

Resolving Companies in Crisis: Agile Crisis Project Management

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Introduction and purpose: In practice, the existing models of tackling companies' crises are still lacking effectiveness and efficiency. The agile crisis project management model (ACPM) is based on the crisis project management doctrines, which we upgraded with the principles and methodologies of agile project management. It was developed for the resolution of such crises.

Methods: Relying on scientific knowledge and in accordance with the defined research problem, we decided to use the qualitative research methods while using a method of highly structured interviews for data collection. A comparative case studies method was used for the comparative comparison of effectiveness and efficiency among the sample companies, which were divided into groups A and B. Companies in group A used the non-project approach, the traditional project, and/or the hybrid non-project–traditional project approach (CM approach) in implementing the planned measures and activities in the restructuring process and/or renovation; companies in group B used the agile project and/or the hybrid agile project–traditional project approach (ACPM approach).

Results: The studied companies facing crises used various implementation approaches for the planned measures and activities within the framework of the crisis solution. The companies using the ACPM approach (group B) completed their restructuring and/or renewal process more quickly and were more effective and efficient after the crisis than during the pre-crisis period. At the same time, their net sales growth was also higher than the growth of companies using the CM approach (group A).

Conclusion: The article demonstrates the results of the research, which studied the effectiveness and efficiency of resolving the sample companies' crises. In accordance with the research results, we conclude that supplementing the crisis project management with an agile project approach when resolving company crises positively affects the efficiency and effectiveness of companies after the crisis.

Keywords: *company crisis; crisis management; project management; agile project management*

1 Introduction

Companies and other economic entities operate in a business environment that is becoming increasingly dynamic and complex. It is therefore not surprising that numerous companies eventually encounter crises due to the lack of or improper implementation of adaptation. A company crisis

has different manifestations (phases) and can be, as a rule, registered with a drop in the value of individual economic indicators of the effectiveness and efficiency of operations. Because the crisis can be measured, it becomes visible and is defined as manifested or acute crisis (Dubrovski, 2011; Vrečko & Mulej, 2012). It typically leads to the loss of mutual trust between company management and internal

and external stakeholders. A company's short-term insolvency is usually the first very serious consequence drawing attention to the fact that something is wrong with the company, which—besides other legally determined causes (ZFPPiPP¹)—can also lead to the company's long-term insolvency. The company's bankruptcy is commonly the worst possible scenario for all stakeholders, with unsecured creditors of the company losing the most.

A great deal of attention has been devoted to company crisis management, with researchers basing their determinations, proposals, and models on different angles. Some have focused on the identification and analysis of the symptoms and causes of a company crisis to make proposals for its solution, while stressing the role and importance of crisis management (Dubrovski, 2011; Slatter & Lovett, 1999). Other researchers have highlighted the role of project management and the use of traditional project approach when implementing planned measures of the restructuring and/or renewal process (Cleland & Ireland, 2006; Kovač, 2009; Vrečko & Mulej, 2012). Yet the project approach is not meant to be the development and management of one specific project aimed to resolve crisis, but as a series of projects managed individually and as a portfolio in a way to successfully resolve the crisis. Despite the significant and exceptional contribution of specialised literature, the results related to resolving a company crisis are still quite uncertain. Therefore, the experts as well as the practice still face many challenges in order for the solution processes to be more effective and efficient than existing models and approaches. In particular, many unanswered questions remain as to how to operationally approach the implementation of the necessary projects, how to approach and precisely elaborate the necessary projects prior to their implementation, and which methods and techniques to use in order to achieve greater effectiveness in implementing individual projects and, thus, the entire efficiency of the process of resolving the crisis and/or renewal in the company.

In existing crisis management models in companies which have not yet introduced an insolvency procedure, the key stakeholders in practice often act partially, are inadequately coordinated, and are not connected in resolving the crisis; therefore, there is also no real or necessary trust among them. The key stakeholders partially create and implement the projects initially intended to resolve their own problems and risks, which occurred as a consequence of the company's problems, which makes it difficult to implement the comprehensive and balanced restructuring and/or renewal of the company in an effective and efficient way.

In order to be able to overcome the indicated limitations of the existing crisis management models, we designed and created the agile crisis project management (ACPM) model. The model is based on the crisis and pro-

ject management (crisis project management) doctrines, which are upgraded with the principles and methodologies of agile project management. The latter has already proved to be an effective and efficient operation conception in a highly turbulent, dynamic, and not clearly defined business environment, which are also the characteristics of the business environment in companies in crisis.

Supplementing crisis project management with the agile project approach in resolving a company crisis positively affects the efficiency and effectiveness of companies after their crises. In this way, we also fill the gap of insufficient knowledge on the operational approach to the implementation of the projects necessary for company crisis resolution.

2 Theoretical Bases

Companies and other economic entities operate in a business environment characterised by cyclical movements with alternating recession and cyclical trends. The economy and business environment never change evenly. A few years are marked with expansion, followed by a contraction or drop in economic growth. These characteristic movements, called business cycles, occur in all market economies (Samuelson & Nordhaus, 2002). Furthermore, companies in the so-called transition countries experience additional changes linked to the adaptation to the requirements of the market economy (Irsova & Havranek, 2011; Wade, 2011; Iwasaki & Suzuki, 2012; Vrečko & Mulej, 2012). Conditions in the business environment will continue to aggravate in the future and will change with a dynamic similar to the one we faced in the last decade (Siemens, 2004; Capgemini, 2013; Nemeč-Pečjak, 2013; Capgemini, 2015; Hill, Schilling, & Jones, 2017). Given the nature of the functioning of the market economy, the recession and cyclical trends will be more frequent and severe. Companies and other economic entities will be even more exposed to market and other business risks, meaning they may repeatedly find themselves in crisis situations that need to be managed efficiently. Companies must continuously adapt to the changes in the business environment by constantly searching, confirming, maintaining, and improving existing market positions and introducing the necessary changes in their transactions.

The experts define a company crisis as a phenomenon that can be identified when growth or performance indicators start to drop. Such measureable changes mean this is a visible, manifested, or acute crisis. It can develop from the crisis of a natural disaster, the crisis of a business disaster, or a strategic crisis (Hauc, Vrečko, & Barilović, 2011; Vrečko & Mulej, 2012; Booth, 2015; Nerghes, Hellsten, & Groenewegen, 2015; Fischbacher-Smith, Howard, &

¹ Financial Operations, Insolvency Proceedings and Compulsory Winding-up Act.

