

CONSTRUCTION PROJECT MANAGEMENT DURING ECONOMIC CRISIS

Sumesh Sudheer Babu

Research Scholar, Department of Management, Bharathiar University, Coimbatore, Tamilnadu, India

Dr. B. Sudhakar

CEO & Director, Wisdom School of Management, Pollachi, Tamilnadu, India

Abstract- There is great possibility of economic recession in globalized world today that may lead to crises and thereby affect construction companies in time gradually. These events may occur suddenly or after a long process. Process-based crises usually send early warning signals, and construction companies that can catch these signals can prepare against the forthcoming crises. One of the most important processes in crisis management is to establish an early warning system. This provides some time to take the required precautions against potential crises. After catching early warning signals, construction companies that can successfully manage crises inform their personnel about approaching crisis to prepare, organize a crisis team before the crisis, and perform an effective struggle during the crisis. Construction companies, which can survive in a crisis, may evaluate opportunities of the crisis and start to make recovery studies after the crisis to turn to their former positions. If a construction company estimates a crisis well and executes crisis management efficiently, they can overcome crises with zero or minimal damage.

Keywords: Construction, Construction Crisis, Crisis Management, Construction Projects, Economic Crisis, National Crisis, Project Management

1. INTRODUCTION:

A crisis is a situation faced by an individual, a group or an organization, which they are unable to cope with, by the use of normal routine procedures and in which stress is created by sudden change [9]. Crisis may come in various forms. It can be result of wrong management decision, economic slowdown or recession influencing the industry or organization. The recent large-scale global economic recession attracts analyses often from a macroeconomic perspective. Within this context, the terms “crisis” and “change” are now what the companies are to be dealt with. Both situations bring about uncertainty that led the companies to search for new strategies in order to sustain those uncertainties. Construction firms that can successfully manage a crisis can quit it with a minimum loss and can expand their market shares after the crisis. In other words, firms that can escape from a crisis with zero or minimum damage may strategically have competitive advantages over existing rivals. This paper explores the results of research conducted using questionnaire survey conducted over sample of construction companies operating at oil field sector in Abu Dhabi, which are suffering from recession caused by low oil prices. The quantitative and qualitative data obtained from an expert survey reveal significant changes in the management of construction projects subject to the economic crisis. In

addition, this study attempts to reveal both innovative crisis management approaches and the corresponding process that helps to manage crises better and turn to their former positions in the short term through innovation-based means. In fact, this is a virgin area in the construction management literature and thus can contribute to the creative and innovative management of companies under potential crises in micro and macro levels. Construction companies should learn crisis and crisis management concepts to escape from crises. Therefore, in this study, key points such as the concept, properties, objectives, approaches, and the process of crisis management was explained in a detailed manner from the perspective of the construction industry to increase performances of construction companies during crises. Thus, the current study can contribute to construction companies to catch early warning signals of a crisis, to motivate the personnel against the crisis, to perform an effective struggle during the crisis, and to turn to the former position in a short time after the crisis.

2. LITERATURE REVIEW:

In the construction management literature, there are a dozen of research studies concerning crisis management. However, these are far from investigating management practices of construction companies in the crisis process. In fact, they are specifically about theory formulation, contractual conditions, environmental and organizational factors [5], organizational behaviour, preparedness [4], social adjustment, and social network analysis. The topic of this study is an intersection between a number of themes such as project success, crisis management and project context. The following literature review formulates the basis of this research.

From a language point of view, a crisis means "a time of intense difficulty or danger" [14] or "a situation that has reached an extremely difficult or dangerous point; a time of great disagreement, uncertainty or suffering" [15]. In a more technical definition, a crisis is a situation faced by an individual, group or organization in which it is not possible to cope by the use of normal routine and procedures, and in which stress is created by sudden change [9]. The crisis is described as a period of sudden change during which a totally new system is formed. In fact, the meaning of a crisis includes opportunity as well as risk, uncertainty, threat, conflict, accident etc. The crisis can have specific meaning depending on its context, as in the case of economic crisis and industrial crisis, for example. This study is concerned with national crises. A national crisis is defined as "a situation or time at which a nation faces intense difficulty, uncertainty, danger or serious threat to people and national systems and organizations and a need for non-routine rules and procedures emerge accompanied with urgency. Because

crises are in general unwanted events with serious consequences, there is a need to deal with their impact; thus, crisis management has evolved.

