

Necessity of Time Management in Multi Storeyed Building Construction

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Abstract: The need for owning an apartment for oneself is keenly felt now. This is because of the fact that the disposable income of people has grown up considerably owing to excellent employment opportunities available all over the country.

India is leaping forward in economic development. It is considered as the voice of Developing Nations. India has a say in the matter in the World Trade Organisation (WTO).

The overall economic development has given a spur in all walks of life. The individuals, especially the youngsters, have been very particular to own an apartment right in their young age to avail the long term loan facilities. They can own a house by paying EMI like giving rent. This positive urge in their emotions is the key factor for the vast requirement of building apartments.

With the positive direction growth, all the builders, both big and small, evince interest in constructing apartments. While large builders embark on luxury apartments, others do non luxury apartment construction. In fact, this is what is seen at all places in the city and its outskirts, now.

Key Words: Activity Resources, Gantt Chart, Time Impact Analysis, Project Management etc.,

Scope of Research

Visits to Construction Sites and availability of Secondary Data.

Discussion

A total of six constructions sites were visited in the City and outskirts of same. Details as under.

Details	Information
No. of sites visited	6
Covered Car Park	In all the Six
Social Club	1
Swimming Pool	1
Lifts facility	In all the Six
Power Back Up	In all the Six
No. of floors – Up to four	4 nos.
Beyond four floors	2 nos.
Gym	1
Private Garden Space	1

Time is the Essence of Contract

All the contracts are time bound. The Buyers, nowadays are very well informed and the first question they ask before confirming booking is when the apartment would be delivered to them for physical occupation.

The Builders are expected to be more cautious in their approach with prospective buyers now. The Real Estate Regulation Act (RERA) is also giving more of rights to the buyers and restrictions and limitations to the builder.

Under this situation, builders should be more prudent in all their activities till handing over the flat is over.

All these call for Excellent Time Management.

Owner the Project Manager

The ideal would be that the Owner of the project be the Project Manager. In the capacity of owner, he would be paying keen attention in each and every thing which is what is vital for perfection in construction and final execution.

In one of the sites visited, the owner himself was there throughout the day monitoring all the activities himself, besides a few site supervisors. His very presence made the working atmosphere filled with uninterrupted activities. Right from Sithal (Helper) to Mason, everyone was busy attentive in their respective activities. A military discipline was seen everywhere. The owner said to the Author that every day he would come to the site right in the morning. His lunch and other things would come to his room.

This has made the other workers to be on time at the work spot. Not a single worker did come late at all. This, the owner said, is the practice followed by him for years. He said that he would take only one project at a time and would go for the other, only after completion of the first one.

This is his secret of success, he said.

Time Management – the first step in Planning

All actions must be made to ensure timely completion of the project. Right from making the drawing for plan approval, all activities should be chalked out with a definite time scale for completion. Unless this is done, each work will take its own time dragging the whole project to delayed completion.

Many disputes arise only on this aspect. Hence, from the nascent stage itself, time scale should be drawn and that should be faithfully stuck to.

Basic Steps in Time Management

It is proved beyond doubt that unless personal attention is shown in each and every activity, delays are bound to occur. Taking lightly and going on their own is a common human phenomenon, it is very necessary that the activities to be performed must be Defined, Arranged and Controlled for flawless execution.

It is a must to have Gantt Chart for trouble free execution.

What is Gantt Chart?

A Gantt Chart is a type of bar chart, devised by Henry Gantt in the 1910s, that illustrates a Project Schedule. In a Nutshell, the whole project work is compressed into “work breakdown structures”.

Some tasks can be done concurrently while some tasks cannot be done unless and until the predecessor task is completed.

Additionally, each task has three time estimates – the optimistic time estimate (O), the Most likely or normal time estimate (M) and the pessimistic time estimate (P).

The Expected Time (Te) is estimated using the beta probability distribution for the time estimates, using the formula $(O+4M+P)/6$.

While years of experience in construction may give business acumen, the Gantt Chart will prove to be a perfect guide in proper planning.

A brief illustration.

Activity	Predecessor	Opt (O)	Normal (M)	Pess. (P)	Exp. Time ($O+4M+P/6$)
A	-	2	4	6	4.00
B	-	3	5	9	5.33
C	A	4	5	7	5.17
D	A	4	6	10	6.33
E	B,C	4	5	7	5.17
F	D	3	4	8	4.5
G	E	3	5	8	5.17

The Expected Time (Te) is estimated, using the beta probability distribution, for the time estimates, using the formula $(O+4M+P)/6$.

[1]

Source: https://en.wikipedia.org/wiki/Gantt_chart

From the above, it can be seen that while some activities can be done concurrently, some activities have to necessarily depend on the completion of the previous activities.

For example, windows can be fixed only after erection of wall. Tiles can be fixed only after flooring is completed.

This is the widely used chart in construction projects. This is also a greatly dependable one for the purpose of well planning.