Cornuel, 2016; Maiorescu, 2016; Zhang & Wang, 2016; Coombs & Laufer, 2017). Such situation in the company may occur either due to an individual unfavourable event or more simultaneous events (causes of the crisis); alternatively, it can occur as a process in which initially manageable disturbances occur more frequently and severely (course of crisis). It can occur due to the interdependent and simultaneous effects of external and internal causes. Exceptional circumstances in the company represent a situation in which it is impossible to use already tested routine decisions because the company faces such new circumstances for the first time (Dubrovski, 2011). A company crisis poses a threat to further operations (survival) and to the achievement of high priority goals; it restricts the time available for the response, surprises key decision-makers, and consequently leads to a highly stressful situation among employees. If the company is not capable of immediate resolution, it becomes insolvent and, sooner or later, fails (Slatter & Lovett, 1999). The resolution of company crisis can be favourable (revitalisation, active and productive utilisation of material and non-material resources, development with profitable business) or unfavourable (failure, cessation, bankruptcy). The selection of the crisis strategy depends primarily on the identification and possible development of a healthy business core, on business activities to be abandoned, and on activities which can realistically be developed (Glamuzina & Lovrinčević, 2013).

In order to prevent as well as to resolve a company crisis effectively and efficiently, experts in the field of management have developed many models and tools enabling company management to manage individual problems faced in the day-to-day work. One of the most important tools is crisis management, which experts have defined quite uniformly. One branch defines it as a special measure and a specific management method management uses during times of unsuccessful operations or other problems in the company. According to another interpretation, it can also denote the holders of management and implementation of the above-mentioned measures. The term turnaround management (also, turnabout management) is frequently used and has the same meaning. Terms such as corporate renewal, re-engineering, and corporate revitalisation with the same substantive meaning have also been observed (Vrečko & Mulej, 2012). Another branch defines crisis management as a special part of strategic management, which characterises organisations in extremely serious existential difficulties. Accordingly, it is defined as a process of planning, organising, directing, and monitoring companies (organisations) facing such difficulties directly threatening their existence (reversal of crisis) or their further development (prevention of crisis), the aim of which is to stop the negative movements by achieving a turnaround and ensuring the foundation for the re-development (Dubrovski, 2011; Herbane, 2013; Fener & Cevik, 2015; Parnell, 2015; Sahin, Ulubeyli, & Kazaza, 2015). In this

respect, four common conditions have to be fulfilled for a successful reorganisation of companies in existential difficulties: (1) existence of a healthy core business, (2) competent and committed managerial team with necessary powers, (3) available financial funds, and (4) positive view of the employees on the reorganisation process with sufficient motivation. One of the key conditions for successful restructuring and/or renewal is the mobilisation of the company, because numerous changes urgently necessary for the achievement of the planned goals have to be implemented in a very short time. The treatment of crisis can only be successful if it is implemented at all business functions throughout the company simultaneously. During the reorganisation process, a simultaneous implementation of measures for the resolution of crisis must be provided for in two key areas: (1) business (substantive, operational) treatment and (2) financial treatment. Although the company crisis is directly reflected in the financial area (insolvency, over-indebtedness, negative cash flow, etc.), this is in fact only the consequence of events that occur in other substantive areas of operation (Dubrovski, 2011).

Many experts have recommended project management as the most appropriate and effective tool for ensuring the growth and development of a company, through which the company maintains and/or increases its competitive market position (Stare, 2011; Vrečko & Mulej, 2012; Kerzner, 2013; Nemeč-Pečjak, 2013; Nijhuis, Vrijhoef, & Kessels, 2014; Hermano & Cruz-Martin, 2016), and as a tool for the implementation of the planned restructuring and/or renewal projects (Slatter & Lovett, 1999; Kovač, 2009; Dubrovski, 2011; Vrečko & Mulej, 2012). Project management as a science-based branch of management has, as a dynamic field, made a major step in its development over the past two decades. In this period, agile project management (APM) was established, whose purpose is to achieve easier and simpler implementation of project management processes with less managerial effort, while at the same time adapting to the requirements as much as possible - to the varying requirements of the client - thus guaranteeing greater added value. The APM is focused on increasing efficiency and effectiveness according to the project's set goals (lower costs, faster performance and higher quality) through innovation in operation and the implementation of small and recurrent process steps. In this respect, the project management theory distinguishes between the traditional and the agile project approach (Wysocki, 2006; Markopoulos et al., 2008; Fernandez J. & Fernandez D., 2008; Morien, 2009; Stare, 2013; Stare, 2014; Stettina & Horz, 2014). Conforto et al (2014) analyzed the use of known project management approaches in 23 different business cases (projects), and examined thoroughly 54 applied techniques and 21 tools. The survey confirmed that the APM application and methodology application is useful not only in the information and communication technology environment, but also in more traditional industries. The experts recommend the use of agile project

methods and techniques, especially when introducing the necessary organisational changes and ensuring the strategic development of the company as a consequence of its adaptation to the changed business environment (Conforto, Salum, Amaral, Da Silva, & De Almeida, 2014; Stettina & Horz, 2014; Conforto, Amaral, Da Silva, Di Felippo, & Kamikawachi, 2016; Miller, 2017; Willkommer, Storz, Haller, & Orthwein, 2017; Aghina, De Smet, Lackey, Lurie, & Murarka, 2018).

Due to constant changes in the market environment resulting from competition among companies, only those companies which are operationally agile and in constant search for new market opportunities can survive. In 2009, the Economist Intelligence Unit determined that nearly 90% of 394 interviewed principal managers pointed out that the business agility is the key factor of successful survival and further development of the company. As much as 27% of the respondents were convinced that a company fails precisely because of its business non-agility, even though the majority of these companies (80%) launched internal changes in due time, but they were not efficient enough in the long run (lack of strategic approach). Meanwhile, the Massachusetts Institute of Technology found that the revenue growth of operationally agile companies

is as much as 37% faster and the profitability 30% higher than in operationally non-agile companies (Debane & Koller, 2014).

3 Research approach

We studied the effectiveness and efficiency of resolving company crises in sample companies and determined the influence and importance of individual approaches in implementing the planned measures in the restructuring and/or renewal process in correlation with the companies' effectiveness and efficiency after their crisis.

