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 more participants 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 be no 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.

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

Detailed submission guidelines can be found on the journal web pages. All authors are responsible for understanding these guidelines before submitting their manuscript.

Factors influencing crisis in construction projects
- Technical factor,
- Labour factor,
- Organizational factor,
- Material factor,
- Time factor,
- Other factors...
• 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 etc and planning accordingly

Solving Approach: Predicting and resolving during crisis 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.

Proactive Approach: Eliminating the problems before they come avoiding or reducing the problems 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

<table>
<thead>
<tr>
<th>S. NO</th>
<th>Factors</th>
<th>Strongly agree</th>
<th>Agree</th>
<th>Neutral</th>
<th>Disagree</th>
<th>Strongly disagree</th>
<th>Total</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Technical factor</td>
<td>5</td>
<td>18</td>
<td>12</td>
<td>5</td>
<td>0</td>
<td>40</td>
<td>7.9</td>
</tr>
<tr>
<td>2.</td>
<td>Labour factor</td>
<td>20</td>
<td>29</td>
<td>28</td>
<td>21</td>
<td>2</td>
<td>10</td>
<td>19.92</td>
</tr>
<tr>
<td>3.</td>
<td>Organization factor</td>
<td>16</td>
<td>39</td>
<td>18</td>
<td>11</td>
<td>3</td>
<td>87</td>
<td>17.3</td>
</tr>
<tr>
<td>4.</td>
<td>Material factor</td>
<td>6</td>
<td>33</td>
<td>13</td>
<td>6</td>
<td>1</td>
<td>59</td>
<td>11.7</td>
</tr>
<tr>
<td>5.</td>
<td>Time factor</td>
<td>15</td>
<td>23</td>
<td>9</td>
<td>3</td>
<td>0</td>
<td>50</td>
<td>9.9</td>
</tr>
<tr>
<td>6.</td>
<td>Equipment factor</td>
<td>6</td>
<td>24</td>
<td>8</td>
<td>2</td>
<td>0</td>
<td>40</td>
<td>7.9</td>
</tr>
</tbody>
</table>

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

<table>
<thead>
<tr>
<th>Factors</th>
<th>% of Likert scale</th>
</tr>
</thead>
<tbody>
<tr>
<td>Technical factor</td>
<td>7.96</td>
</tr>
<tr>
<td>Labour factor</td>
<td>19.92</td>
</tr>
<tr>
<td>Organization factor</td>
<td>17.3</td>
</tr>
<tr>
<td>Material factor</td>
<td>11.7</td>
</tr>
<tr>
<td>Time factor</td>
<td>9.9</td>
</tr>
<tr>
<td>Equipment factor</td>
<td>7.9</td>
</tr>
<tr>
<td>Communication factor</td>
<td>5.3</td>
</tr>
<tr>
<td>Financial factor</td>
<td>9.7</td>
</tr>
<tr>
<td>Other factors</td>
<td>9.9</td>
</tr>
</tbody>
</table>

5. Conclusion

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

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


