

Risk Analysis of a Construction Project Considering Seismic Hazards using Primavera A Review

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ABSTRACT

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Implementation of construction project needs a proper planning and scheduling is of vital importance for the project to be executed and run smoothly. A best schedule has to be prepared in such a way that meets the primary objectives of the total project. Those essential destinations are to make a quality venture, finished on time, inside spending plan, and in a sheltered workplace. Consequently in this investigation a progressing development venture is taken and the execution of the undertaking is contrasted and the calendar with the assistance of Primavera.

In this paper presenting review of literatures related to utilization of management tool

Keywords : primavera p6., gantt chart, time-cost comparison, cpm network, resource allocation, project scheduling, seismic hazard.

I. INTRODUCTION

The development business assumes noteworthy part in the economy of creating nations. For instance, in numerous creating nations, significant development exercises represent around 80% of the aggregate capital resources, 10 % of their GDP, and over half of the riches put resources into settled resources (<https://statisticstimes.com/economy/country/india-gdp-sectorwise>). Moreover, the industry gives high business opportunity, most likely next after agribusiness. In spite of the development business' huge commitment to the economy of creating nations and the basic part it plays in those nations advancement, the execution of the business still

remains by and large low. As noted, numerous ventures in creating nations experience extensive time and cost invades, neglect to understand their expected advantage or even completely ended and surrendered previously or after their finish. Also, the improvement of the development business in creating nations by and large falls a long ways behind from different ventures in those nations and their partners in created countries. The development business in creating nations neglected to meet desires for governments, customers and society overall (2).

To provide a detailed review of the literature related to project management in its entirety would be difficult to address here. Although there has been a lot of work modeled as construction management

considering resource allocation. A brief review on primavera a management technique and code provision of previous studies is presented here. This literature review focuses on project management system used in construction field will be addressed by area.

II. Literature Survey

Bagadeet. al. (2018) [1] Explored that Planning, booking and Resource leveling assumes an imperative part in any development venture perhaps it is development of building or development of street. Without appropriate arranging, booking and asset leveling development industry does not get benefit over the venture. For this reason, legitimate programming's and methods must be use. This paper is focussing on the benefits of Oracle Primavera P6 Software. The most recent rendition of Primavera is P6-17. In any development work tremendous measure of printed material is required, which makes the administration extremely oppressive. By utilizing Oracle's Primavera P6 Software printed material can be decrease, bringing about diminishment of weight. Primavera P6 give change in development administration. Primavera P6 is the time redeemable device, with legitimate asset enhancement.

Ghadgeet. al. (2017)[2] Project cost is the one of the governing factor in project success. Project management is used to increase productivity in terms of human resource and materials. Earned value management (EVM) is a project performance evaluation technique which has been adapted for application in project management. The technique helps in comparison of budgeted cost of work to actual cost. The present study deals with the review of the project management involving earned value analysis.

Nimbalet. al. (2017)[3] Considered that owing to an expanding setting of condition, Construction industry

is ever forthright for the improvement and headway in instruments and gear highlights, apparatuses of correspondence, systems of effective administration, instructing the HR about it. This exceptional specialization requires profoundly engaged whose development was intended to begin at Pune, Maharashtra, India. Undertaking Planning and Controlling devices or systems. In the present investigation we actualized the PC based Project Management programming/apparatus Primavera P6 for the Planning, Scheduling and Allocation of assets for a (G+8) private condo building It knows the likeness between the arranged the arranged advance of development work and real advance of the performed work. In this way the centrality and the benefits of utilizing Primavera will be sketched out through the information comes about acquired. The acknowledgment of the product Primavera as a stage of booking is been on a blast in Multi National Construction Companies, yet because of obliviousness and absence of Project Management ideas and demoralize towards the utilization of PC based projects, little and medium scale Indian development organizations go up against different issues, for example, wasteful arranging, venture delays, wastefulness of assets and numerous different issues. In this way, we likewise endeavor to teach one such medium scale development organization about the upsides of Primavera in execution of any development extends proficiently.