3.1 Methodological bases

Employing scientific knowledge and in accordance with the defined research problem, we decided to use qualitative research methods along with highly structured interviews for data collection. Conducting intensive individual interviews with a small number of respondents can investigate their opinions of a certain situation, programme, or idea. Highly structured interviews are most effective when

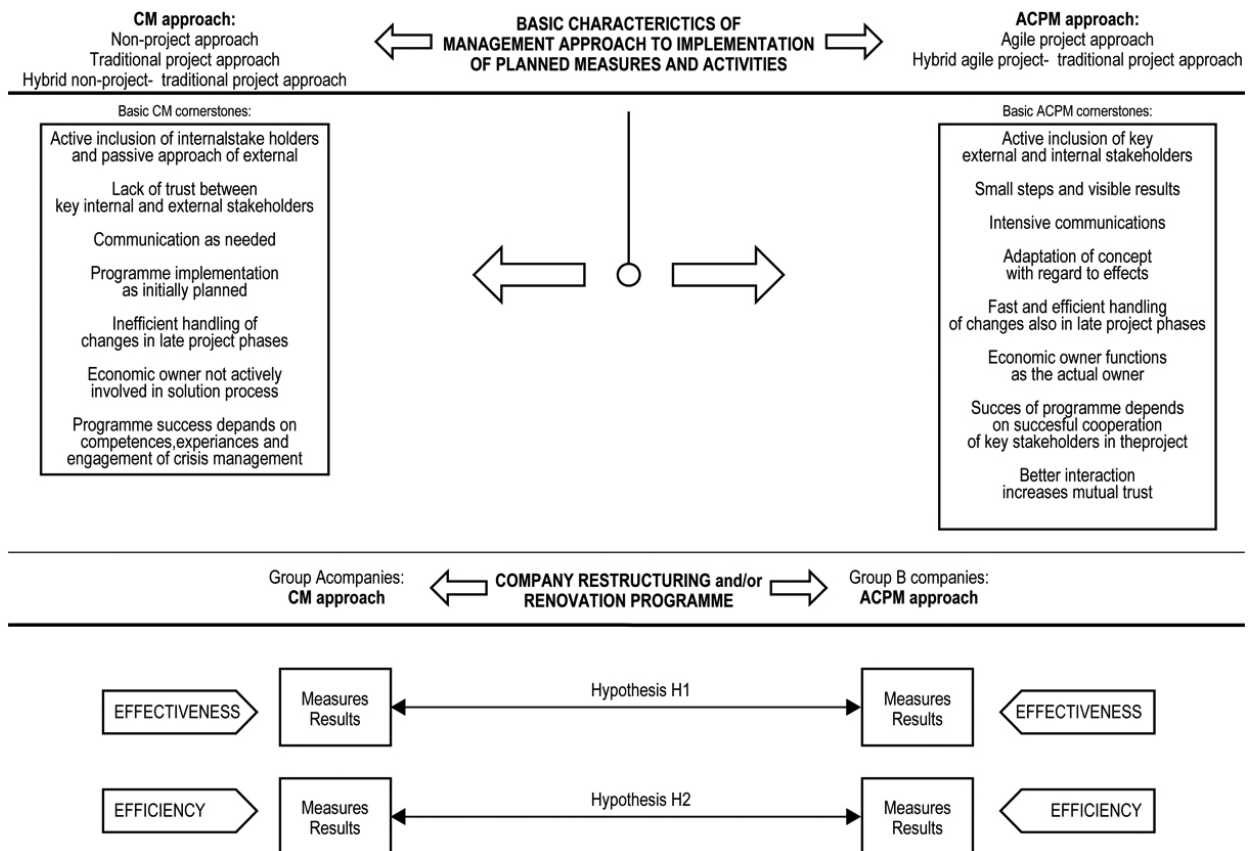


Figure 1: Conceptual research model ACPM

we wish to obtain detailed information about an individual's considerations and actions examine the field in-depth because they provide a more complex picture of what is happening and why. Their main advantage is that they ensure information about the research problem far beyond what other research methods can ensure (Robson, 1997; Karlsson, Dahlstedt, Dag, Regnell, & Persson, 2002; Boyce & Neale, 2006; Easterby - Smith, Thorpe, & Lowe, 2007; Kumar, 2011; Galletta, 2012). Comparative case studies were used to achieve a comparative comparison of efficiency and effectiveness among the sample companies (Eisenhardt, 1989; Eisenhardt & Graebner, 2007; Zilbershtein, 2012; De Massis & Kotlar, 2014).

When establishing the methodological framework of our research, we followed the basic concept of the research postulate (Kumar, 2011) and created a conceptual research model in accordance with expert knowledge (see Figure 1).

In the process of resolving a company crisis, we defined two basic managerial approaches (CM and ACPM) for the implementation of the planned measures and activities and described their basic cornerstones. Accordingly, the studied companies were divided into groups A and B, whereby the approach actually used by the companies in the process of resolving their crises was applied as the classification criterion. Companies in group A (CM approach) used the non-project, the traditional project, and/or the hybrid non-project-traditional project approach; companies in group B (ACPM approach) used the agile project and/or the hybrid agile project-traditional project approach. Thereafter, the research examined and determined the effectiveness and efficiency of the sample companies after the completion of the company crisis and compared the results of the post-crisis period with the pre-crisis period. We determined and compared which group of companies was more effective and efficient in their crisis solution, which represented the basis for confirming the research hypotheses.

3.2 Forming the research sample

When adopting a decision whether or not to include a particular Slovenia company into the sample for carrying out a qualitative research, the primary criterion was the perceived crisis situation in the company. Additional criteria were as follows: (1) influence of the industry in the production structure of the gross domestic product (added value in accordance with the SKD 2008) in Slovenia between 2010 and 2016, (2) inclusion of companies with various activities according to the Standard Classification of Activities, (3) inclusion of companies of various sizes

according to the Companies Act (ZGD-1), (4) inclusion of companies according to the criteria of geographical coverage of all of Slovenia, and (5) inclusion of companies according to the criteria of different legal forms and types of ownership according to the Companies Act (ZGD-1).

We deliberately included 18 Slovenian companies in the research, of which 15 Group C companies by the Standard Classification of Activities: Manufacturing (20.1% share of industry's value added in the GDP structure in 2016) and 3 companies in the G Group: Trade, maintenance and repair of vehicles (10.1% added value of the industry in the GDP structure in 2016).

We dividing companies into the following categories according to the size criterion: 2 companies as micro-units (MI1 and MI2), 3 companies as small units (M1, M2, and M3), 7 companies as medium units (S1, S2, S3, S4, S5, S6, and S7), and 6 companies as large units (V1, V2, V3, V4, V5, and V6).

Highly structured interviews with key stakeholders of the company, who actively participated in the process of resolving the business crisis of the company, took place between 5.7.2017 and 30.8.2017 at the headquarters of companies throughout the territory of Slovenia. On average, they lasted between two and four hours, with the responses of the interviewees being kept up to date and thoroughly.