The aim of crisis management is not to try to prevent crises absolutely, but to minimize negative results, to have quick and high quality responses, and to prepare against all types of crises as much as possible. Construction companies can easily be affected by a crisis because initial investment costs are quite high in construction projects and thus may lead to huge financial damages. Therefore, construction companies should analyse the internal and external environment constantly, catch early warning signals to be ready against crises, and perform an effective struggle during a crisis for their survival. Crisis management that should be applied in construction companies has some specific characteristics that differ from the traditional management approach. These are listed below.

- Such companies that can manage crises can estimate crises and distinguish them by their types, take preventive measures, learn lessons, and recover as soon as possible.
- Managers and employees are flexible, creative, objective, courageous, decisive, patient, strong mentally, sensitive, self-sacrificing, team members, active, open for innovation, and ready against unknown or undesirable events in unexpected times.

In practice, construction companies can use five (5) different approaches to prevent crises.

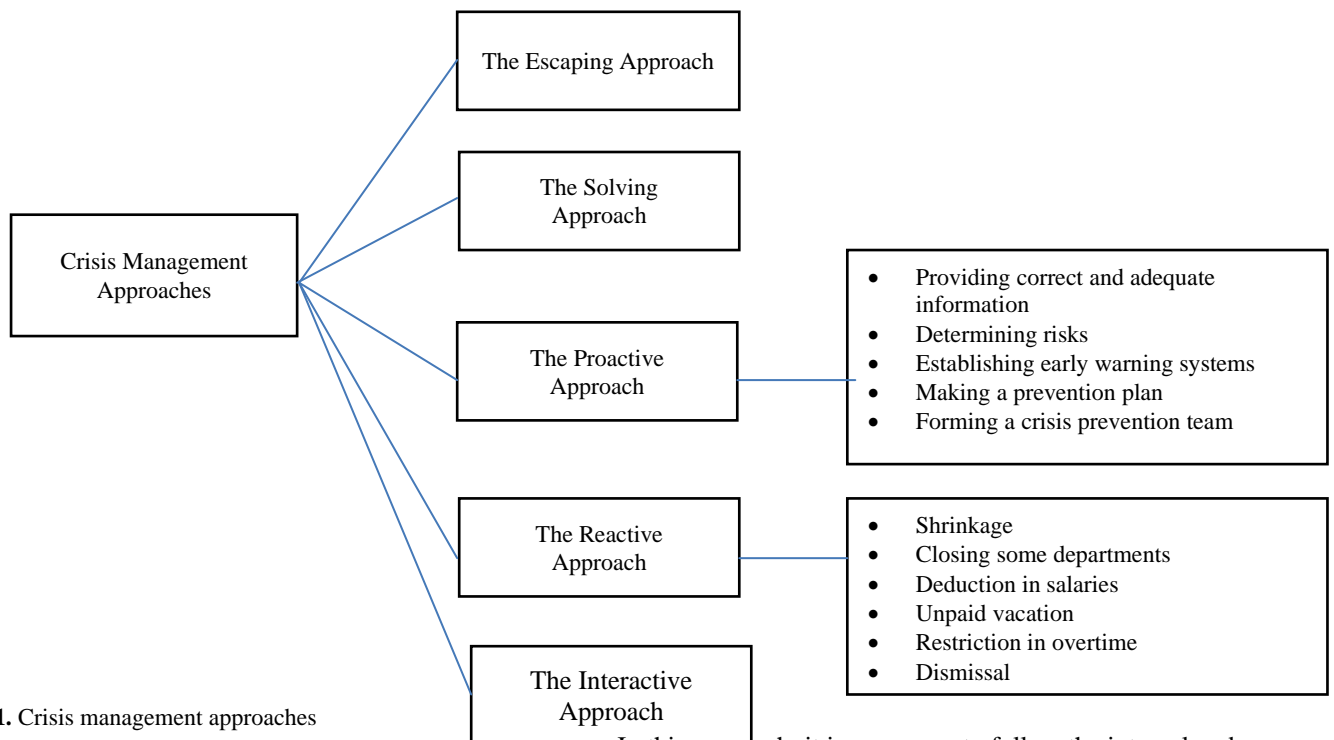


Fig 1. Crisis management approaches

➤ **The Escaping Approach**

In this approach, it is necessary to follow the internal and external environment constantly and improve prediction methods about the future before a crisis. In order to prevent negative effects of crises, top management should

determine the needs and key values of the construction company to establish the projected objectives. It is also essential for top management to inform personnel about the policy, share the values, and transfer its philosophy. Moreover, it is a prerequisite to identify problems, find effective solutions, and establish a flexible, dynamic, and enthusiastic company structure for easy practices [5]. Especially, catching early signals that indicate negative macroeconomic conditions (inflation rate, interest rate, unemployment rate, etc.), dramatic variations in the foreign currency and political/international crises may provide insights about investment decisions to be made.

