

Time Management Techniques for Multi Storied Building Construction

S Radhakrishnan,

PhD Research Scholar, PRIST University,
Thanjavur, Tamil Nadu, India

Dr K G Selvan,

Professor, PRIST School of Business, PRIST University,
Thanjavur, Tamil Nadu, India

Abstract: Construction Industry is considered to be one of the key industries across the world. In India, which is a rapidly developing economy, Construction Industry is gaining greater importance now. The thrust given on infrastructure development and also the Government's initiative to ensure 'House for All', drive more emphasis on construction segment.

The increased job opportunities at the urban areas make people shift from rural areas to city for employment purposes. The good wage structure in the country due to economic boom enables the people enjoy higher disposable income at their end.

The attitude of people, particularly youngsters, is to possess an apartment of their own immediately after marriage. The unhindered availability of institutional finance for long term repayment gives them enough cushion to embark upon apartment purchase right at the young age.

The prohibitive rental cost is another reason for flat purchase.

The ground price being alarming in the cities, it is literally impossible for salaried community to construct independent house and hence, they are quite happy to buy an apartment in a multi storied building which offers them the comfort and also posh lifestyle.

Keywords: Soaring Costs, Renewal of Contracts, Avoidance of Disputes, Anticipation of Project Setbacks, Time Management Measures.

Methodology

Personal visits to sites, Observation and Discussion.

Contours	Details
No. of sites visited	2
No. of floors in each	4 and 7
Statutory Compliance	Fully adhered to
Migrated Labour	Present in the Second Site
Female Labour	Present in the First and Nil in the Second
Use of Construction Machineries	Less in First and More in Second
Facilities offered	Covered Car Park, Power Back Up, Automatic Lift, CCTV Camera, GYM, Children Play Area, Community Hall (Second Site)

Need for Time Management

Construction Industry is identified with stressful, risky, long and laborious workloads. While it is easy for any other industry to compress the work the way they need at the shortest time schedule, it is very difficult to do so in construction projects, given the nature of the work being done.

It, hence, calls for meticulous preparation right from project conception stage through final execution. Enough care is to be bestowed at each phase, for any slip up in one phase will lead to concomitant delays, as a whole.

Another important thing is that the construction activities are closely inter related with a host of every other activity. Apart from the discipline and availability of items at the work spot, the same are required to be ensured by all in the connecting loop. A slip in one will cause a spell in the whole project.

Time is the crucial one, essentially in construction field.

One another point to be given due consideration is that the cost of capital. Even the established builders who have been in the field for years, depends mostly on private finance which is only easily available at just a call. This is at the prohibitive interest rates. Even marginal delays in construction, cost heavily on the builders.

The present scenario is that all the builders have to comply with the rules of RERA (Real Estate Regulation Act) which dictate that the project completion date must be specified by the builder. In the event of any delays, the builder is to face penal action. While this is a very welcoming measure from the point of view of purchasers, it is tightening the grip on the builders.

Going by all angles – statutory compliance, customer satisfaction and business reputation, the onus rests only with the builders in strictly adhering to timeliness in project completion.

As such, it is all the more necessary on the part of the builders to evolve and follow meticulously the time management techniques and practices throughout the project. The success of this depends on the builders who get abided by themselves and enforcing the same on their Suppliers, Sub Contractors and Work Force. It calls for honest efforts and adherence by all in the group.

What it really means is the Accountability. Yes, everyone in the project – right from the owner of the project to the helper. All have the moral responsibility for the success of the project. Legal compliance is only secondary and moral compliance for the successful execution of the project must be there in spirit.

The Promoter of the Project must have all the responsibility to ensure hassle free execution of the project. From the inception stage to execution and completion, he must be clear and thorough in the work assignments and outsourcing of men and materials.

The Developer himself or when the work is assigned to a Building Contractor, the Contractor must have the Authority to get things done. What is required is the Authority for execution of the project.

In this regard, it is worthwhile noting that “A Project without a clear understanding of who assumes accountability for its success has no clear leadership. It also slows the project during the crucial project initiation phase. The person who is accountable must hold sufficient authority”.

(Source: Pages 28 – 29. Book Name: Project Governance – A Practical Guide to Effective Project Decision Making. Author: Ross Garland. Copyright @ Ross Garland. Published by: Kogan Page Limited, 120. Pentonville Road, London N19JN. United Kingdom. First South Asian Edition 2009. Kogan Page India, 4737/23, Ansari Road, Daryaganj, New Delhi, India. ISBN: 978 – 0 – 7494 – 5717 – 4). [1]

Programme Schedule

After project initiation, what bears absolute importance is the programme schedule. This is as important as laying the foundation. Once the project has started, it should never have a halt, whatever be the reason.

