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Research Paper

Role of Crisis Management in Construction Projects

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Abstract

Crisis management is the method which is formed by the organization to overcome the crisis. Crisis management is important, which helps in the completion of the construction project on time. It gives a theory of how to manage the crisis management with the factors which leads to crisis in the construction project. However, only when the work flow continues without any interruption even during crisis that crisis management method is effective. For forming an effective crisis management technique, the probability of crisis in construction projects must be identified as each factor have their unique effects. Depending upon major factors like technical, labour, organizational, material, time, equipment, communication, financial and other factors which are responsible for the cause of crisis in projects are considered. The research is carried out through questionnaire survey analysis made among the various project managers from different construction project site.

Keywords: *Crisis, Factors, Questionnaire survey analysis.*

1. Introduction

Crisis is a situation which usually occurs from an instable situation that impacts the whole construction process with unacceptable consequences. It is an unexpected event in an organization which gives high priority goals and demands.Crisis management is becoming more important in construction fields. The process of crisis management requires moreparticipants working together. From the crisis the company should not only overcome but also should know to make the situation in favour and create some profit.

Crisis management is a method which should be done in presence of all the departments heads of the company with the owner. So that there will no be any miscommunication between the management and the project managers of each project. The management should conduct trial of newly formed crisis management technique before relaying.

2. Methodology

1. Various research methodologies are studied and suitable one is selected.
2. Data collection carried out through questionnaire survey.
3. Analysis of the collected data through ranking the factors influencing the crisis in projects using Likert scale for clear understanding.
4. Finding solution for the crisis by using solving approach with SWOT analysis and proactive approach.

The flow chart of the methodology of the project is shown in the figure 1.

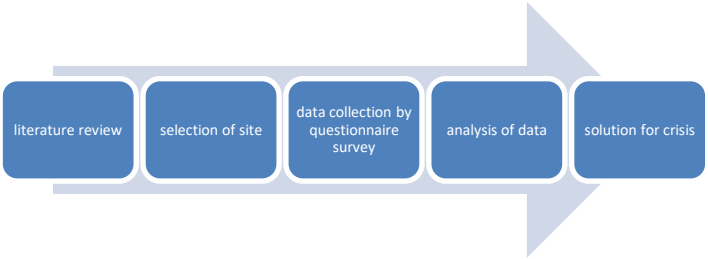


Figure 1. Methodology of the project

3. Data Collection

For the survey questionnaire was developed which was introduced to project managers at the sites. The interview was conducted face to face with the concerned personnel and response was recorded. The collected responses were documented and the same were analysed.

4. Data Analysis

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Factors influencing crisis in construction projects

- Technical factor,
- Labour factor,
- Organizational factor,
- Material factor,
- Time factor,

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- Equipment factor,
- Communication factor,
- Financial factor,
- Other factors.

Crisis Management Approach

The construction companies use different approaches to prevent crises and they are,

- Escaping approach,
- Solving approach,
- Proactive approach,
- Reactive approach,

Escaping Approach: Identifying the problems that indicate inflation rate, interest rate etcand planning accordingly

Solving Approach: Predicting and resolving duringcrisis with the help of SWOT (strength, weakness, opportunities and threats) analysis as shown in figure 2. The strength and weakness should be represented in points and based on internal factors of the construction company. The opportunity and threats should be represented in points and based on external factors of the construction company.



Figure 2. SWOT analysis

Proactive Approach: Eliminating the problem before they come avoiding or reducing theproblems in all situations.

Reactive Approach: Reacting to the situation accordingly.

4.1. Ranking Method

Ranking is a technique based on analysing and identifying problems or preferences. In order to implement improvements and solutions for crisis, you first have to analyse and identify the problems and priorities used for overcoming the crisis as shown in the Table 1.

Table 1. Rank analysis of each factor after questionnaire

S. NO	Factors	Strongly agree	Agree	Neutral	Disagree	Strongly disagree	Total	%
1.	Technical factor	5	18	12	5	0	40	7.96
2.	Labour factor	20	29	28	21	2	100	19.92
3.	Organization factor	16	39	18	11	3	87	17.3
4.	Material factor	6	33	13	6	1	59	11.7
5.	Time factor	15	23	9	3	0	50	9.9
6.	Equipment factor	6	24	8	2	0	40	7.9
7.	Communication factor	4	19	4	6	0	27	5.3
8.	Financial factor	2	22	20	5	0	49	9.7
9.	Other factors	10	18	12	10	0	50	9.9
	Total	84	225	124	63	6	502	99.58

Likert Scale - It is used for approaching to the scaling responses in questionnaire survey. With this Likert scale the respondents select their view on the topic. And after taking the survey from the respondents the factors are analyzed as shown in Table 2 and Figure 2 shows the graphical percentage of the factors in Likert scale.