➤ The Solving Approach

This approach depends both on the prediction of conditions before a crisis and on a timely move for the problem resolution during a crisis. During a crisis, current conditions should be perceived and identified clearly and behaved in a realistic and patient manner. In addition, some efforts such as the systematic compilation of information for effective decisions, extra opportunities for staff in different levels, the reduction of the time pressure, and the detailed identification of sources of a crisis should be made. Construction companies should take into account the following criteria to take advantage during a crisis,

- A crisis can also bring opportunities.
- Competition strategies should be determined exactly.
- Strengths in the strategic competition should be analysed deeply.
- Internal savings should be paid attention.
- Investments that can provide a high financial return in the short term should be given priority.
- Personnel should be motivated against crises.
- Competitors and changes in real estate and construction markets should be followed.
- The customer satisfaction should be the main philosophy.
- Long-term investments should be refrained.
- Advertisement and promotion activities should be performed.
- Qualified labour should be preferred.
- Defensive strategies should be followed.
- Costs should be decreased instead of the amount of production.
- Trading activities should be based on cash instead of the amount of sales.

Besides these criteria, construction companies can analyse strengths, weaknesses, opportunities, and threats (SWOT), and make strategies during a crisis according to their strengths to turn it to an opportunity.

➤ The Proactive Approach

2.1 The Crisis Management Process

Crisis management is a dynamic and continuous process that includes both proactive and reactive actions with the

According to this protective approach, top management should produce alternative solutions against potential crises. Because of preventive measures, construction companies that can adapt their production and marketing activities to crisis conditions can financially be successful while their competitors are in a panic. For developing such an approach, items presented below should be fulfilled,

- Providing correct and adequate information,
- Determining risks,
- Establishing early warning systems,
- Making a prevention plan,
- Forming a crisis prevention team.

➤ The Reactive Approach

This restoring approach can be chosen by top managers or suitable for construction companies in an unexpected crisis. Such companies usually make aggressive decisions by means of an immediate meeting of board of directors during the crisis. In general, short-term measures in these decisions are

- Shrinkage,
- Closing some departments,
- Deduction in salaries,
- Unpaid vacation,
- Restriction in extra services,
- Dismissal.

By these measures, however, they may lose the trust of personnel, experienced employees, and customers. The reactive crisis management is the most risky approach, among others. Although it can be adequate to overcome small-scale and short-term crises, it is an unsuccessful method in the struggle with large-scale and middle-/long-term crises. This is because construction companies, which are not ready against potential crises, have considerably limited abilities.

➤ The Interactive Approach

This integrated approach evaluates the crisis process before, during, and after the crisis. Because of the information obtained in this process, it includes the continuous organizational learning and self-control mechanism. A permanent communication and information flow is provided for the benefit and reputation of all stakeholders. Construction companies that are willing to apply this approach should be clear, share the effects of the crisis with their stakeholders honestly, and determine a common policy against the crisis. The contribution of stakeholders can be helpful in the survival of these companies.

aim of identifying the crisis, planning a response to the crisis, confronting the crisis and resolving the crisis. Crisis management process constitutes three main periods that are before, during and after the crisis [8]. Crisis

management includes a number of activities such as prediction, prevention and preparation, property determination and control, recovery, and learning. In this context, it can generally be divided into five different stages as shown in Fig. 2. However, in Fig. 3, a more detailed version of the crisis management process is given.

Crises definitely send some early warning signals before they occur. These signals are very important because they can give useful and vital information about crises [11]. Determination and identification of them in a timely manner can prevent the occurrence and potential damages of crises. If top managers do not follow and evaluate them carefully, it will be inevitable to struggle with crises.

