of the crisis situation, if the CM system was introduced at the given point;

$E(\dots)$  – efficiency of the taken management decision at the given moment and with the given costs.

The nearest point to point D is point A. If CM is started exactly at this point, there is a possibility to get to the next point D (because  $t_3$  is a small distance) and, thus, to reduce the efficiency to zero. The advantage of this case is that costs are also minimized.

Thus, using the same symbols, the following formula will be used (Kolomeichook, Didenko 2006):

$$\begin{cases} t(A) \rightarrow 0 \\ I_{CM}(A) \rightarrow \min \\ E(A) \rightarrow 0 \end{cases} \quad (2)$$

From the viewpoint of costs, this formula is rather applicable; however, it has one, but a very significant minus: unfortunately, it is inefficient. But the efficiency for a company quite often is even more important than costs. Moreover, it is much harder to work when there is so little time. Consequently, it is necessary to find another way out of the given situation. For this purpose, let us examine the rest of the points.

Points B and C are, in spite of the remoteness, theoretically equivalent, because these time periods (t1, t2) are unknown variables and with equal possibility can be either infinitesimal or infinitely big. In the first case points B and C tend towards point D, in the second case towards point O. Consequently, time at the given points can be illustrated by the formulae (3) and (4) (Kolomeichook, Didenko 2006):

$$\begin{aligned} t(B) &= t1 \rightarrow 0 & (3) \\ t(C) &= t2+t1 \rightarrow 0 \end{aligned}$$

or

$$\begin{aligned} t(B) &\rightarrow \max \\ t(D) &\rightarrow \max \end{aligned} \quad (4)$$

These formulae are correct both for point D (1) and for point O (5).

Now let us examine point O. Point O is the beginning of the work (active work of the company is meant, otherwise, the measures of CM will not bring the due effect). The control is one of the management functions, that is why, it is possible to suggest that some spheres of activities of the company should be controlled at the initial stage. Consequently, it is possible to control at once those indices, which are necessary for the detection of a crisis condition and, thus, to activate the system of CM.

Taking into consideration everything mentioned above, it is possible to make up the following formula (Kolomeichook, Didenko 2006):

$$\begin{cases} t(O) \rightarrow \max \\ I_{CM}(O) \rightarrow \min \\ E(O) \rightarrow \max \end{cases} \quad (5)$$

It is clearly seen that all the criteria are rather positive.

However, there may appear certain objections that if a company conducts CM alongside with its main work, the costs will increase greatly (Pelšs

1999). In other words, the following statement should be true (Kolomeichook, Didenko 2006.):

$$I_{CM} \rightarrow \infty \quad (6)$$

But this statement (6) is not true, as well as the following one (Kolomeichook I., Didenko K. 2006.):

$$I_{CM} \rightarrow 0 \quad (7)$$

$I_{CM}$  can tend only towards a constant. This constant can be changed, divided and placed anywhere within the axis. Moreover, it can be either minimum or maximum.

In formula (5), which was made up for point O, costs that are related to the overcoming of a crisis situation tend to some kind of minimum, although not to the absolute one.

So,  $I_{CM}$  can appear starting with point O, accumulate till point A and reach the level of the constant. There is also another alternative: if we adhere to the opinion that CM is necessary at point A,  $I_{CM}$  is also a kind of a constant, but it does not mean that the efficiency at this point will be maximum as well. There appears one not less important problem: the company does not have any money for this purpose, because a crisis, first of all, is characterized by a lack of money. Even if the company manages to attract some extra investment, it is not certain that it will bring any positive result. It is clear that at point D  $I_{CM}$  will be even bigger, but the effect will be lower. What concerns points B and C, as it was mentioned above, t1 and t2 are rather vague values, which do not play any significant role the in calculation of costs. As a result, the following formula will be correct for all points except point D (8) (Kolomeichook, Didenko 2006):

$$I_{CM} \rightarrow const \quad (8)$$

As it is clearly seen, even if we invest money in CM at the beginning of work (point O), and assume the worst sequence of events  $I_{CM} = \max$ , our loss in this case is not bigger than our investment at other points (Kolomeichook, Didenko 2006).

$$\begin{cases} I_{CM}(O) = \max \\ I_{CM}(A) = \max \\ I_{CM}(O) \leq I_{CM}(C, B) \leq I_{CM}(A) \ll I_{CM}(D) \end{cases} \quad (9)$$

There may be the following objections. For example, in point O the company needs money for its development, but there is no "spare" money. However, is this money "spare"? Anyway it will be invested. Why not to invest it with bigger efficiency? At point O we get something like an interest free credit: we invest money now, and get divi-



dends when the crisis appears. The further (according to the time axis) we put aside investment of the money in CM, in other words, the closer we are to point A, the bigger sum of money will be needed and the lower will be the level of efficiency. If at point O we have a kind of an interest free credit, the later we invest money (at points A, B, C or D), the higher interests we shall have to pay.