3.3 Tools and analytical criteria

When reviewing the specialised literature, we did not find any available tools with which we could conduct the highly structured interviews in accordance with the defined research problem. Therefore, we developed a special tool for the research needs. When preparing the questions for the structured interviews, we systematically followed the research questions and defined the following basic research categories: (1) causes for the occurrence of the company crisis, (2) content of the resolution of the company crisis, (3) approach to implementation of the process of resolving the company crisis, and (4) result of the process of resolving the company crisis. We then prepared individual questions per substantive sets within the basic categories, thereby defining the basis for conducting structured interviews with the key stakeholders who cooperated in the process of resolving the company crisis. For the purpose of comparing selected economic indicators of performance and business efficiency among sample companies, we developed a methodology of point calculation, while following the concept of the Gvin methodology for determining corporate credit rating² (Bisnode, 2018). In order to achieve a realistic comparison between the sample

² Company Bisnode deals with data processing (big data) in smart data. The company's experts developed the analytical tool for business decision making Gvin, which enables us to accurately check the business of our business partners and get a clear picture of how companies in the Slovenian market are interconnected.

companies, the relativization of data was based on two fundamental recommendations of the crisis management discipline (Slatter and Lovett, 1999 et al.): 1) *The time of resolving the business crisis*, which plays an extremely important role in the process of resolving the business crisis, since company in the business crisis quickly begins to lose its competitive advantage and market position, a spiral of all negative effects appears, and such a company is soon no longer able to exploit market opportunities. Moreover, the intensity of complicating problems in the company is increasing disproportionately with time, so the time of resolving the business crisis of the company should not be a linear dimension, 2) *The complexity of systemic resolution of the company's business crisis* is in close correlation with the size of the company, since the larger the company is, more complex is its business, and when such a company enters a business crisis, its dimensions are more complex.

Thereafter, we empirically studied the companies during the pre-crisis period, the duration of the company crisis, and the post-crisis period. Financial and accounting data were obtained from publically available databases (Gvin). We studied companies' basic economic indicators of effectiveness and efficiency of operations (Štamcar, 2009; Bisnode, 2018). A profit margin (share of the net profit or loss in net sales) was determined as the criterion marking the end of the company crisis, which had to be at approximately the same level as in the pre-crisis period.

As first analytical criterion of the survey, we determined the growth indices of selected economic indicators of the performance and efficiency of the company's operations and compared the results achieved with the pre-crisis period. In order to compare the performance of the business among the sample companies, we selected the following economic indicators: 1) net sales revenues, 2)

operating profit before depreciation and taxes, and 3) net profit. In order to compare the efficiency of the business among the sample companies, the following economic indicators were selected: 1) the accelerated liquidity ratio, 2) the EBITDA margin, and 3) the added value per employee.

3.4 Research hypotheses

Using the studied specialised literature and in accordance with the knowledge gleaned, we established the central thesis of our research:

Supplementing the crisis and project management (crisis project management) with the agile project approach (agile crisis project management [ACPM]) in resolving a company crisis positively affects companies' effectiveness and efficiency after the crisis.

From this thesis, the following two research hypotheses were developed:

H1: Companies using the ACPM approach when resolving a company crisis are more effective after resolving the crisis than companies using the CM approach when resolving a company crisis.

H2: Companies using the ACPM approach when resolving a company crisis are more efficient after resolving the crisis than companies using the CM approach when resolving a company crisis.

APPROACH / IMPLEMENTATION					
CM Non-projects		TP Tradicional projects		AP Agile projects	
		(MI1)	(MI1)		
		(M1)	(M2)	(M3)	
(S2)	(S5)	(S7)	(S1)	(S3)	(S4) (S6)
(V3)	(V5)	(V6)	(V2)	(V4)	(V1)

Figure 2: Approach to implementing planned measures of sample companies

4 Research Results

4.1 Processing and analysing qualitative data

Using data obtained from the structured interviews, we first determined that the sample companies have actually applied three different implementation approaches as well as hybrids of them when resolving a company crisis (see Figure 2).

Figure 2 indicates that:

- 4 companies (22% of the sample) applied a non-project approach (CM approach) to resolve the company crisis: S2, S5, V3, and V5;
- 5 companies (28% of the sample) applied a traditional project approach (TP approach) to resolve the company crisis: MI2, M2, M3, S1, and V2;
- 4 companies (22% of the sample) applied a hybrid non-project–traditional project approach (CM–TP approach) to resolve the company crisis: MI1, M1, S7, and V6;
- 4 companies (22% of the sample) applied the agile project approach (AP approach) to resolve the company crisis: S3, S4, S6, and V1; and
- 1 company (6% of the sample) applied the hybrid traditional–agile project approach (TP–AP approach) to resolve the company crisis: V4.

We analysed and determined the duration of the resolution of the company crisis in individual companies. We were interested in the correlation between the selected approach at the implementation of the planned measures and activi-

ties in the restructuring and/or renewal process and the duration of the resolution of the company crisis in individual companies (see Figure 3).

We determined that:

- Companies applying the AP approach (22% of the sample) required the least amount of time—namely, between 2 (S3) and 3 (S4, S6, V1) years;
- Companies applying the hybrid TP–AP approach (6% of the sample) took 3 years (V4);
- Companies applying the TP approach (28% of the crisis) took from 3 (M2) to 4 (V2) or 5 (MI2, M3, and S1) years;
- Companies applying the hybrid CM–TP approach (22% of the sample) took 5 years (MI1, M1, and V6), although in one company (S7) this process is not yet completed; and
- Companies that applied the CM approach (22% of the sample) took the most time—namely, from 4 (V5) to 5 (V3) or 7 years (S5), and in one company (S2) the process is not yet completed.

We then studied the basic economic indicators of effectiveness and efficiency of individual companies to determine and compare their effectiveness and efficiency during the pre-crisis, crisis, and post-crisis periods. In accordance with the research approach and conceptual research model, we classified the examined companies into two basic groups according to the approach implemented and activities in the restructuring and/or renewal process: (1) companies in group A applied the non-project and/or the traditional project and/or the hybrid non-project–traditional approach (CM approach) and 2) companies in group B applied the agile project and/or the hybrid traditional–agile project approach (AP approach). The consolidated review

PROCESS DURATION				
2 years	3 years	4 years	5 years	6 years and more
			MI1 MI2	
	M2		M1 M3	
S3	S4 S6		S1	S2 S5 S7
	V1 V4	V2 V5	V3 V6	

Figure 3: Duration of company crisis resolution in the sample companies

Table 1: Consolidated Review of Effectiveness and Efficiency Indicators by Company