More than money, what matters is Time. In fact, time only determines Interest.

Construction sector is the one where pumping of money should be done without any break. A delay of a few days will prove to be a costly one having repercussions on execution and wasteful payment of wages to workers.

Be an Expert in Time Management

Any work is a composition of various activities either interwoven with each other or independent of each other. Hence, one should be an expert in identifying the activities and also the nature of activities.

If they can be performed concurrently, it is fine. On the other hand, if one activity depends on another, then proper planning must be done so that no activity suffers because of the other. This is here where lies the smartness of the Project Manager.

Define the Activities

This is the first step to define the tasks, milestones and other activities. Each activity is to be defined and their relevance to others is also to be chalked out. A Gantt Chart is the ideal one for this.

If we are clear in this, the whole project starts with a good understanding and would ensure hassle free working.

Sequence the Activities

This is the most essential one. It is advisable that more than the dates of completion, it is the necessity of items to be made available on time which are essential for the construction takes an overwhelming importance. The date can be honoured only when the activities are thoroughly finished.

Activities can take place only when the materials are made available as per schedule and as per the time slot indicated.

What is the use in keeping the workmen idle waiting for arrival of bricks. Whether the bricks arrive or not, they need to be paid the wages for the day – as the delay is not theirs and attributable to only the builder. This is the common practice in construction sites.

The activity could have been planned after physical arrival of required bricks and sand, before commissioning the workers at the site.

Strategic Sourcing Activities

This is the most essential one and is the time determining one in execution of the projects. Many big projects of eminent construction companies suffered a sudden stand still, due to delays in delivery of materials at the site.

Even established construction companies have got into legal imbroglios with their suppliers on the grounds of delayed deliveries affecting the project completion.

It is always advisable to have more than one source on hand. However sound and quality conscious the supplier is, undue dependence on one source may prove to be “punishing” the whole project.

Wise Builders have more than one source. In fact, they do business sharing in such a way that both are in constant dealing with the builder – probably the percentage of sharing may differ between them.

A Local Source is always preferable

Here again, smart builders behave smartly. One of the Builders contacted - who is specific to have only one project at a time, said that he is comfortable in the handling of work as no work suffered at any time, due to materials shortage or delay in delivery.

He said that buying the materials from local sources is Easy, Reliable and Dispute Free. Upon specific request to explain, he said that he would always buy the marbles for his sites only from local sources.

The local sources are the Dealers for the major manufacturers who are situated at Rajasthan etc., It may be said that for bulk requirements, direct buying from manufacturer would be profitable. But considering the transportation costs, time taken for delivery and the associated breaks or cracks in transit, local purchase is safe and sure.

He exhorted that if a hairline crack marble is fixed, it will lead to wide cracks over a period of time shattering the reputation of the builder.

For delayed delivery, neither the manufacturer nor the transporter would take the blame. The sufferer, ultimately will only be the Builder.

Considering all the above, he said that his preference is always for a local source only.

He said that his long association with construction sector has taught him that manoeuvring the situation is always easy, safe and reliable with local source only.

Man Power the Master Determinant

Construction Industry, especially in India, is still a labour intensive one only. While it is easy to control materials and machineries, organizing, mobilizing and controlling labour is a major one. It is also very difficult, considering the demand and supply.

The demand for labour in construction industry is always more whereas the supply side is lagging behind, especially, the skilled labour.

Another thing is that labour is more sensitive in construction industry. Though they are unorganized, they form a sort of groups themselves in the site and any rubbing wrong on a few individuals will lead to group exit from the site.

They are always in a great demand. They readily get employment in another site. The sufferer will only be the builder.

Arrange Manpower through Labour Contract

The wise builders never take the risk of arranging labour themselves. The days have gone. This is the fact.

Years ago, the builders had a team of dedicated work force with themselves who will only be used in all the construction works. Of course, they will look out for employment elsewhere on any other jobs that they chance upon, only in the event of their not being taken up by the builder.

Whenever the Builder is on the job of construction, the entire work force will assemble at his disposal. This was more of a dedication.

The days have tremendously changed now. Majority of builders prefer to have labour contract. From the side of labourers also, they do not want to stick to one builder waiting for chances. They are ready to go to any builder and are prepared to take any job given to them.

With this background, labour is to be tactfully handled now.

Develop and Control the Schedule

Construction calls for handling and monitoring so many activities at a time. The Project Manager must be an extra ordinary person to do so many things at a time. He should deftly handle manpower, materials and machineries.

He must be an adept in doing so many things, so nicely.

A well chalked out plan is half done. This is not just a saying but a lesson of practice. If things are planned quite well right before the start, lesser monitoring will only be needed. A good start will push things move on their own.

One of the builders said that he would take long time in deciding upon the construction at a site. He jocularly said that his 'deciding time' is longer than 'execution time'. Once a plan is made and things set ready, he said that he would only just move ahead, non stop.