Prediction

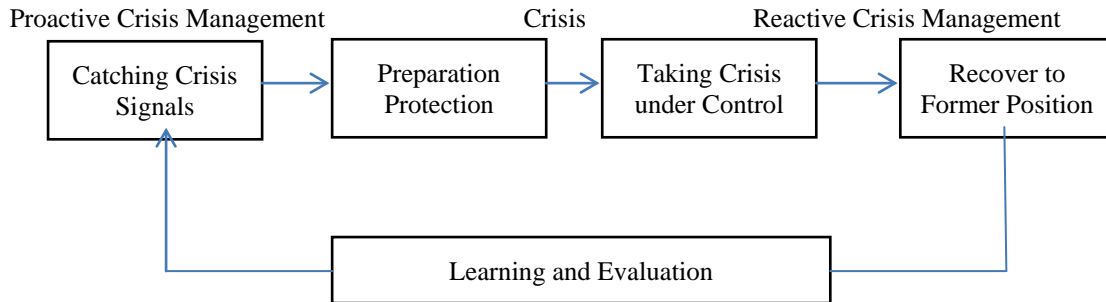


Fig 2.The flow of the crisis management process [12]

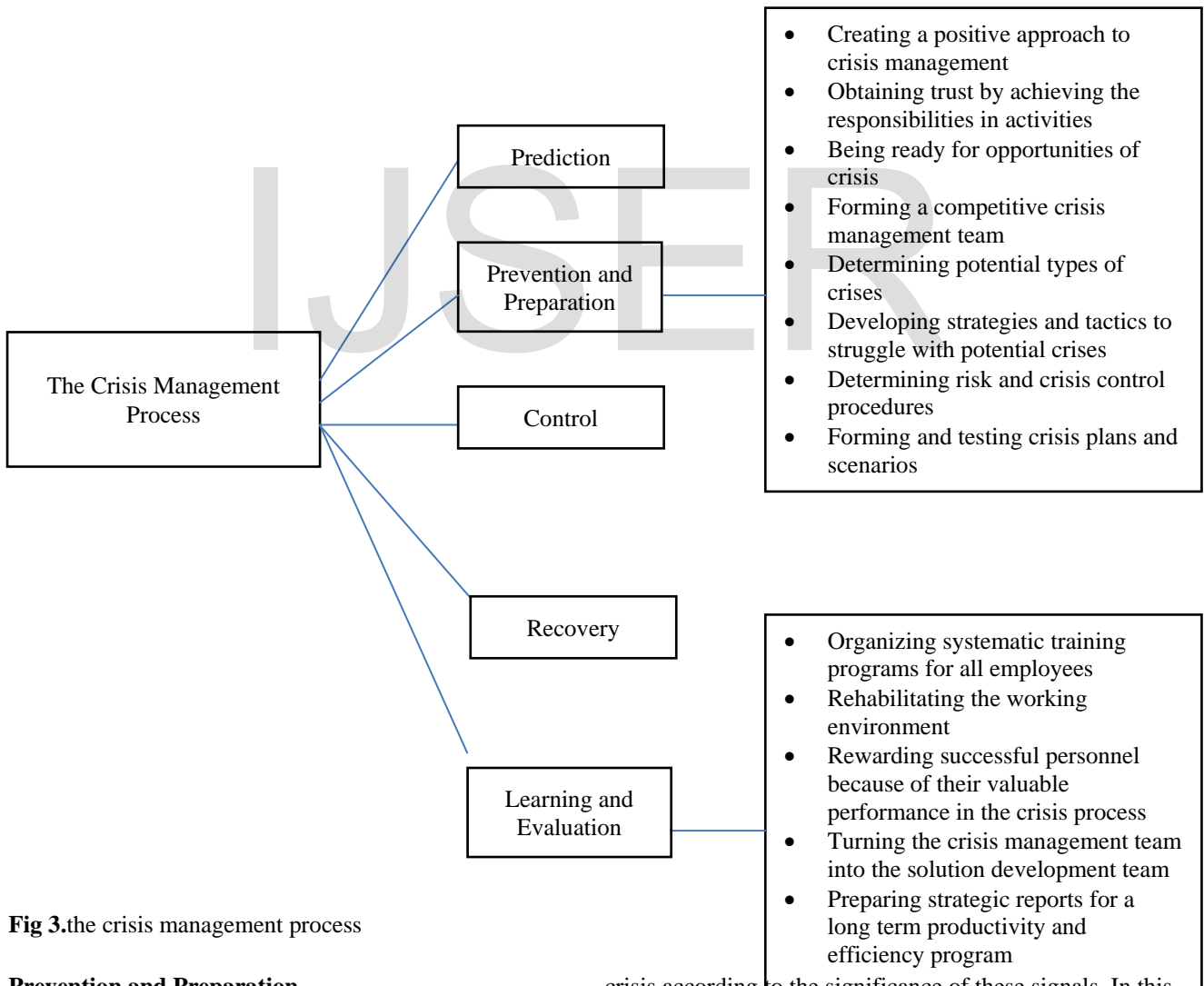


Fig 3.the crisis management process

Prevention and Preparation

Following early warning signals systematically is not adequate for a solution against a crisis. Top management should prepare with the crisis management team to protect the construction company from potential damages of a