There is also another objection, which is rather popular: there is a possibility that crisis will not appear at all. But this opinion contradicts the theory of business as such (because crisis is a cyclic phenomenon), that is why such investment will be necessary anyway.

Moreover, if we look at this situation from the viewpoint of value and price of information, we can see that, not only at point A, but also at points B and C,  $I_{CM}$  can start tending towards infinity.

Consequently, if the CM system is gradually introduced in the manager's work, in the future it will pay back, because it is not only difficult (it depends on the period of time), but also rather expensive to collect necessary information at points C, B, not to mention A.

If we make up a similar formulae to formula (9), which will compare time (10) and efficiency (11), the advantages of the introduction of the CM system at point O will be obvious (Kolomeichook, Didenko 2006).

$$\begin{cases} t(O) = \max \\ t(A) \rightarrow 0 \\ t(O) \geq t(C) \geq t(B) \gg t(D) \end{cases} \quad (10)$$

Formula (10) shows that there is more time than it is enough at point O, especially in comparison with points A and D.

What concerns efficiency, the formula is analogous (Kolomeichook, Didenko 2006.):

$$\begin{cases} E(O) = \max \\ E(A) \rightarrow 0 \\ E(O) \geq E(C) \geq E(B) \gg E(D) \end{cases} \quad (11)$$

Another important aspect of the factor of time in the conditions of a crisis situation from the psychological point of view is that a "falling" company does not have future. If in some period of time the company is announced bankrupt, in other words, does not overcome the crisis, any further plans become rather abstract. If the company manages to overcome the crisis, the future will appear and the CM system will be applied on a new, absolutely different level.

The main aspect for SMEs that should be taken into consideration is the fact that points D and A, as starting points, is possible only in big companies, SMEs have to choose point O.

### 5. The structure of CM taking into consideration the time factor

The period of the system introduction (Fig. 4) analyzed before is the period up to point D. However, the CM system introduced at an enterprise has to keep working.

Out of all characteristic points in Figure 4, we select points O, C and A, which are characteristic for pre-CM and for initiating the crisis overcoming process.

As it was mentioned before, point O is the only point when the system of CM can be introduced at a small or middle size enterprise. That is the point when one of CM parts begins, it can be called pre-CM.

The management of the crisis itself, or the crisis overcoming process, begins not long before point A. Nonetheless, the theory of crisis overcoming process includes points A, B and D. A new point F is added her: it is stabilization, which appears when crisis overcoming process is over. As it was concluded before, crisis overcoming is a process, which takes place alongside life cycle of an enterprise. Thus, it should continue and change under external and internal influences. It can be called post-CM (Hellsloot 2007).

So, three management stages can be singled out in CM: pre-CM, crisis overcoming process and post-CM. It can be graphically represented in the following way:

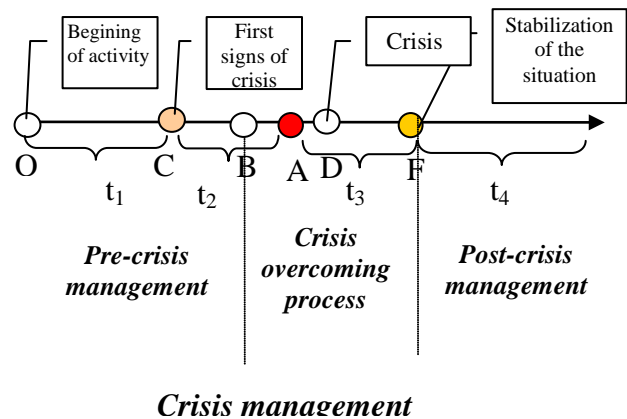


Fig.5. Structure of CM (Source: Mogorite et al. 2011)

The given axis has several peculiar intervals:

Stage 1 – t1 – collection and monitoring of data (O;C)

Stage 2 – t2 – monitoring and noticing first signs; (C;A)

Stage 3 – t3 – overcoming activities, elimination of negative effects, avoiding bankruptcy; (A; F)

Stage 4 – t4 – stabilization activities, control, data collection, feedback. There is no particular interval for the given period. (F; ∞)



Such structure allows taking the right CM decisions in order to eliminate or prevent a crisis, because it is possible to take relevant actions, which will be rather efficient later (Mitroff 2005). Thus, it is possible to overcome a crisis in a company both theoretically and practically by means of the symbiosis of CM methods, although it has to be based on the strategically approach (Ansoff, McDonell 1990.)

