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Study of JIT Implimentation Issues In Indian Construction Industry - An Analysis

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ABSTRACT: In India the construction industry in recent times is seen to be highly competitive and dynamic. Construction projects can be time-consuming expensive and stressful, even for a builder who are in business for a long time. From finalizing on workable designs, communicating with numerous suppliers & contractors, to taking right decisions about every step in execution, it becomes very difficult in construction industry to deliver the outcome as expected. That's why construction projects today, unlike before are approached different way and every step taken during the project need to managed with a plan by using various tools of management. Companies must strive to create high quality and low cost product that can get to the customer in shortest time possible. This is where the importance of new concept comes into play like Just-In-Time, that focus on cost reduction by eliminating non-value added activities. This paper presents the spread of Just-In-Time concepts, process of JIT implementation and obstruction for JIT implementation in Indian construction industry.

KEYWORDS: Just-In-Time, Implementation process, construction industry, obstruction

I. INTRODUCTION

Indian construction industries has got tremendous power to stand before the global market, Due to some strong reasons they fail to prove their potential. So construction industry looking for new techniques to meet the challenges. The conventional approach to material delivery has been used in construction industry for many years. But the approach face a lot of challenges such as cost over-run, delay in construction due to some unavoidable situation, late delivery of material, equipment break-down, unrealistic and impossible deadlines given by client, quality control etc. Just-in-Time technique is an effective material management technique that leads to significantly higher quality and productivity and provides visibility for results so that improved responsibility and commitment of each and every person who are involved in the whole process. JIT is to reduce work-in-process inventory, and thus working capital.

To enhance the export in world market JIT practices can help the construction industry to become more competitive. But many companies has experience difficulty in implementing JIT. So based on observation this research work is about the challenges faced by the construction industry for successfully implementation of JIT.

II. RESEARCH METHODOLOGY

2.1 JIT Concept

JIT is a manufacturing philosophy originated from Toyota industry in Japan. JIT can be used in manufacturing industry for many decades to improve the productivity of industry and quality of product. Just In Time means that in a flow process, the right parts needed in assembly reach the assembly line at the time they are needed and the amount needed. The Just-in-Time technique is an effective management technique that can determine the success or failure of any construction project. and it is based on planned elimination of waste and continuous improvement of productivity. This technique manages the flow of materials, components, tools and associated information regarding ongoing project. The central idea behind the JIT philosophy is to expose the hidden problems and involve all employees, to remove them, maintaining quality standards and reducing cycle time so that the necessity of higher stocks does not arise i.e. reducing nearby inventories and insufficient working hours. The defects not only produce construction waste but they can also grind the process to a halt.

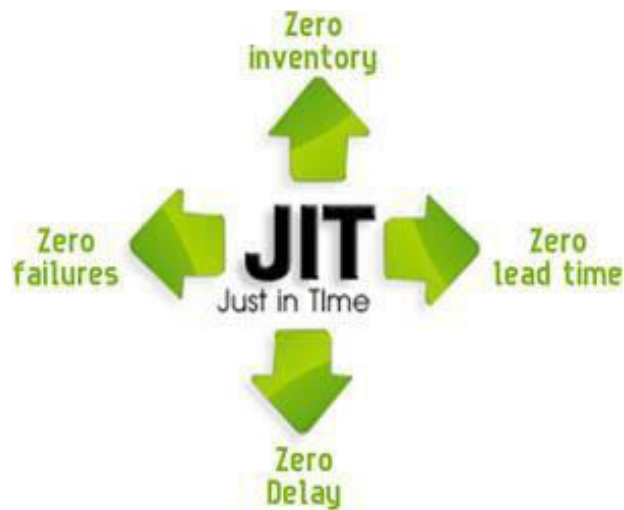


Fig.2.1 shows key elements of JIT

2.2 JIT In Indian Construction Industry

Ms.Priya Patil, Prof. Dr. A.W. Dhawale stated that in various construction projects, use of just-in-time technique will improve project's productivity, project duration will shorten and improve work flow. Successful implementation and execution of just-in-time technique would be able to diminish a few elements such as stock level, capacity space and generation costs and maintain quality of the entire project and increase efficiency of the workers.

Pritam A.Mali & Rajiv R. Chavarekar stated that the Reasons of failure of project are improper planning of material management, improper knowledge of material management, wrong selection of vendors, etc. Causes construction project delays and increase the cost of construction.

According to Pranjal Ulhas Jinturkar, Dr. A. R. Mundada That use of JIT technique will improve productivity, improve work flow and project duration will shorten.. Study contain case study of road construction in that author compare JIT method with conventional method and conclude that JIT method saves 5% cost of construction, it helps to reduce equipment required.