crisis according to the significance of these signals. In this stage, managers should try to minimize the risks and can compensate risky decisions with expected profits. If a crisis is inevitable, the preparing activities will help to control the crisis. The activities that should be performed

by managers during the preparation stage can be listed as follows [10],

- Creating a positive approach to crisis management,
- Obtaining trust by achieving the responsibilities in activities,
- Being ready for opportunities of crises,
- Forming a competitive crisis management team,
- Determining potential types of crises,
- Improving policies to prevent potential crises,
- Developing strategies and tactics to struggle with potential crises,
- Determining risk and crisis control procedures,
- Forming and testing crisis plans and scenarios.

Control

Although in some cases early warning, prevention, and protection mechanisms work effectively, the controlling procedures should also be fulfilled to overcome crises exactly. On the one hand, motivation should be provided among personnel. On the other hand, policies that can produce anxiety and stress should be avoided as much as possible.

Recovery

In this stage, short- and middle-term recovery mechanisms should be executed. In other words, this stage contains the replacement of losses with new earnings. A construction company that could overcome a crisis should act immediately for normalisation. Toward this aim, resources, processes, and personnel should be directed according to strategies determined before. Here, the purpose is to solve the crisis and obtain possible benefits. Restricted expenditures, centralized management, and low-level managers' suspended authorities should turn to their pre-crisis positions systematically.

Learning and Evaluation

Activities presented below should be performed after crises to remove their negative effects and follow a new direction,

- Organizing systematic training programs for all employees,
- Rehabilitating the working environment,
- Rewarding successful personnel because of their valuable performances in the crisis process,

3. RESEARCH QUESTION:

There is an evident gap, especially on the micro level, in the literature available on the influence of economic stress on Project Management. This becomes increasingly

- Turning the crisis management team into the solution development team,
- Preparing strategic reports for a long-term productivity and efficiency program.

After a crisis, a construction company should record the lessons learned. To this aim, both data obtained in the crisis process and mistakes done should be noted. In this stage, relationships with low-performance personnel, suppliers, and customers may also be reviewed.

Therefore, in this study, key points such as the concept, properties, objectives, approaches, and the process of crisis management were explained in a detailed manner from the perspective of the construction industry to increase performances of construction companies during crises. Thus, the current study can contribute to construction companies to catch early warning signals of a crisis, to motivate the personnel against the crisis, to perform an effective struggle during the crisis, and to turn to the former position in a short time after the crisis. The research presented in this paper contributes to the current level of knowledge of impacts and in treatment of crises in projects.

crucial given the extended duration of the present crisis but also in that Project Management is the option of choice for the implementation of corporate strategy as well as corporate requirements in the current competitive and global business environment. The research questions are therefore, twofold: ‘

- What is the impact of the economic crisis on Project Management? And

- What are responses to the economic crisis from

the Project Management perspective?

4. DATA COLLECTION:

A Questionnaire survey conducted at 35 sample construction companies operating at oil field in Abu Dhabi. Questionnaire includes closed-ended questions utilise a five-point ranking scale with categories of: ‘Not at all’, ‘Seldom’, ‘Occasionally’, ‘Often or Very Often’, and ‘Always’. Section Two identifies the demographic profile of the respondents and consists of five closed questions and the final voluntary open-ended question. A covering letter accompanies the questionnaire that provides additional information and explanation of the purpose of the questionnaire, guarantees of anonymity and confidentiality. Imperative to the nature of the study, Forty-Two experienced Project Management practitioners are solicited to participate in the research. Participation is voluntary with no financial or other incentives.

In order to facilitate access, the questionnaire is accessible by respondents on the Internet. Directions as well as a link to the site accompanied the invitation to participate in research. Using an expert sampling method permitted distribution via e-mail. Data were collected using a standardised format obtainable through the on-line survey questionnaire. They were collected anonymously via the web link and continuously after completion of each survey. Twenty Eight (28) usable questionnaire responses were collected generating a response rate of 66.67% - slightly higher due to the type of sample used. No request for clarification is received during the data collection phase.