Company	Approach	Duration	EFFECTIVENESS INDICATOR GROWTH			EFFICIENCY INDICATOR GROWTH		
			NR	EBITDA	NPL	QLR	EBITDAm	AVE
M11	CM - TP	5	83%	185%	50%	84%	221%	100%
M12	TP	5	42%	22%	14%	23%	52%	91%
M1	CM - TP	5	53%	136%	349%	118%	258%	216%
M2	TP	3	85%	193%	511%	136%	136%	149%
M3	TP	5	92%	205%	435%	135%	221%	147%
S1	TP	5	51%	70%	199%	150%	137%	123%
S2	CM	Ongoing PK	62%	/	/	14%	/	76%
S3	AP	2	115%	103%	287%	315%	89%	104%
S4	AP	3	117%	86%	72%	122%	74%	162%
S5	CM	7	75%	104%	468%	75%	139%	238%
S6	AP	3	119%	92%	72%	33%	77%	270%
S7	CM - TP	Ongoing PK	/	/	/	/	/	/
V1	AP	3	105%	52%	794%	65%	50%	23%
V2	TP	4	73%	59%	105%	107%	81%	80%
V3	CM	5	85%	68%	117022%	305%	81%	163%
V4	TP - AP	3	99%	138%	97%	59%	138%	122%
V5	CM	4	171%	297%	144%	79%	174%	134%
V6	CM - TP	5	83%	111%	66%	432%	134%	141%

Key:

Effectiveness indicator growth

- NR = Net sales revenues
- EBITDA = Earnings before interest, taxes, depreciation, and amortization (cash flow)
- NPL = Net profit or loss

Efficiency indicator growth

- QLR = Quick liquidity ratio
- EBITDAm = EBITDA share in net sales revenues
- AVE = Added value per employee

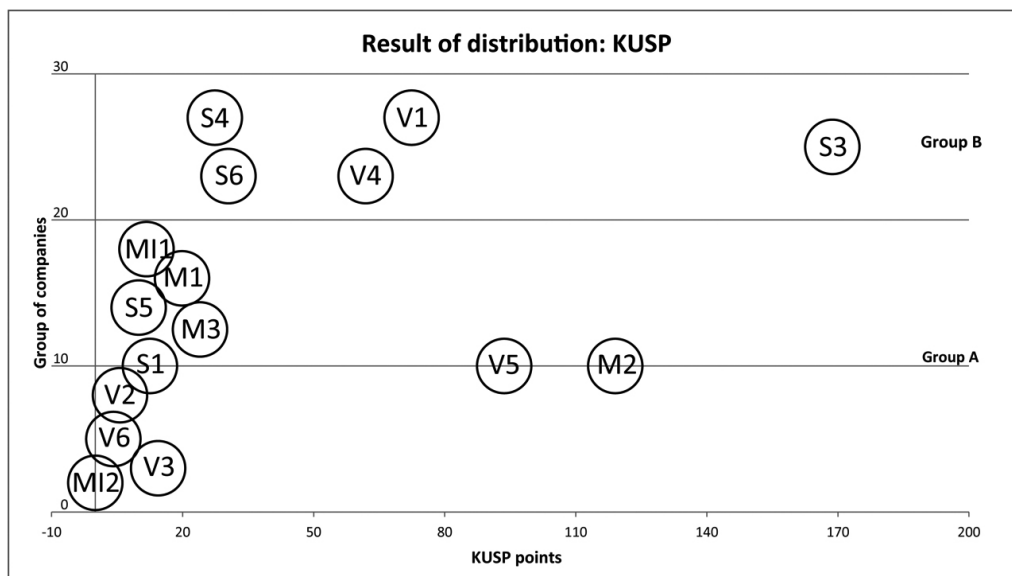


Figure 4: Effectiveness indicator results among companies

of the sample companies' key economic indicators of effectiveness and efficiency is summarised in Table 1 whereas the graphical classification of the results of effectiveness and efficiency indicators are presented in Figures 4 and 5, respectively.

The selected effectiveness indicators of the post-crisis period compared to the pre-crisis period showed that the highest net sales growth (171%) was recorded by company V5 (CM approach), which is also the case with the EBITDA (297%); the highest growth in net profit or loss (117.022%) was recorded by company V3 (CM approach).

Regarding the efficiency indicators of the post-crisis period compared to the pre-crisis period, the highest growth of the quick liquidity ratio (432%) was recorded by company V6 (CM-TP approach), the highest growth of the EBITDA margin (258%) was recorded by company M1 (CM-TP approach), and the highest growth of the added value per employee (270%) was recorded by company S6 (AP approach).

For the effectiveness indicators, the breakdown of the results of companies in group A (CM-TP or hybrid approach) is concentrated around lower score values. Company V5 (ranked second among sample companies for the net sales indicator, third for the EBITDA indicator, and fourth for the net profit or loss indicator) and company M2 (ranked first for the net profit or loss indicator) stand out in the positive direction. Company M2 also ranked second for the selected effectiveness indicators.

For the effectiveness indicators, the breakdown of the results of companies in group B (AP and hybrid TP-AP approach) is concentrated around higher scoring values. Company V4 (ranked second for the EBITDA indicator), company V1 (ranked second for the net profit or loss in-

indicator), and company S3 (ranked first for the net sales indicator, fourth for the EBITDA indicator, and first for the net profit or loss indicator) stand out in the positive direction. Company S3 also ranked first for the selected effectiveness indicators.

For the efficiency indicators, the breakdown of the results of companies in group A (CM-TP or hybrid approach) is concentrated around medium scoring values. Company V5 (ranked third for the EBITDA margin indicator) and company M2 (ranked second for the quick liquidity ratio indicator, second for the EBITDA margin indicator, and third for the added value per employee) stand out in the positive direction. Company M2 also ranked second for the selected efficiency indicators.

For the effectiveness indicators, the breakdown of the results of companies in group B (AP and hybrid TP-AP approach) is concentrated around medium scoring values. Company S6 (tied for first for the added value per employee), company V4 (ranked first for the EBITDA margin indicator and fourth for the added value per employee), company S4 (ranked third for the quick liquidity ratio indicator, tied for first for the added value per employee), and company S3 (ranked first for the quick liquidity ratio indicator) stand out in the positive direction. Company S3 also ranked first for the selected efficiency indicators.

The consolidated results of the analytical research criteria are summarised in Table 2.