R. Kohli (2017)[4] Reasoned that Efficient task administration is the need of great importance and it is the sole duty of the undertaking director to guarantee the working of the venture as indicated by its dispensed spending plan and due dates. For any development venture, legitimate arranging, booking, compelling asset allotment and refreshing the exercises is to a great degree basic to improve the task and build up most extreme spending augmentation. Dishonorable planning, sporadic checking and poor treatment of the continuous exercises builds the

venture term and sum with a significant edge. Subsequently, it is fundamental to embrace expansive scale administration extends effectively with the assistance of PC helped programming. The essential target of this paper is to comprehend the standards of arranging, booking, asset assignment and leveling alongside proficient undertaking administration of a development building. The well ordered strategy to embrace an undertaking has been clarified and a definitive use of Primavera P6 Enterprise Project Portfolio Management (EPPM) has been condensed.

P.M. WALE et. al. (2015) [5] expressed that the undertaking may have a straightforward objectives that does not require numerous individuals or a lot of cash or it might be very perplexing, calling for different abilities and plenty of assets and furthermore gave similar examination between customary way and Microsoft venture arranging. They reasoned that Traditional route ends up being uneconomical and expends additional time with numerous complexibility and gigantic mistake while Microsoft Project is the cutting edge apparatus of Project Management that guide to conquer the hindrances confronted attributable to conventional method for Planning and Management.

A.R. NIKUMBH et. al. (2014) [6] suggested that the utilization of Project Management Consultancy (PMC) offers one of the compelling administration answer for increment and enhance the productivity and result of an undertaking in development and reasoned that the Project Management Consultants deal with the Project by use of their Knowledge, Skills, and Experience at different stages and is powerful and effective just when it is associated with Total Project Life Cycle from Conception to Closeout.

SHAIK MOHAMMAD MASOOD et al. (2014)[7] H.N represented that numerous development venture experience the ill effects of time and cost overwhelms because of various elements. EVM is an erformance of

task assessment which is utilized for the application in venture administration. This method helps in examination of planned cost of work to real cost of work performed

HAMED et al.(2013)[8] illustrated that every organization, at least, has four types of resources to be allocated in order to achieve organizational aims. These resources are: human resources, physical resources, financial resources, and technology resources. Resources should be allocated in an efficient and appropriate manner since success is achieved when plans, employees, performance, controls and commitments made act to maintain and survive allocated resources.

P.DAYAKAR et. al. (2012)[9] described best schedule in such a way that meets the primary objectives of the total project. Those primary objectives are to create a quality project, completed on time, within budget, and in a safe work environment. Hence in this study an ongoing construction project is taken and the execution of the project is compared with the schedule with the help of Microsoft Project and concluded that it is important to realize that there will be changes to the schedule logic as well as differences between the planned progress and actual progress.

J.A. FAPOHUNDA et al. (2010) [10] illustrated the management aspects of the project and the factors which causes delay at various stages. These factors are identified to be critical; the proper management of these factors will help to achieve best project performance results.

TRANNER et al.(2009) [11] demonstrated that the project schedule should display all the construction tasks from the beginning of the project through completion, the time periods for each tasks, and the sequence of these tasks in a logical order. He further explained the basic purposes of a project schedule as effectively depicting the construction

plan to the project participants, permitting management to control and measure the progression of the work, and finally accommodating the participants with information for timely decisions.

GURU PRAKASH PRABHAKAR (2008) [12] focuses on the role of careful and continuous project planning in the success of a realization of a project; and also observes that the activities of producers, designers, suppliers, workers and contractors, and their resources must be adjusted mutually and integrated with the objectives of contractor. Today organizations are competing with each other to produce high quality output with the minimum budget and be delivered at the right time; the most appropriate way to achieve this goal is using project management.

KERZNER (2003)[13] Illustrated the project management is the application of knowledge tools and techniques to meet project requirements of a construction project. It is the planning, organizing, directing and controlling of resources for some specific objective to accomplish goals of the project. Project management is fulfilled through the use of processes such as initiating, planning, executing, controlling and closing. Sometimes, project management is used to describe an organizational approach to the management of ongoing operations. In the same way many aspects of ongoing operations are treated as projects so as to apply project management practices to project.