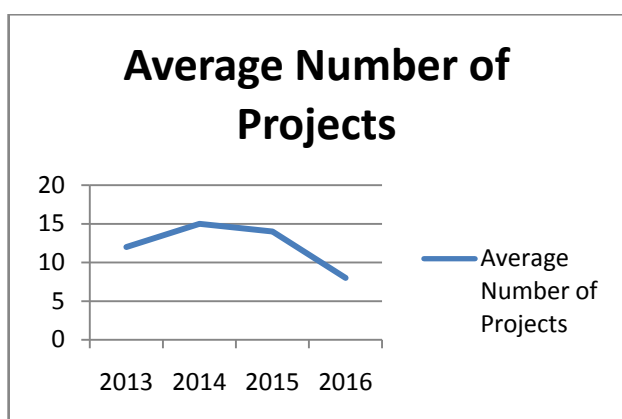


Figure4. Statistics on Average Number of Projects in Surveyed Organizations

Comparing results with the quantity of projects, the impact of crisis is more in 2016 due to national crisis. i.e., fall in oil price.

5. DATA ANALYSIS

Demographic characteristics of respondents

The 37% respondents represent multinational organisations. Other 63% belongs to categorisation as small, medium, or large is consistent with the criteria small businesses employ fewer than 50 employees, medium-sized enterprises with 50-250 employees, large companies with more than 250 personnel. In terms of the length of companies’ market exposure, a large majority of organisations (81%) has been present for more than 10 years, 10.5% characterise less than 5 years, and 8.5% between 5 to 10 years. Respondent positions within their respective enterprises comprise project managers (29%); project team members (6%); managers and members of a Project Management office (17%); project board members and as well as higher management (25%). Others include employees indirectly involved in Project Management, as is the case of functional managers (13%) and other positions (10%).

Empirical results

The research question concentrates on the impact of the economic crisis during the monitored period and seeks answers on when, how often, and the type and character of the projects conducted during this period of economic stagnancy. Figure 4 displays the quantitative data and basic descriptive statistics. The overall decrease in the project numbers for surveyed companies is 43 per cent in 2016 comparing 2013 to 2015.

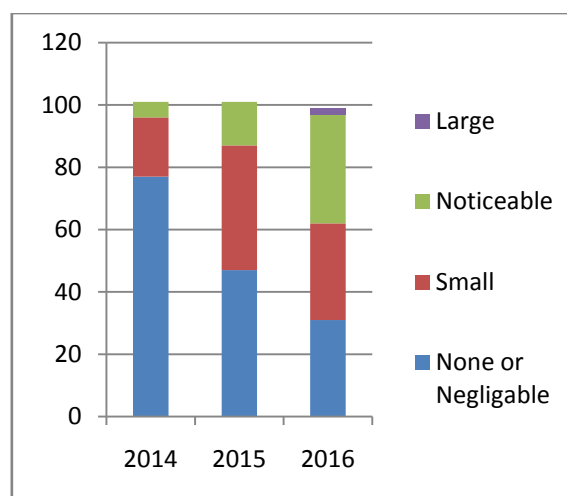


Figure 5. the impact of the economic crisis on projects

Figure 6 addresses the second question: ‘What are responses to the economic crisis from the Project

Management perspective?’ This multiple-choice question offers 17 possibilities plus one ‘other’. project priorities during the whole project lifecycle within a company project portfolio is among the best selections. Reducing a project budget is in practice often a standard easily available method. The question remains if it is a wise

choice. All of these responses despite their order are related to project triple-constraint imperative or triad: scope, time, and cost. The ease of response used and especially its costs and benefits may differ from company to company; project to project.

