

A Case Study of Analysis of Factor Affecting Material Management and Inventory Management by RII Method

Rudra. R. Zade, Om. K. Goud, Prof. N. P. Mujumdar

Department of Civil Engineering
Guru Gobind Singh Polytechnic, Nasik, India

Abstract: This research work is on the analysis of the factors affecting effective material managements in building construction projects. Having the right materials in the right place at the right time is important for effective execution of a building project. This study is carried out to fill the voids created by improper materials management on construction site material constitute over 70% of the project cost and may affect overall projects cost if not managed properly. The study describes the case study of nine different small, large and medium firm in Maharashtra. By studying gathered data factors were found out affecting materials management. It was recommended that organizations should incorporate materials managements in the overall policy of the firm in the order to eliminate some of these problems.

Materials management is a process for planning, executing and controlling field and office activities in construction. The goal of materials management is to ensure that construction materials are available at their point of use when needed. Poor materials management can result in increased costs during construction.

The material cost is almost 50-60% of most construction projects. A better material management and inventory management contributes to the lesser cost for a project and also sustainable use of available resources in the long run. This project aims to identify the major factors affecting material management in the construction project. The various factors at different stages of material management are identified and put in a form of a questionnaire. The response to the questionnaire was obtained from the stakeholders such as Architect, Storekeepers, Material Managers, Quantity Surveyors, Site Engineers, Project Managers, and Project Engineers. The relative importance of each is arrived at based on the ranked response obtained from the questionnaire survey by using RII Method. Among the factors identified, the factor 'Unclear Definition of Roles and Responsibilities' is ranked as the major factor that affects materials management.

Keywords: Material management, Inventory management, Cost efficient Surveying, Percentile Method, Relative Importance Index Method (RII Method)

REFERENCES

- [1]. Asadi, "improving materials management on Construction projects"
- [2]. Narimah kasim, "ict implementation for materials management in construction projects: case studies"
- [3]. Mr.m.kalilurrahman1, mr.s.s.janagan, "construction waste minimization and reuse management"
- [4]. Hemishkumar Patel, Jayeshkumar Pitroda, Prof. J. J. Bhavsar, "a review on material management through inventory management"
- [5]. Aparna Shruthi E M.Tech Fellow, Sastra University, Thanjavur, Tamilnadu. Dr.C.Venkatasubramanian Associate Professor, Civil Engineering Department, Sastra University, Thanjavur, Tamilnadu. " Factors affecting material management in construction industry"
- [6]. Idowu Albert, Winston Shakantu, Emmanuel Dele O mopariola & Williams Dunu." Reaction of poor materials management on project delay in the construction industry "

- [7]. René Castillo Rodríguez , José Antonio Domínguez Lepe " Current situation of construction material management at international Level "
- [8]. N.B. Kasim , C.J. Anumba and A.R.J. Dainty " Improving materials management practices on fast-track construction projects. "
- [9]. Patil Ashwini R. and Pataskar Smita J., "Analysing Material Management Techniques on Construction Project", International Journal of Engineering and Innovative Technology, Volume- 3 Issue-4, October 2013, 2277-3754.
- [10]. Patel Khyomesh V. and Prof. Chetna M. Vyas, "Construction Material Management on Project Site", National Conference on Recent Trends in Engineering & Technology, May-2011.
- [11]. Patel Hemish A, Jayesh Kumar Pitroda and J. J. Bhavsar, "A Review on Material Management through Inventory Management ", Journal of International Academic Research for Multidisciplinary, Volume-2 Issue-12, January 2015, 2320-5083.
- [12]. Sahari Salawati, Tinggi Michael and Kadri Norlina, "Inventory Management in Malaysia n Construction Firm: Impact on Performance", SIU Journal of Management, Volume-2 Number-1, June 2012, 2229-0044.
- [13]. Sindhu S., Dr. K. Nirmalkumar and Krishnamoorthy V., "Performance Analysis of Inventory Management System in Construction Industry in India", International Journal of Innovative Research in Science, Engineering and Technology, Volume-3 Issue-4, April 2014, 2319-8753
- [14]. Dennis Daina R. and Meredith Jack R., "An analysis of Process Industry Production and Inventory Management Systems", Journal of Operations Management, 18 (2000) 683-699
- [15]. Eckert Scott Grant, "Inventory Management and Its Effects on Customer satisfaction", Journal of Business and Public Policy, Volume-1 Number-3, Summer 2007, 1936-9794
- [16]. Feng Q., Gallego G., Sethi S. P. and Yan H., Zhang H., "Periodic Review Inventory Model with Three Consecutive Delivery Modes and Forecast Updates"
- [17]. Gulsen Aydin Keskin and Coskun Ozkan, "Multiple Criteria ABC Analysis with FCM Clustering", Journal of Industrial Engineering, Volume 2013, 87274
- [18]. Kasim N.B., Anumba C.J. and Dainty A.R.J., "Improving Material Management Practices on Fast Track Moving Construction Projects", 21st Annual ARCOM Conference, September-2005, 793- 802.
- [19]. Calistus Ayegba.(2013) "An Assessment of Material Management on building sites". Civil and Environmental Research, ISSN 2224-5790 Volume 3.
- [20]. NannLwinPhu, Aye Mya Cho. (2014) "Factors Affecting Material Management in building construction projects", International Journal of Scientific and Technology research, ISSN 2319- 8885, Volume 3, Issue 10.