LOCK (2003)[14] explained that a large industrial project involves a number of different activities which focus on a final target. From the beginning of the works to the completion and handing over of the project, the project team has to run smoothly on the basis of pre-planned work and interaction to meet the obligations undertaken towards the client. Considering this aim, it is necessary for a company to possess great capability and experience in

planning and optimizing the various project activities, along with highly advanced management tools and methodologies to control time and cost factors and to meet the challenging requirements of growing efficiency.

SOU-SENLEU et al. (2002) [15] explained the need of resource levelling in construction planning and management i.e. to meet the physical limits of construction resources, to avoid day to day fluctuation in resource requirement, and to keep an even flow of application of construction resources, resource levelling is needed in the construction industry. Traditional resource levelling sample assume activity duration to be deterministic.

PMBOK Guide (2000)[16] defined that a project is a temporary effort undertaken to create a unique product or service. Temporary means that every project has a definite start and a definite end. Unique means that the every project is different in some way from all other project.

III. CONCLUSION

This research work will be a guideline for those working as a professional project managers as it is based on a working building project under Government agencies, also shows the implementation of management tool (primavera) in management of a building project with allocation of resources and risk management due to manmade or natural hazards.

IV. REFERENCES

- [1]. Piyush Pramod Bagade and Prof. Abhijit Bhirud, "Review on construction project management software primavera p6" international journal of engineering sciences &

- research technology, ISSN: 2277-9655, January, 2018, PN (110-117).
- [2]. Poonam Raykar and Ghadge A.N., "Analyzing the Critical Factors Influencing the Time Overrun and Cost Overrun in Construction Project" International Journal of Engineering Research, Volume No.5, ISSN:2319-6890, 9 Jan 2016, PN (21-25).
- [3]. A. Ray Chaudhuri, B. Sivakonda Reddy and S.K. nimbhal, "Resource Management in Construction Projects – a case study" Engineering Science and Technology: An International Journal (ESTIJ), ISSN: 2250-3498, Vol.2, No. 4, August 2017 PN (660 – 665)
- [4]. A.R. Nikumbh and S.S. Pimpliker, "Planning and controlling of a National Highway Project- A case study", Journal of the Indian Road Congress Paper No.613, April – June 2014 PN (91 – 102).
- [5]. P M Wale1 , N D. Jain , N R Godhani , S R Beniwal and A A Mir, «Planning and Scheduling of Project using Microsoft Project (Case Study of a building in India», IOSR Journal of Mechanical and Civil Engineering, ISSN: 2320-334X, Volume 12, Issue 3 Ver. III (May. - Jun. 2015), PN 57-63.
- [6]. Shaik Mohammad, Kunal B. Badgujar, B.A.Konnur and Amarsinh B. Landage "A Review of EVM Analysis with Primavera"; International Journal of Engineering Research ISSN:23196890(online),2347-5013 Volume No.5, Issue Special 1 9 Jan 2014 PN: 164-167
- [7]. Hamid, R. Gupta, Parag S. Mahatme and Taran C. Bhagat "The cost controlling and monitoring of Construction project through earned Value management system" International Journal of Advanced Technology in Engineering and Science www.ijates.com Volume No 03, Special Issue No. 01, March 2013 ISSN (online): 2348 – 7550
- [8]. P. Dayakar and M.Udhayakumar, «Study on Project Management of an Ongoing Construction project Using MSP Sub Structure" Volume2 Issue 5 Number2–Oct 2012, PN 202-212.
- [9]. Stephenson, P. and Fapohunda, J.A. "Optimal Construction Resources Utilization: Reflections of Site Managers' Attributes. The Pacific Journal of Science and Technology, Vol. 11. No. 2. November 2010 (Fall) PN 105-109.
- [10]. Tranner, D. S. Stephan Jabasingh and J. Jayalakshmi "Analysis of Cost Controlling In Construction Industries by Earned Value Method Using Primavera"; Int. Journal of Engineering Research and Applications www.ijera.com ISSN : 2248-9622, Vol. 4, Issue 6(Version 1), June 2009, PN.145-153.
- [11]. Prabhakar, G. P. What is Project Success: A Literature Review. International Journal of Business and Management. September, 2008.
- [12]. Kerzner, H. . Project Management: A Systems Approach to Planning, and Controlling. New Dehli. CBS Publishers and Distributors Pvt. Ltd. 2003.

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