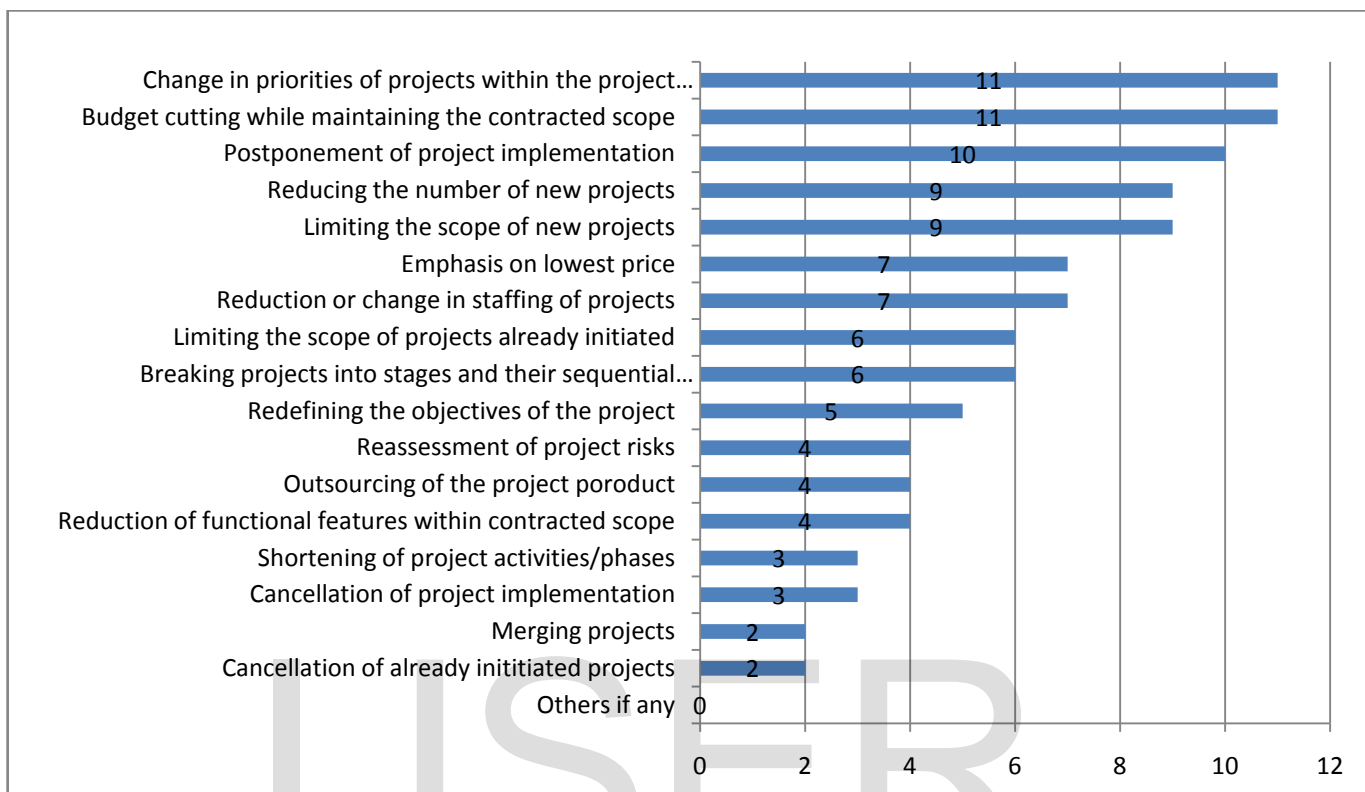


Figure 6. Response of Economic Crisis

Approximately one-third (32.5%) of unaffected companies states that they did not need to implement project changes due to the project cost cutting as savings were not related to the projects themselves but to other internal endeavours, processes, functional departments, or external operations.

Any new experience should be considered as a challenge even if it is negative one. How companies perceive impacts of the economic crisis on Project Management from any possible favourable viewpoint is displayed in Figure 7.