The highest efficiency scores for net sales (36) were recorded by company S3 (AP approach), for the EBITDA criterion (57.50) by company M2 (TP approach), and net profit or loss (120) by company S3 (AP approach). The highest sum of all scores for the effectiveness indicators (168.72) was recorded by company S3 (AP approach)

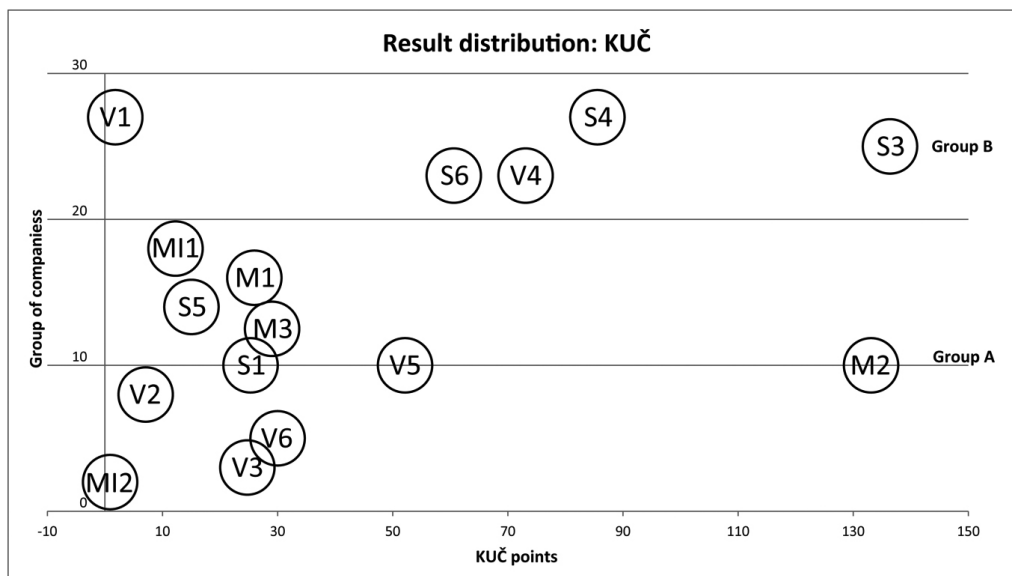


Figure 5: Efficiency indicator results among companies

Table 2: Consolidated Results of Analytical Research Criteria by Company

Company	Approach	Duration	FI	Effectiveness indicators			SUM KUSP	Efficiency indicators			SUM KUČ
				NSI Points	EBITDA Points	NPL Points		QLI Points	EBITDAm Points	AVE Points	
MI1	CM - TP	5	1	0,73	11,00	0,00	11,73	0,71	10,50	1,05	12,26
MI2	TP	5	1	0,00	0,00	0,00	0,00	0,00	0,04	0,86	0,90
M1	CM - TP	5	1	0,07	8,28	11,50	19,85	3,96	11,00	11,00	25,96
M2	TP	3	3	4,03	57,50	57,50	119,03	39,60	39,60	53,90	133,10
M3	TP	5	1	0,97	11,50	11,50	23,97	7,70	11,00	10,34	29,04
S1	TP	5	1	0,02	0,48	12,00	12,50	11,50	8,51	5,29	25,30
S2	CM	*1	1	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
S3	AP	2	4	36,00	12,72	120,00	168,72	115,00	8,97	12,42	136,39
S4	AP	3	3	20,40	4,32	2,64	27,36	25,30	2,76	57,50	85,56
S5	CM	7	1	0,43	0,93	8,57	9,93	0,41	6,41	8,21	15,03
S6	AP	3	3	22,80	5,04	2,64	30,48	0,00	3,11	57,50	60,61
S7	CM - TP	*2	1	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
V1	AP	3	3	7,15	0,26	65,00	72,41	1,80	0,00	0,00	1,80
V2	TP	4	2	1,50	0,59	3,58	5,66	3,42	1,86	1,80	7,08
V3	CM	5	1	0,91	0,47	13,00	14,38	12,00	0,74	12,00	24,74
V4	TP - AP	3	3	6,37	49,40	6,11	61,88	1,08	45,60	26,40	73,08
V5	CM	4	2	32,50	32,50	28,60	93,60	1,74	30,00	20,40	52,14
V6	CM - TP	5	1	0,86	2,86	0,42	4,13	12,00	8,16	9,84	30,00

Key:

FI = Factor of influence

Points Effectiveness indicators

NSI Points = Points Net sales income indicator
 EBITDA Points = Points EBITDA indicator
 NPL Points = Points Net sales profit or loss indicator
 SUM KUSP = Sum of effectiveness indicators points

Points Efficiency indicators

QLI Points = Points quick liquidity coefficient indicator
 EBITDAm Points = Points EBITDA margin indicator
 AVE Points = Points added value per employee indicator
 SUM KUČ = Sum of efficiency indicators points

Table 3: Comparison of Group A and Group B Companies' Sum of Effectiveness and Efficiency Indicators

Companies A	SUM KUSP	SUM KUC	Companies B	SUM KUSP	SUM KUC
MI1	11,73	12,26	S3	168,72	136,39
MI2	0,00	0,90	S4	27,36	85,56
M1	19,85	25,96	S6	30,48	60,61
M2	119,03	133,10	V1	72,41	1,80
M3	23,97	29,04	V4	61,88	73,08
S1	12,50	25,30			
S5	9,93	15,03			
V2	5,66	7,08			
V3	14,38	24,74			
V5	93,60	52,14			
V6	4,13	30,00			
AVG	28,61	32,32	AVG	72,17	71,49

Note:

The companies S2 and S7 were excluded from the Companies A sample as the business crisis resolution process is still ongoing

while the lowest sum (4.13) was recorded by company V6 (CM-TP approach).

The highest efficiency scores for the quick liquidity ratio indicator (115) was recorded by company S3 (AP approach), for the EBITDA margin (45.60) by company V4 (TP-AP approach), and the added value per employee (57.50) by company S6 (AP approach). The highest sum of all scores for the efficiency indicators (136.39) was recorded by company S3 (AP approach); the lowest sum (1.80) was recorded by company V1 (AP approach).

Finally, the research compared the sum of scores for

the effectiveness and efficiency indicators between group A and group B (see Table 3), where we determined which group achieved higher scores on average after individual companies' crises. Two companies (S2 and S7) were deliberately excluded from the group A sample because they had not yet completed the process of resolving the company crisis or the crisis was ongoing.

Among group A companies (CM-TP approach or hybrid between the two mentioned approaches), the average sum was 28.61 for effectiveness indicators and 32.32 for efficiency indicators. The highest sum for effectiveness and

efficiency indicators in group A was achieved by company M2 (119.03 for effectiveness and 133.10 for efficiency).

Among group B companies (AP approach or hybrid TP–AP approach), the average sum was 72.17 for effectiveness indicators and 71.49 for efficiency indicators. The highest sum for effectiveness and efficiency indicators in group B was achieved by company S3 (168.72 for effectiveness and 136.39 for efficiency).

The average sum of the effectiveness indicators in group B companies (AP approach or hybrid TP–AP) was 2.5 times higher than in group A companies (CM–TP approach or hybrid between the two mentioned approaches). The average sum of the efficiency indicators in group B companies (AP approach or hybrid TP–AP) was 2.2 times higher than in group A companies (CM–TP approach or hybrid between the two mentioned approaches).