Table 2 Ranking the factors using Likert scale

Factors	% of Likert scale
Technical factor	7.96
Labour factor	19.92
Organization factor	17.3
Material factor	11.7
Time factor	9.9
Equipment factor	7.9
Communication factor	5.3
Financial factor	9.7
Other factors	9.9

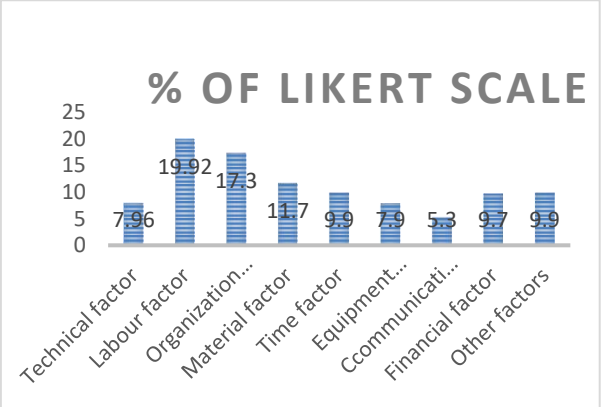


Figure 2. SWOT analysis

Crisis Management Planning

- Select 5-10 situations of crisis
- Select top tasks to do after crisis
- Find whether the crisis can be solved by proactive.
- Communicate with all department heads i.e. CEO, project manager, project engineer etc.
- Develop a crisis simulation or team exercises for crisis
- Review the crisis management plan

5. Conclusion

Crisis that affects construction projects either periodically or suddenly. On considering the major factors Men, Material, Money and Machinery there are other factors like Technical, labour, organizational, material, Time, Equipment, Communication, Financial and other factors which are responsible for crisis in the construction projects. By considering the Solving approach with SWOT analysis and Proactive the construction companies should solve the crisis in the construction projects with minimal loss by establishing early warning system.

References

[1] J.Rajprasad, V.Thamilarasu & T.L.Abhinaya(2016). "Planning of facilities and asset Management for an Integrated Township". Int.j.Chem.Sci.:14(SI),2016,393-399 ISSN 0972-768X

[2] Kaklauskas, A., Kelpsiene, L., Zavadskas, E. K., Bardauskiene, D., Kaklauskas, G., Urbonas, M. & Sorakas, V. (2011). Crisis management in construction and real estate: conceptual modeling at the micro-, meso- and macro-levels. Land Use Policy, 28, 280-293.

[3] Loosemore, M. (1997). Construction crises as periods of social adjustment. Journal of Management in Engineering, 13 (4), 30-37.

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

[5] Sahin, S. (2014). Managerial approaches of small and medium sized construction firms in macro-economic crises. M.Sc. Thesis, Bulent Ecevit University, Zonguldak, Turkey.

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

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

[8] Wei Wang (2011), "The Preliminary Study of Improving the Efficiency of the Government Crisis Management", Vol. 112, pp. 519-525

[9] Abdullah Alkharabsheh, Zainal Ariffin Ahmad and Abdulrhman Kharabsheh (2014), "Characteristics of Crisis and Decision Making Styles:

[10] The Mediating Role of Leadership Styles", Procedia - Social and Behavioral Sciences, Vol. 129, pp. 282–288

[11] David Kral and Jiri F. Urbanek (2014), "Terror Threats Life Cycles Controlling Using Crisis Management during EnvironmentalMetamorphoses", IERI Procedia, Vol. 9, pp. 141-147

[12] Emin Ocal, Emel Laptali Oral and Ercan Erdis (2006), "Crisis management in Turkish construction industry", Building and Environment, Vol.41, pp. 1498–1503

[13] Granville King (2002), "Crisis Management & Team Effectiveness: A Closer Examination", Journal of Business Ethics, Vol. 41, pp. 235–249

[14] Ian I. Mitroff, Paul Shrivastava and Firdaus E. Udwadia (1987), "Effective Crisis Management", The Academy of Management Executive,1987, Vol. 1, No. 3, pp. 283-292

[15] Marek Tomastika, Jan Strohmandlb and Petr Cechc (2015), "Managerial competency of crisis managers", Procedia - Social and BehavioralSciences, Vol. 174, pp. 3964 – 3969

[16] Maria Giannacouroua, Maroula Kantaraki and Vasiliki Christopoulou (2015), "The Perception of Crisis by Greek SMEs and Its Impact onManagerial Practices", Procedia - Social and Behavioral Sciences, Vol. 175, pp 546-551

[17] Markus Hallgren and Timothy L. Wilson (2007), "The nature and management of crises in construction projects: Projects-as-practiceobservations", An International Journal of Project Management, Vol. 26, pp. 830-838

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

[19] Migle Sontaite-Petkevipiene (2014), "Crisis management to avoid damage for corporate reputation: the case of retail chain crisis in the Balticcountries", Procedia - Social and Behavioral Sciences, Vol.156 ,pp. 452 – 457

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

[21] Paula Elena Diacona, Gabriel Andrei Donici and Liviu George Maha (2013), "From the Global Crisis to the National Crises: The Case of the

[22] European Union Countries", Procedia Economics and Finance, Vol. 6, pp. 41 – 47