The singularity of construction industry is that all the activities are inter related in this sector. Even a marginal delay at one end will lead to a chain of delays all over and ultimately ending up in an avoidable halt.

The writer witnessed at one site that trucks have reached the site with full load of materials. While unloading, it was observed that the additional requirement of a particular item was not sent by the supplier. This was essentially needed to speed up the work.

After a heavy altercation and heated arguments at the site between the site engineer and the supplier representatives, it was noticed that the information was sent late to the supplier which was the cause of the whole embarrassment.

The item sought additionally was not any scarce item and was readily available at the supplier end also. The delay in communication was the crux of the issue.

It is to be noted that the programme schedules should be carefully chalked out and any change in the same must be advised to all the concerned immediately. The Suppliers, Banks (Paying Authority) and also the personnel at the site.

A small slip in this will result in delay of execution. While it is easy to alter the work schedule in other work stations, it is practically impossible to do so in construction sites – the nature of the activities being what they are.

It is only advisable not to make any change in work schedule or programme schedule as both are having negative impact in the smooth execution process.

Here it is relevant to note the following.

“The Programme Schedule is a road map to executing the programme. It involves the following.

Component Definition: Define the programme components needed to produce the programme deliverables.

Logical Relationship: A dependency between the scheduled components.

Planning and Controlling the Programme Schedule is all about Time Management – when an activity will begin, when it will be completed and how long it will take and so on”.

(Source: Pages 165 – 166. Book Name: Fundamentals of Effective Program Management – A Process Approach based on the Global Standard. Author: Dr. Paul Sanghera, PMP, Copy right @ 2008 by J. Ross Publishing Inc, 5765, N Andrews Way, Fort Lauderdale, Folorida 33309, ISBN - 13 : 978 – 1 – 932159 – 69 – 1) [2]

Constant Monitoring a Must

It is the bounden duty of the Project Managers to keep a constant vigil at the work progress taking place at the site. It is true that at times, the activities taking place at the site would be so huge to the complacency of the Project Managers – but only seemingly. At the end of the day, it would be a despair to note that most of the activities could have been easily avoided or greatly reduced with proper planning.

This kind of enormous activities will only cause delays and burn away the money of the builder (as there is no justification for the money spent).

An Expert Project Manager is one who would always expect the problems before hand. He is an optimistic person in action but with pessimism in mind. This would always enable him to handle the problems more with ease and determination.

The overall activities going on at the site for the week and what are the ones meant for the next week and the ones for the succeeding weeks must all be in his mind and control. It is an indisputable fact that the roaring success of builders is attributable only to the Project Managers.

If the project is sliding into delays, he should take emergency action in reallocation of the resources to ensure that the work goes on as originally planned. The reallocation should be done in such a manner that it is not counterproductive to other ones.

Generally, in large projects, however carefully planned and monitored, unforeseen delays do occur. This could be due to site activities, delays on the part of contractors or suppliers or sub vendors.

The reason being whatever, the sufferer is the Builder. An experienced and expert Project Manager is an asset to the builder. He is quick to take decision and shift the work schedules in such a manner that the turbulence is smartly overtaken and to the advantage of the work schedule.

Here, it is to be note that “if a project is slipping in its deadlines, there are two known well practices employed by Project Managers to get back on to schedule – Crashing and Fast Tracking.

Crashing: Add resources to tasks that line on the Critical Path since the Critical Path defines the length of the project.

Fast Tracking: With Fast Tracking, work is conducted in parallel that would be normally carried out sequentially. Fast Tracking increases project risk because work is not conducted in optimal sequence”.

(Source: Pages 204 – 205. Book Name: Managing Projects in Organisations – How to make the best use of Time, Technologies and People. Author: J Davidson Frame. Copyright@ 2003 by J. Davidson Frame. Published by: Jossey – Bass, A Wiley Imprint, 989, Market Street, San Fransisco, CA 94103 – 1741. ISBN: 0 – 7879 – 6831 – 5) [3]

Plan Risks and be Proactive

Construction Sector is identified with risk prone business. Physical risks at the construction site are different. These can be greatly reduced by complying with work caution procedures and methods. All the site personnel may be made aware of the site condition and work nature and be made to face any challenges at the site. This is well within the control of the Developer or the Builder who is doing the construction activities.