Compared to group A companies, group B companies (S4, S6, V4, and S3) stood out positively in both effectiveness and efficiency indicators. The absolute winner among sample companies according to effectiveness and efficiency indicators was company S3 (AP approach), which scored highest in both cases (168.72 for effectiveness and 136.39 for efficiency). This company implemented only a revitalisation phase within the process of renewing the company, in which the agile project approach proved to be the most appropriate. Consequently, company S3 achieved excellent business results and is today one of the most successful companies in its industry.

4.2 Conclusions and review of the research hypotheses

In light of research results, we would like to draw attention to the basic findings. The studied companies faced a company crisis for various reasons:³

- 10 respondents (56%) faced a company crisis due to internal and external causes: M11, M2, M3, S1, S2, S4, S6, V1, V2, and V3;
- 6 respondents (33%) faced a company crisis due to internal causes: M1, S3, S5, S7, V4, and V5; and
- 2 respondents (11%) faced a company crisis due to external causes: M12 and V6.

The application or use of individual elements of the agile crisis project management approach in resolving the company crisis was definitely present in the sample of studied companies (S3, S4, S6, and V1), while one company used the hybrid TP–AP approach to resolve the company crisis.

In privately owned family companies, owners were actively involved in resolving the company crisis the entire time (M12, M1, M3, and S7).

In companies where the managerial reorganisation did not take place when resolving the company crisis, there was no need to implement essential organisational changes (S3, V1, V5, and V6) and the period of resolving the company crisis was shorter than in other companies. Therefore, we conclude that stable ownership has a positive impact on the swiftness of the resolution of a company crisis.

The company which did not engage in a financial reorganisation while resolving the company crisis immediately implemented a revitalisation phase within the business reorganisation (S3: the resolution of company crisis took 2 years). Therefore, we conclude that a company's financial reorganisation slows the process of resolving the company crisis.

Companies using the AP approach to resolve the company crisis had a higher growth of net sales after the company crisis compared to the pre-crisis period than the other companies (S3: 115%, S4: 117%, S6: 119%, V1: 105%). Company V5 achieved the highest growth of net sales (171%) due to the implemented reorganisation while resolving the company crisis (CM approach).

Companies using the AP approach and the hybrid TP–AP approach to resolve the company crisis completed the restructuring and/or renewal process more quickly (S3: 2 years, S4: 3 years, S6: 3 years, V1: 3 years, V4: 3 years). Thus, we conclude that the mentioned approaches have a positive impact on the efficiency or swiftness of the resolution of a company crisis.

Companies using the CM approach to resolve the company crisis needed more time to resolve the crisis (S2: the crisis is ongoing, S5: 7 years, V3: 5 years, V5: 4 years). Therefore, we conclude that the mentioned approach does not have a positive impact on the efficiency or swiftness of the resolution of a company crisis.

Companies using the AP approach or the hybrid TP–AP approach to resolve the company crisis were more effective after the crisis (average scores: 72.17) than companies using the CM approach (average scores: 28.61). Thus, we conclude that the mentioned approach has a positive impact on the effectiveness of the resolution of a company crisis.

Companies using the AP approach or the hybrid TP–AP approach to resolve the company crisis were more efficient after the crisis (average scores: 71.49) than companies using the CM and TP approach (average scores: 32.32). Thus, we conclude that the mentioned approaches have a positive impact on the efficiency of the resolution of a company crisis.

In light of these results, we would like to draw attention to the following research findings that are directly correlated with the central thesis and the hypotheses of our research, in which we noted that the supplement of

³ Note: In four companies (22% of the sample), the net profit or loss was positive the entire time before, during, and after the crisis: S4, V1, V2, and V6.

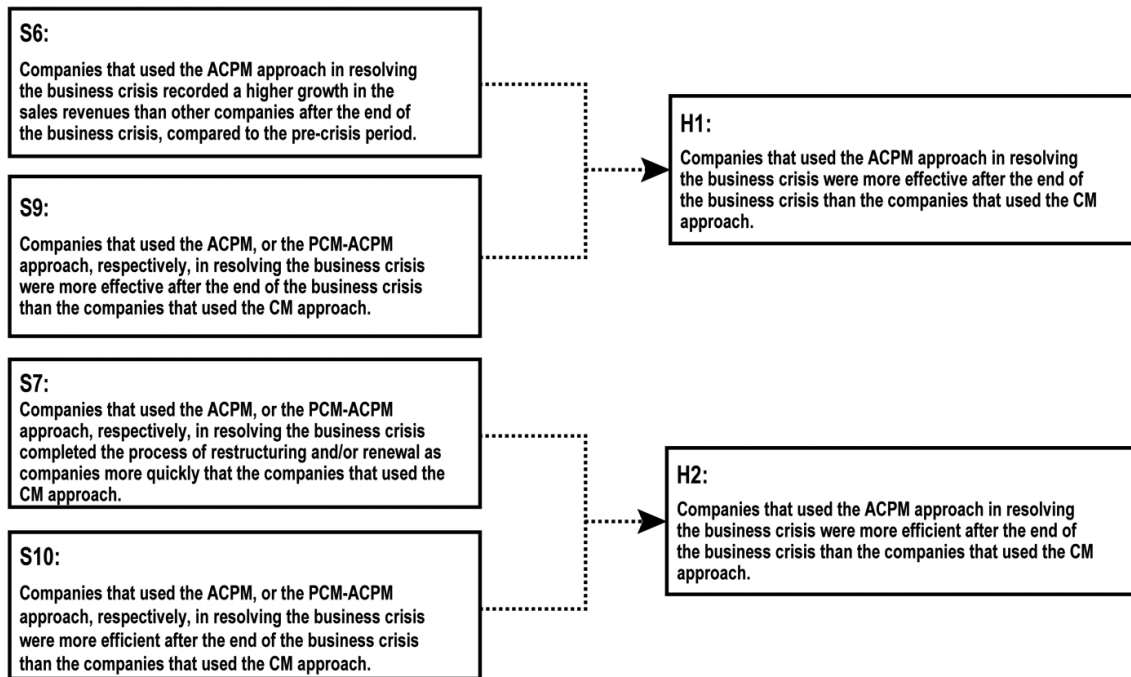


Figure 6: Review of hypotheses considering the research findings

the crisis and project management model (crisis project management) with the agile project management model (ACPM) in resolving companies' crises positively affected the efficiency and effectiveness of companies after their crises (see Figure 6).

Accordingly, we confirm the following two research hypotheses:

H1: Companies using the ACPM approach while resolving a company crisis (group B companies) were more effective after resolving the crisis than companies using the CM approach (group A companies).

H2: Companies using the ACPM approach while resolving the company crisis (group B companies) were more efficient after resolving the crisis than companies using the CM approach (group A companies).

