

Constraints and Losses in a Construction Project

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Abstract - A construction project, as we see or read is not a simple set of processes. The processes individually are simple but working together they become much complex. All the way from Planning to Execution and finally Completion, a project involves many People, departments, machines, materials, permissions, checking, etc. that need to co-ordinate and work together effectively. A department of planning is necessary to assess and monitor the time scale of a project. The amount of risk and the occurrence of damage in construction projects have increased as construction projects are becoming larger and more complex.

The combination of many parties or departments brings complications in project management. Needs are diversified based on the type of client or the size of project. However, constraints in construction projects limit their achievement of high performance. The aim and scope of this paper is to study the constraints and types of losses due to these constraints in a project. The constraints are the things that limit or restrict some processes or things in a project. And Losses are the effects of constraints on a project. The constraints can be categorised as Legal, Safety, Technical and Financial.

KEY WORDS – Construction, Constraints, Losses, Time, Delay, etc.

1. Introduction :

The Construction Industry in India is developing at a large scale and with a good speed. Most of the large construction projects are now being handled in a corporate way. As always, the Time factor is one of the most important things to be focused on. Many departments come together to do the job in order to make the process most efficient. The supplementary firms like Legal Consultancy, Sanction Consultancy, Project management Consultancy, Quality Consultancy, Marketing Department, etc. contribute their part in the project.

As these many firms come to work together, there are major chances of internal constraints to a project due to bad co-ordination and lack of understanding. Also, there are many external constraints too, like Land ownership issues or litigations, Complaints from neighbours, Government restrictions or stays, Voids in documentation, material unavailability etc. that affect the project adversely.

The project team members have to meet client's needs on as well as overcome losses. With very less knowledge for the constraints in the construction project, it is important to identify the potential constraints and losses in the construction project, which will help to decrease the unnecessary wastage and loss of both money and time because of inadequate assessment and planning. Controlling the constraints is thus a pre-condition for high performance of the project.

2. Objectives of Research Paper :

- 1) To assess various Constraints, a Construction Project would face.
- 2) To Study probable losses due to above constraints.
- 3) To Specify some of the probable losses so as to be considered in future projects.

3. Methodology:

Various case studies and papers as well as consulting some experts in the industry are the sources used to get the idea of constraints and losses in a project. Different market conditions and changing economic and construction related policies are the base of most of the constraints in a project. The project managers and legal advisors are the primary source of information.

4. Discussions and Results:

Basically, Losses are the direct or indirect effects of the constraints a project faces. Having an idea of probable constraints could help a project manager to overcome them for efficient progress of a project. Constraints can be classified as :

- Technical Constraints.
- Financial Constraints.
- Legal Constraints.
- Safety Constraints.

1) Technical Constraints -

The problems related to Engineering and Materials in the process of Execution of a construction project can be termed as technical constraints. These constraints arise in the day to day progress of a project and are easily avoidable with good knowledge and planning. Technical constraints are more readily recognized at the design and planning stage, but this does not mean that all constraints can be overcome.

Examples:

- Human and machine Errors.
- Unavailability of Machines and Instruments when needed.
- Improper execution and checking of work done.
- Unavailability of shuttering and other material in time.
- Defects in working drawings.

Losses due to Technical Constraints:

- 1) Financial Loss
- 2) Time delay
- 3) Mis-understanding in staff members.
- 4) Disturbance in Flow of progress.

2) Financial Constraints -

The issues related to the cash flows and financial planning of a project are called as financial constraints. These arise due to all other constraints as well as some external factors like other interests of the investor.

Examples:

- Improper Cash flow between Client and contractors.
- Other Interests of Client.
- Banking Policies.

Losses:

- 1) Uncertainty of Contractor.
- 2) Disturbance in Flow of progress.
- 3) Low Quality of Work.

- 4) Poor Performance of Staff and workers.

3) Legal Constraints –

The problems related to legal aspects arising due to regulations and documentation of a project and property are termed as legal constraints. These constraints are usually between the adjacent land owners or the parties involved in the project venture. It also constitutes of Labour laws, Environmental rules, etc.

Examples:

- Voids in Contract.
- Plot boundary disputes.
- Improper documentation.
- Changes in Government policies.
- Delay in Project due some other Constraints.

Losses:

- 1) Trust Issues.
- 2) Financial Penalties.
- 3) Financial loss.
- 4) Reputation loss.
- 5) Project delay.

4) Health and Safety Constraints –

These are the issues arising due to lack of safety education and precautions taken on site. From General Managers to unskilled labours, each and everyone must be aware of safety. Safety training and drills must be held on a regular basis on site. This makes people aware of safe methods of doing work. Insurance of every person working on site is an important thing. The National safety week from 4th march to 10th march must be celebrated so as to spread awareness.

Examples:

- Insufficient and unchecked safety Equipments.
- Improper Stacking of construction material.
- Unhygienic living space for Labour.
- No supervision of Safety officers.

Losses:

- 1) Penalties due to Labour laws.
- 2) Delay due to labour strikes.
- 3) Compensation for Accidents.

5. Conclusion:

Taking any of the above constraint into consideration, there is no scale on which we can define the impact or possibility of the constraint on the project. It depends upon many factors. Most of the constraints and losses are totally avoidable too. Proper Management and planning can avoid these constraints and make efficient progress of project. In order to avoid the losses, management can consider above points and work and plan accordingly. It will not totally avoid the constraints but definitely help minimize them. The above defined constraints and losses are not the whole of it. There are many constraints depend on Climatic Conditions too.

6. References:

- 1) Case Study on Identification of Constraints in Construction Projects by Ellen Lau , Janet Jiahui Kong.
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