The other important thing is the situation that might assault the construction progress is extraneous. While technically the Builder has no direct control over the occurrence of such a thing, he can well get guarded by prudent action.

In one of the sites, the Site Engineer made a private mention that they had to soft pedal the work due to delayed delivery of critical items from the supplier. Though the supplier is a reputed and well established company, the circumstances coming under the purview of Force Majeure led to such delays.

The Builder had to bite the pain himself. Challenging the Vendor in Court is also difficult under such a situation.

The eminent builders who are in the field for more than three to four decades have in their list more than one supplier. Their business is always shared with the both while the size of which may differ. This gives

them the protection of uninterrupted supplies. Even if one supplier is under stress, the other vendor would make it up so that the work would not suffer at the site.

This is clearly a Management Action and only the Project Managers/Builder must be fully equipped for such exigencies.

From the point of view of site management, the Site Engineers should initiate following action.

- Keep the site always fit for the work. Space management is a must at the site. The items should be arranged and placed in line with the intake basis. The items that are regularly and frequently consumed must be kept safely and at an easily approachable location.
- Remove the debris then and there.
- Combustible and electrical items must be kept in a godown properly maintained for such items.
- Electrical or Fire accidents are the most common sights at the construction site. The site engineers must be extremely careful of these.
- A fire accident may lead to a halt of work for at least two to three days. Apart from the cost aspects, the delay is taking place which will ultimately affect the project completion date.
- Critical inputs are to be listed down and stored in sufficiency. Sand and Bricks are most critical. Next to these, steel and concrete assume the importance.
- The Project Managers must be Visionaries. The execution depends on their knowledge, commitment and experience. A Project Manager endowed with all these qualities is an asset to the Builder. He should be an expert in foreseeing the delays and the impact of such delays on the project execution. Delay of a single item may lead to multiple delays in the whole execution.

In this regard, it is necessary to note the following for faithful adherence.

“For each potential risk event, estimate its impact on the Time, Cost and Scope of the Project. Remember that a single risk event could have multiple effects. For example, the late delivery of a key component could cause schedule delays, cost overruns and a lower quality product”.

(Source: Pages 196 – 197. Book Name: Project Management – Step by Step. Author: Larry Richman. Published by: Asoke K Ghosh, PHI Learning Pvt Ltd, M-97, Connaught Circus, New Delhi 110 001 by special arrangement with AMA Com, a Division of the American Management Association International, 1601, Broadway, New York, NY 10019 – 7420, USA. ISBN: 978 – 81 – 203 – 3477 – 9) [4]

Assign and keep accountable

Construction business is known for its laborious nature. More of physical activities are involved all around. These are directed by the instructions from the Site Engineer/Project Manager.

It is the duty of the Site Engineer to have a brief meeting every day at the close of work hours. He has to ensure that the instructions passed on have been translated into action. Any nonconformity must be set right then and there, preferably on the same day itself.

Accumulating unfinished work causes only conscious delays. This delays the start of fresh work for the next day which could be meaningfully done only by completing the previous day unfinished work. Successive blows will end up in delayed completion.

It has another danger as well. It will lead to pile up of materials and other components. While the materials were delivered as per schedule, the slow progress necessitates storage of materials. Goes without saying that the payment to Vendor starts from the date of delivery. Under such circumstances, material planning system is only a mockery.

It adds financial burden to the Builder for paying for materials which were not immediately consumed for the construction.

Migrated Labour is another important thing that deserves a mention. They find construction industry to be the easiest one for getting employment opportunities. Large number of people – mostly illiterate or with rudimentary education, finds construction field the most promising one for livelihood.

Language is the problem for them. While they are prepared to put in arduous performance, they need to be properly guided and monitored often.

Occurrence of mistakes due to communication gap is more in construction industry, especially with migrated labour.

It is the duty of the Site Engineer to ensure that whatever he has instructed has been thoroughly taken in by all the personnel at the site.

Apart from daily meetings at the close of work hours by the Site Engineers, the Project Managers should conduct Weekly Meetings with all the site personnel. This would present the correct picture of the situation.

He should take corrective action, wherever necessary. He should also ensure that such mistakes should not recur. He must seek feedback from the people to get himself assured that the instructions are correctly taken by them.

After the site meeting, the Project Manager should also conduct a meeting with other stake holders such as Builder, Financier and Contractors. Contractors include Materials Suppliers, Vendors and Sub Vendors.

Communication plays a crucial role in construction projects.