5 Conclusion

For the needs of the research, we studied extensive professional literature (45 different authors) dealing with crisis management, models and processes for resolving corporate business crises. Opinions and positions of experts are fairly divided on the models of resolving business crises; relatively few models are presented, which would detail the way of solving business crises. Most authors argue that solving the crisis is a process of integrating various measures and activities through several solving phases. They point out that in the case of a manageable business crisis, solving activities should be focused on the field of product

and market repositioning, financial policy, systemic control and internal organization of the company while using generic strategies (Slatter and Lovett, 1999). In the review of professional literature, we found that the process of solving the corporate business crisis on average lasts from 2 to 5 years (Dubrovski, 2011). In analysing efficiency and effectiveness of business operations after their business crisis, we came to similar findings with our research. In order to get the troubled company as quick as possible into the position to successfully exploit market opportunities again, it is desirable that the process of resolving company's business crisis begins and ends as soon as possible. This is also in line with general recommendation of crisis management profession, namely to start with crisis solvation as soon as possible or before the firm reaches the limit of the maximum problems it can bear; otherwise due to the persistence of the crisis, the company may fail, despite the fact that rescuing of the crisis already started. Quick action in the right direction increases the success chances.

Trahms, Ndorf and Sirmon (2013) studied 40 different professional articles, which in the period 1993-2012 substantively examined the business falls and breakdowns of companies and the processes of restructuring and / or renovation of the company. On the basis of the findings from the professional literature, their model and the two-stage Perce-Robbinson model (1993) were used as the basis for the design of the ACPM model.

The article has discussed the results of the research studying the effectiveness and efficiency of resolving com-

panies' crises among sample companies and determined the influence and importance of individual approaches in implementing the planned measures and activities in the restructuring and/or renewal process. The research determined the sample companies' effectiveness and efficiency after resolving the company crisis and compared the results of the post-crisis period with the pre-crisis period. We determined and compared which group of companies was more effective and efficient with regard to the selected approach, thereby confirming the research hypotheses.

Given the limitations of the existing models for the resolution of companies' crises, we developed the ACPM model, which includes strategies, measures, and activities implemented by the crisis management team when resolving the company crisis and defines key stakeholders' involvement in the process through their active involvement in individual resolution phases. After the harmonisation and determination of the goals of resolving a company in crisis, the success of the restructuring and/or renewal programme under the ACPM model mainly depends on the effectiveness and efficiency of all stakeholders' cooperation. Greater interaction in cooperation throughout the process of resolving the company crisis allows a higher level of mutual trust, which is crucial for an effective and efficient resolution of an individual crisis situation. In troubled companies, bad relations between employees are among the most visible signs of a crisis. The most typical symptoms are: confusing organizational structure, paralyzed middle management, resistance to change and demoralized employees. Due to dysfunctional behavior, the ACPM model emphasizes and advocates the importance of internal organizational needs. The new organizational structures can be valuable starting point for effective and rapid improvement of existing situation. The modified structure with clearly defined individuals' roles and responsibilities makes implement activities easier to complete. The changed organizational structure must emphasize the company's external market perspective, enable empowering middle management, and look for ways to synergize the internal resources of the company. ACPM model does not try to upgrade the methodology of agile project management, but uses the approaches of agile methods and techniques in crisis management or in the process of resolving corporate business crises.

In the sample of representative companies, we found that companies using (individual) elements of the agile project approach to resolve their company crisis completed the restructuring and/or renewal process faster. Furthermore, they were more effective and efficient after the crisis than the companies that used the non-project and/or the traditional project approach.

In accordance with the research results, we conclude that supplementing the crisis and project management model (crisis project management) with an agile project approach (agile crisis project management) when resolving a company crisis positively affects a company's effi-

ciency and effectiveness after the crisis. We also fill the knowledge gap related to the operational approach to the implementation of the projects necessary for resolving a company crisis. However, this cannot be confirmed with certainty due to the insufficient sample of companies included in the research and due to the subjectivity (resulting from the selected research method). Therefore, we suggest that future researchers exploring the agile project approach in the resolution of a company crisis use quantitative research methods and include a sufficient representative sample of international companies operating in different business environments. If the results of such research concur with our results, then we will be able to confirm with a high level of certainty that the agile project approach is a generally applicable approach for the resolution of a company crisis.

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Reševanje podjetij v poslovni krizi: Agilni krizni projektni management

Uvod in namen: Obstoječi modeli razreševanja poslovnih kriz podjetij so v praksi še vedno premalo uspešni in učinkoviti. Model agilnega kriznega projektnega managementa (AKPM) temelji na doktrinah kriznega projektnega managementa, ki smo ga nadgradili z načeli in metodologijami agilnega projektnega managementa. Razvit je bil za namene razreševanja poslovnih kriz podjetij.

Metode: Temelječ na strokovnih spoznanjih in skladno z opredeljenim raziskovalnim problemom smo se odločili za uporabo kvalitativnih raziskovalnih metod in za zbiranje podatkov uporabili metodo visoko strukturiranega intervjuja. Za potrebe komparativne primerjave uspešnosti in učinkovitosti vzorčnih podjetij smo uporabili metodo primerjalne študije primerov in podjetja razdelili v skupini A in B. Podjetja skupine A so pri izvedbi načrtovanih ukrepov in aktivnosti v procesu prestrukturiranja in/ali prenove uporabila neprojektni pristop, tradicionalno projektne in/ali hibridni neprojektne-tradicionalno projektne pristop (KM pristop), podjetja skupine B pa so uporabila agilno projektne in/ali hibridni agilno projektne-tradicionalno projektne pristop (AKPM pristop).

Rezultati: Proučevana podjetja so pri razreševanju poslovne krize podjetja pri izvedbi načrtovanih ukrepov in aktivnosti uporabila različne izvedbene pristope. Podjetja, ki so pri razreševanju poslovne krize uporabila AKPM pristop (podjetja skupine B), so hitreje zaključila s procesom prestrukturiranja in/ali prenove podjetja in bila po zaključku poslovne krize v primerjavi s predkriznim obdobjem uspešnejša in učinkovitejša. Obenem so imela tudi večjo rast čistih prihodkov od prodaje kot podjetja, ki so pri tem uporabila KM pristop (podjetja iz skupine A).

Zaključek: V prispevku so prikazani rezultati raziskave, v kateri smo proučevali uspešnost in učinkovitost procesa razreševanja poslovnih kriz vzorčnih podjetij. Skladno z rezultati raziskave sklepamo, da dopolnitev modela kriznega projektnega managementa z agilnim projektnim pristopom pri razreševanju poslovnih kriz podjetij pozitivno vpliva na uspešnost in učinkovitost podjetij po zaključku njihove poslovne krize.

Ključne besede: poslovna kriza, krizni management, projektni management, agilni projektni management