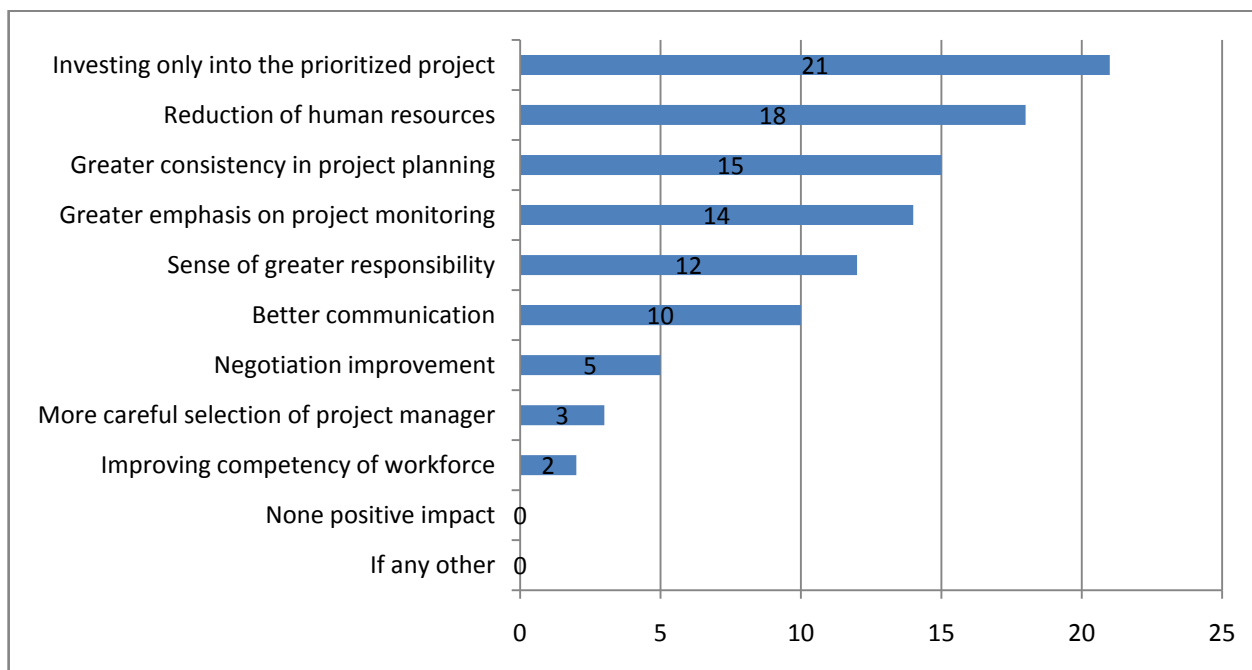


Figure.7. Favourable lessons learnt from economic crisis

At the top, investing only into the prioritized projects is highlighted as a vital mean for coping with the crisis. The other ways have either a direct or an indirect influence on Project Management efficiency.

6. CONCLUSION

In the early warning system of a construction company, a number of analyses such as (i) internal and external environment, (ii) macro-economic data about foreign exchange, interest rate, and unemployment, and (iii) new legal and political regulations are done. Construction companies should also perform a SWOT analysis and thus can have various opportunities that the crisis brings in areas of their strengths. From the perspective of social relationships, personnel should be motivated and behaviours that can produce anxiety and stress should be avoided. In terms of external affairs, effects of the crisis on the construction company should clearly be shared with stakeholders to keep their trusts. Construction companies that can overcome a crisis with a minimum loss should turn to pre-crisis conditions in terms of restricted expenditures, centralized management, and low-

[3] Loosemore, M. & Hughes, K. (1998). Emergency systems in construction contracts. *Engineering, Construction and Architectural Management*, 5 (2), 189-198.

[4] Markus Hallgren and Timothy L. Wilson (2007), "The nature and management of crises in construction projects:

level managers' suspended authorities. They should also record information obtained and lessons learned by crises and note mistakes done in the crisis process. In addition, high-performance personnel may be rewarded while low-performance ones may be filtered. Finally, permanent commercial relationships with suppliers and customers should be reviewed for an innovative crisis management process.

7. REFERENCES

Journal Articles:

[1] Akintoye A. S. & MacLeod M. L. (1997) Risk analysis and management in construction. *International Journal of Project Management*, 15(1), 31-38.

[2] Hällgren, Markus, and Wilson, Timothy. "Opportunities for learning from crises in projects." *International Journal of Managing Projects in Business* 4 5 Apr. 2011: 196-217.

Projects-as-practice observations", *An International Journal of Project Management*, Vol. 26, pp. 830-838

[5] Milburn, T. Schuler, R. & Watman, K. (1983). Organizational crisis: definition and conceptualization. *Human Relations*, 36 (12), 1141-1160.

[6] N.T. Nguyen (2013), "Crisis Management Model and Recommended System for Construction and Real Estate", *Adv. Methods for Computing Collective Intelligence*, Vol. 457, pp. 333-343

[7] Ocal, E., Oral, E. L. & Erdis, E. (2006).Crisis management in Turkish construction industry.*Building and Environment*, 41, 1498-1503.

[8] Selim Sahina, Serdar Ulubeyli and Aynur Kazaza (2015), "Innovative Crisis Management in Construction: Approaches and the Process", *Procedia - Social and Behavioral Sciences*, Vol. 195, pp. 2298 – 2305

Books:

[9] Booth, S. A. 1993. Crisis management strategy—competition and change in modern enterprises. London: Routledge.

[10]Regester,M.(1989).Crisis management. London: Random House Business Books.

[11] Mitroff, I. I. & Pearson, C. M. (1993).Crisis management. San Francisco: Jossey-Bass.

Conference Proceedings:

[12]Hrůzová, Helena. "Economic Recession as a Risk Factor in Project Management."How after crisis: Proceedings of the International Scientific Conference, Prague, 15-16 June 2010. Ed. Eva Kislíngrová, and Josef Krause. Prague: Oeconomica, 2010. 80-84.

[13] Michal Vondruska (2014), "The Importance of Crisis Communication in Crisis Management of Construction Projects", *International Scientific Conference People*, Vol. 15, pp. 485-497

Internet:

[14] <https://en.oxforddictionaries.com/definition/crisis>

[15] <http://dictionary.cambridge.org/dictionary/english/crisis>