In this regard, it is relevant to note that “the major responsibility for the Project Manager during the execution phase is to delegate and initiate work in a way that assures that the Performer has all the information with which to be successful”.

(Source: Pages 220 – 221. Book name: Project Management Recipes for Success. Author: Guy L De Furia. Copy right @ 2009, by Guy L De Furia. Published by: Auerbach Publication, Taylor & Francis Group, 6000 Broken Sound Parkway NW, Suite 300, Boca Raton, FL 33487 – 2742. ISBN: 13: 978 – 1 – 4200 – 7824 – 4) [5]

Abide by Compliance

It is very necessary, especially in large projects, that statutory compliance, work site compliance and cordial relationship with contractors, financiers and other stake holders are a must.

The RERA (Real Estate Regulations Act) imposes strict rules and procedures to be adhered to by the Builders. Some Builders made a private reference that while it is beating builders, it is just gently stroking the purchasers. The RERA is more customer oriented at the cost of builders. Whatever be their arguments, noncompliance of RERA will entail heavy punishment upon Builders. It is only to bring in sound system and compliance with procedures.

The site should be free from causing health hazards to its employees.

Electrical and Fire accidents must be averted. Occurrence of this will paralyse the project execution.

Contractual obligations should be fulfilled not only to the purchasers but also to Suppliers, Vendors, Sub Vendors and Labour Contractors.

Any issues in this will only hamper the work. Legal cases will bring bad name to the builders. Customers would avoid such builders forever.

No Deviation from Specification

It is an acknowledged truth with small builders that they will mend to the specific requirements of individual purchasers and make any number of modifications suggested by them. The Builders are anxious to dispose the flats at the earliest. Many of the small builders manage the construction activities with self finance.

Large builders stick to the original specifications and no deviation whatsoever, entertained. From the point of view of safety, it is perfectly alright and no structural disturbance is there. Accommodating alterations and deviations have two negative impacts.

First it is a cost penalty issue to the Builder. Customers just express their wish and expect the builders to incorporate the same only in their proposed flat.

By accommodating such requests from many buyers, it only takes extra time to carry out such modifications and consequently leading to project delays. This should not be entertained at all.

Conclusion

Construction Industry, of late, is gripped under cut throat competition. Even small builders are no exception. This is viewed with concern, by the purchasers. The buyers are literally wooed with allurements. Genuine buyers are in a fix to make the right choice. This has to be lived with.

Even the established builders are facing acute financial crunch. The interest cost of the open market purchase, viz, Private Money Lenders, is mounting pressure on them. The number of unsold apartments is compounding the situation further.

They have to rely on wide advertisements in Media with catchy benefits. The heavy expenses on media are further accentuating the crisis. This is the soaring other side of many of the big builders. They nevertheless carry on.

The commitment level of migrated labour is poor. Even the Labour Contractors are finding it difficult to manage them.

The general feeling of People is that they are not inclined to prefer an apartment which is more than 10 floors.

A marginal delay of 2 - 4 weeks is inevitable. The customers also are prepared to put up with that.

Recommendations

Project initiation stage is the crucial one. A Project should start only after totally complying with the basic formalities for the start up.

Structural Design is the basic thing and great deal of attention should be paid on this. This is more important in the case of multi storied buildings.

An experienced and reliable labour contractor is the prerequisite for hassle free project execution. It is always advisable to renew the contracts on “yearly” basis. It is beneficial to both the builder and also the contractor for accommodating “flexi terms” in the contract.

Litigation is a long drawn out process. It will tarnish the image of the builder, even if he wins the case at the end. It will spread bad signals on the other ongoing projects. As such, any issues should be settled amicably.

Time is the essence of the contract. Once the project is initiated, it should go on in full swing.

Capital is the basic thing that determines the flow of activities and progress of execution. Even big builders suffered on account of this and many projects had to be postponed. All actions must be taken in such a manner that continuous availability of finance is ensured throughout the project execution.

Always buy the reliable and branded quality products. Profits may be marginal but quality is exceptional. Never compromise on quality for cost.

Throughout the construction, same brand of Cement, Steel and Sand must be used. While all are comparable, the experts view is that each one has its own uniqueness. Hence, this should be ensured.

Supply Chain Management should be practised for purchase benefits and safety of deliveries.

Contractual obligations should be fully ensured without any deviation.

While fixing completion date, always take into account exigencies and make appropriate provisions for same. A conservative completion date is always appreciated compared to the accelerated one. This does not mean slow progress. It is a matter of pride to handover the assets ahead of the schedule.