## 6. Advantages and disadvantages of basic aspects of CM methodology

Taking into consideration all the above mentioned, it is suggested that the company should collect all the necessary information, calculate indices and fix its work at the initial stage of company's activities (according to Figure 4 everything should be begun at point O). It is possible to do with the help of graphic interpretation of a crisis as a process (Figure 1). It will help it to avoid a crisis, or at least, to mitigate its consequences. It is obvious that the element of surprise will disappear and, as a result, the actions will not be chaotic or disorganized. In the given situation a part of measures of the CM system will be taken (in particular, monitoring and diagnostics of the causes of a possible crisis. Fig. 2). Moreover, if we speak about gradual introduction of the CM system in the management of the company, the next point of CM – availability of a range of alternatives – will be also worked out according to the given pattern and, thus, in a crisis situations it will be necessary just to choose the most appropriate pattern for the given situation and to supplement it with existing conditions and influencing factors (Kochetkov 2006).

As a result, this CM methodology has a range of advantages:

- every action takes place in proper time;
- there are ready samples or patterns of behavior;
- availability of alternatives;
- there is no need in an "extra" specialist;
- people are ready for the situation;
- it is clearly seen which factor is influencing;
- it is known which criterion detected the crisis situation;
- it is known which subject of the company "broke down";
- different kinds of psychological advantages (James 2007) (for example, work in the emergency regime lowers the efficiency).

A lot of people are afraid of the word "crisis", because they simply do not know what to do in a non-standard situation. That is why quite often, precious minutes are lost; in other words, when

something can be prevented or changed, absolutely nothing is done (Milner 2006). Sometimes, but not always, people in such situation start only thinking what to do. But if they are provided with a favorable psychological environment (monitoring, diagnostics of possible causes, working out of potential alternatives, etc.) the results will be different, they also will be more favorable (James, James 2008.).

But in spite of the obvious advantages there will be minuses as well:

- time, as it is not known for sure when the crisis appears. As a result, there is a question: why is it necessary to decide beforehand what to, if it is possible just to define the directions of the crisis overcoming?
- at the moment when the crisis appears there is a possibility that the necessary pattern of behavior was not made up, consequently, this point cannot be considered an advantage;
- the situation can be too non-standard and we come back to the situation when it is necessary to start monitoring and to make up the plan of actions all over again;
- there is always a possibility that a wrong model or a mistaken system of criteria will be chosen by the manager, and consequently, an important factor will be missed;
- if wrong and misleading conclusions are made, there is a chance that are wrong alternatives will be chosen.

However, if we compare all the advantages and disadvantages of the given model qualitatively, we come to the conclusion, that there are more pluses than minuses in the suggested model. For example, point b just a little bit narrows the model; the complex analysis is not the initial stage. Points d and e depend on the human factor, which is always a high level of risk, and is present everywhere, not just in the given model. Point c is the most significant minus; however, it is partially compensated by several advantages: at least we do not have to start everything from the very beginning, we already have something done: at least we have some information.

Thus, having analyzed different pluses and minuses, the level of influence and time evaluation, it is possible to draw the conclusion that it is necessary to introduce the CM system at the very beginning of the company's activity, supplementing and changing it from time to time according to the changing factors. And it also possible to consider the given system not only as the way of overcoming of a crisis, but also as a liquidation measure of crisis situations at the initial stages of their development, in other words, the system of CM is a complex of actions of crisis prevention.

## 7. Conclusions

Taking into account all the above mentioned, the following conclusion can be made. The notion "crisis management" means such a kind of management, which aims at the helping a business to overcome a crisis situation (Baldin 2005) (i.e. management in the conditions of a crisis), as well as at the prevention of a crisis situation.

Many scientists, who investigate methods of crisis and CM, agree that crisis is an obligatory phenomenon; none enterprise can avoid it (Korotkov 2000). Crisis is a period of instability or such a state of business when serious changes are approaching. (Barton 2007). Though the results of these changes can be either extremely unfavorable or rather positive.

Nonetheless, all the information analyzed above is especially topical for small and middle-sized business. For a big company, the suggested models should be transformed, because the resources of companies of different sizes differ a lot, moreover, needs of the resources are also different. As a result, the indices of the efficiency and costs in the suggested formulae will change as well. (Stevenson 1989). And, of course, it goes without saying that there will be different advantages and disadvantages of introduction of CM in big companies.

It possible to state that the methodology aspects, which are suggested by the authors of this article, are very important especially for the small and middle-sized business, because for a large company it is not so difficult to survive a big crisis and its consequences if it has enough resources, but for a small or middle-sized business a crisis is a kind of a catastrophe, and, most probably, the way out of this situation will be impossible to find.

## References

Ansoff, H. I.; McDonell, E. 1990. *Implanting Strategic Management*. – Englewood Cliffs: Prentice-Hall, NJ

Barton, L. 2007. *Crisis leadership now: A real-world guide to preparing for threats, disaster, sabotage, and scandal*. New York, NY: McGraw-Hill.