P.Vincentbalu, Prof.R.nesamoorthy.This analysis conclude that if an industry feel that they are not ready for successful JIT implementation, they will not face global competition. A lack of perception of the critical factors like vendors relationship, labour co-operation, top management commitment could have been the reasons for the non-implementation of JIT.

According to Usama Hamed Issa et al. that the construction projects involve various risk factors which have various impacts on time objective that may lead to time-overrun.

Many research papers have been written which highlight thereasons of failure of project by using the conventional method of material management and stated potential benefits of JIT in India. Very few researcher work on JIT implement issues in construction industry.

2.4 JIT Implimentation phases

A JIT system is design to expose the errors and get them corrected rather than covering them up with inventory. In terms of planning and organizing for implementation, JIT itself is not a one time process for a single project. It is a continuous improvement. However, converting the conventional method of material management that can follow from many years to JIT environment can be treated as a project, with specific phases to be performed in a sequence. Each phase comprises several activity having well defined precedence relationship.This phases can be linked together to develop a JIT project network, such network will not only identifies in details the activity performed but also gives their sequence. The network comprises ten phases are as follows-

- 1.Training
2. Long-term Planning
- 3.Design the work flow
- 4.Total quality control



5. Layout design
6. Decide Lot size
7. Lead time reduction
8. Design of Pull system
9. Supplier selection and integration
10. Maintenance and continual improvement

2.5 Obstructions For Implimentation Of JIT In Indian Construction Industry

Rising the productivity level of the construction industry which consistently lagged behind other sectors of the economy. As far as construction management is concerned, Just-In-Time philosophy can be applied for inventory management to improve the productivity. Despite the fact that JIT is a theoretical concept appears to be wonderful, there are some issues that might be obstructed for successful implementation of JIT. Some of the barriers that are observed are as follows-

1. Lack of awareness about JIT

Many of the employees and managers are not aware about the concept of Just-In-Time. As JIT needs singular dynamic team, lack of co-ordination can cause delay in project. Due to lack of awareness, support from top management is pure. For elimination of productivity related problems and reduction of asset level, the complete support from management is must.

2. Social, culture and political matter

It is observed that social, culture and political matters have a significant impact on the JIT practices. Suppliers of several raw materials are subjected under government control through supply agencies, which cause into high uncertainty.

3. Long term planning

This requires continuous improvement. Audits and benchmarking are some of the tools which an organization can adopt to ensure that its operation are improved continuously. And require trial & error approach.

4. Schedule changes and unavoidable delay

A lot of changes in schedule because of late delivery of material, equipment breakdown, unrealistic and impossible deadlines given by client, etc. Unavoidable delay due to act of god such as pandemic, earthquake, heavy storm and rain, etc.

5. suppliers management relationship

Strong relationship between suppliers and management make JIT inventory most effective. JIT believes single but highly reliable supplier. They are treated as partner rather than competitors. As they are trained in quality and production so no defective material reach on site. So extreme care should be taken for choosing and developing suppliers in JIT environment

6. Variation in Design

It is very difficult to implement JIT where there is large variation in design, ultimately it also affects the quantity variation. In this case buffer stock is essential on site. So it is difficult to implement JIT on such case.

7. Lack of training and attitude of workers-

Due to lack of training there is chances of inferior quality of work as well as chances of wastage of material. So without training no one can work on JIT environment.



III. CONCLUSION

This paper helped in finding the level of difficulties in implementation of Just-In-Time technique in construction industry in India. JIT concept has changed the way of construction industry do things. Some of the JIT concepts are completely opposite to conventional ways of thinking. It is human nature to resist change, and JIT system is one of the new idea. People resist these new ideas and call them risky. But it is important to realize that JIT will not work if it has to be forced against anyone's will. Well trained workforce, Co-operation from all parties, less variation in design, strong suppliers management relationship is necessary for successful implementation of JIT.

REFERENCES

1. Ms.Priya Patil, Prof. Dr. A.W. Dhawale Review on Concept,Applicability and Implementation of JustIn-Time Technique in Construction Industry (IJSEI)
2. B.Pritam. A. Mali , Rajiv.R. Chavrekar, Study of JIT system in inventory and its implimentation.
3. Pranjal Ulhas Jinturkar, Dr. A. R. Mundada , Effective Implementation on JIT for Material Management in Construction Industry in India, (IJIRSET) | e-ISSN: 2319-8753, p-ISSN: 2320-6710
4. P. Vincent Balual. , Why Indian Industries Fail To Implement JIT – An Analysis. International Journal of Engineering Research & Technology (IJERT)
5. Usama Hamed Issa et al Implementation of lean construction techniques for minimizing the risks effect on project construction time (AEJ - Alexandria Engineering Journal 52(4):697–704)



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