Borodzicz, E. P. 2005. *Risk, Crisis and Security Management*. West Sussex, England: John Wiley and Sons Ltd.

*Dažādu nozaru terminu vārdnīcu un TTC (Tulkošanas un Terminoloģijas Centra) izstrādātie termini*. Available from Internet: <http://www.ttc.lv/lv/datubaze-menu.htm>.

Dezenhall, E.; Weber, J. 2007. *Damage control: Why everything you know about crisis management is wrong*. Portfolio Hardcover.

*Ekonomikas terminu vārdnīca* -Available from Internet: <http://www.financenet.lv/tools/dictionary/>

Hellsloot, I. 2007. Review of "The politics of CM: Public leadership under pressure" by A. Boin, P. Hart, E. Stern and B. Sundelius. *Journal of Contingencies and CM*.

Fink, S. 2007. *CM: Planning for the inevitable*. Backinprint.

James, E. 2007. *Leadership as (Un)usual: How to Display Competence In Times of Crisis*. <http://dx.doi.org/10.1177/1523422308316450>

James, E.; James, E. H. 2008. Linking crisis management and Leadership Competencies: The Role of Human Resource Development, *Advances in Developing Human Resources* 10(3): 352-379.

Kolomeichook, I.; Didenko, K. 2006a. Crisis management in small and middle-sized business and the factor of time in *The 4th International Scientific Conference „Business and Management“*. *The 14th international Scientific Conference „Enterprise Management: Diagnosis, Strategy, Efficiency“*. Vilnius, Lithuania 5–6 October Selected papers.

Kolomeichook, I., Didenko, K. 2006b. The Peculiarities of Application of SWOT Analysis in Crisis Management //Starptautiskās zinātniskās konferences materiālu krājums. Vilnius, Lithuania 22-23. september.

Kolomeychuk, I.; Didenko, K. 2007. *Crisis Management within the Frameworks of the Notion "Crisis"*. Riga Technical University, Riga, Latvia. April 12 - 13.

Mitroff, I. I. 2005. *Why Some Companies Emerge Stronger And Better From a Crisis: Seven Essential Lessons For Surviving Disaster*. New York: AMACOM.

Mitroff, I. I.; Gus Anagnos 2000. *Managing Crises Before They Happen: What Every Executive Needs to Know About CM*. New York: AMACOM.

Mogorite, I.; Didenko, K.; Magidenko, A. 2008. A. Crisis Influencing Factors and Root Causes. *Journal of International Scientific Conference* .– Rīga: 11-13 October

Mogorite, I.; Didenko, K.; Magidenko, A. 2011. Models of Business Efficiency Management: BSc as the Main Aspect of CM. *Journal of International Scientific Conference* 3, IV. – Sofija, September.

Mogorite, I.; Didenko, K.; Magidenko, A. 2008. Pretkrīzes un krīzes pārvarēšanas vadīšanas principi, *Journal of Tautsaimniecības un uzņēmējdarbības attīstības problēmas*. – Rīga: , 97 – 101 pp.

Pelšs, A. 1999. *Izmaksu analīze lēmumu pieņemšanai*. – Rēzekne. 126 pp.

Smith, L.; Millar, D. 2002. *Before Crisis Hits: Building a Strategic Crisis Plan*. Washington, DC: AACC Community College Press

Stevenson, W. J. 1989. *Introduction to management science*. – Boston: IRWIN, – 845 pp.

Айвазян, З., Кириченко, В. 2005. Антикризисное управление: принятие решений на краю пропасти, *Journal of Проблемы теории и практики управления* 4: 25-35.

- Алексеев, Н. С 1999. *Изменения для стабильности*. Available from Internet: <http://www.cfin.ru/press/management/1999-2/02.shtml>
- Балдин, К. 2005. *Антикризисное управление: макро- и микроуровень*: Учеб. Пос 249, 316 pp.
- Короткова, Э. М. [редактор]. 2000. *Антикризисное управление: учебник*./ ИНФРА-М. 112 pp.
- Гамза, В. А. 2007. *Сигналы раннего оповещения о проблемах в фирме*. Available from Internet: <http://www.elitarium.ru/2007/07/18>
- Кочеткова, А. 2006. *Управляя кризисом*. - Available from Internet: <http://www.business-magazine.ru/profiles/experts/pub277686>
- Медведев, С. Ю. 2000. *Методические основы антикризисного управления предприятием*. Московский государственный университет экономики, статистики и информатики.- Москва.
- Мильнер, Б. З. 2006. *Новые требования к построению организаций будущего*. Available from Internet: <http://www.elitarium.ru/2006/07/03>
- Ярных, В. И. 2007. *Кризис в организации: типология, факторы и возможные пути развития*. Available from Internet: <http://www.elitarium.ru/2007/06/04>