He further said that no deviation would be entertained by him at all. All his constructions are strictly as per plan only and not even one percent deviation, in any manner.

He has also further said that no change order would be entertained by him at all. He would politely but firmly say no to any deviation, however minor they are, proposed by the prospective buyers. If it is entertained at one apartment, similar or different deviations would come from different possible buyers which may even be harmful to the very basic design of the structure.

He said that he would sell the apartments to only those customers who would buy the same the way it is built by him. This Civil Engineer Builder is crystal clear in his approach. He said that his strict adherence to the original design is the cause for his reputation.

It is quite true that controlling the schedule is harder than planning the schedule. The basic lesson in construction is that if the schedule is changed every now and then, it will not take the construction anywhere upwards but by only doing the job again and again, would end up in weakening the whole structure.

[2]

Source: <https://www.projectsmart.co.uk/four-steps-to-project-time-management.php>

Are Customers always Right?

The business slogan generally is that "customers are always right". The sale or not is determined by them only. Hence, it is the duty of the seller or manufacturer to give simply what they want, if wanted to stay in business.

While this is followed largely or fully in all businesses, almost all the builders met by the Author said that particularly in the case of construction, it should be left to the decision and discretion of the builders. Unlike in any other industry, the asset bought by the purchaser is expected to give its life for at least thirty years or even more.

In construction projects, for the sake of safety and stability of the building for its entire life, the decision should always rest with the Builder. A wise builder would never allow any change in the style of construction, however insignificant it is. This should be the first and foremost thing in construction projects. Changes made will not only disturb the uniformity of construction, but will also disturb the very stability of same. As such, now a days, especially the leading builders are very strict in this aspect. In the interest of the customers, they have to go by the builder. That is always Good. They have the solid cover of protection ushered into them by the Real Estate Regulation Act (RERA) now.

Why is Time Management Absolutely Essential?

When the project is delayed for some reason or other, not only the builder but also a host of other people involved in the project are badly affected. The Architect, The Labour Contractor, Suppliers and above all the Buyers.

There are occasions where the Buyers have taken the builders into court for delayed completion of the project. There are also cases where the Courts have directed the builders to give compensation to the buyers.

Leave alone the money aspect of it, it just shatters the reputation of the builder in the market. The good will developed over years will be just shaken by a simple verdict.

The RERA is also very stringent in its purview and time management is more essential and crucial for the builders to follow.

How to implement it?

Every builder, right before the commencement of construction, would have chalked out an Action Plan which will express all the activities to be done in sequence, till successful completion of the project.

In many of the cases, this is only done as a ritual and the schedule is totally forgotten thereafter. Activities do take place according to the capital the builder is able to plough into the business, as per the materials purchased and with the available labour. This kind of a proceeding is sure to take the project to chaos.

The Builder or the Project Manager, must always keep the Master Schedule (normally, the one so elaborately made at the commencement of the project but not strictly stuck to later on) in his presence for guidance or verification of the project proceeding.

For each and every major activity – both at the time of start and completion, time schedule is to be calculated. This is called Time Impact Analysis or simply, TIA. The actual time taken for completion must be verified with the one chalked out in the master plan. If it is tallying with the original schedule, it is the indicator that the project is proceeding in the direction as planned.

If it shows, marginal delays, it means corrective action should be stepped up wherever necessary for nonoccurrence of such delays.

When there is a wide variance between the plan and the actual, it calls for immediate attention in analyzing the problem areas. Analysing the problem dispassionately is important. Whatever be the cause, it should be found out and wiped out totally.

The success of the operation lies in its immediate and flawless implementation.

If capital is the cause of delay, flow of finance is to be ensured. This is of course the most vital one. Finance is the major constraint even for mega builders. Many excellent projects crippled on account of this.

There are also cases where material availability has contributed to delays. This is mainly due to dependence on a single source. This is always risky. More than one source is a Must for major builders.

Labour Contract plays a vital role in the timely execution of the projects. A shrewd builder would always enter into Labour Contract with a dependable agency. Framing of Contract is all the more necessary. The contract clauses must be followed more in spirit than in letter.

All the Labour Contracts have one important clause. This is known as Liquidated Damages Clause. If the Builder suffers losses on account of untimely supply of labour by the contractor, then whatever losses that have affected the builder must be borne by the contractor and he should cover the builder for the same.

In other words, the contractor should compensate the losses to the builder.

This binds both the contractor and also the builder. Both show exemplary commitment in the practice. The reason is that the situation compels and the legal protection necessitates.

Cost check should be a Constant One

As how the time factor is quite essential for timely completion of the project, the same way cost check is also to be simultaneously monitored by the builder.

The Contract Purchase Agreement with the suppliers is to be entered into. Many large scale builders have this practice. This makes a binding on the part of the supplier to ensure timely delivery of the projected requirement of the items.

Their total off take is indicated with phased delivery schedules. The supplier is also able to take advance action in procurement activities and the builder is also assured of timely deliveries of the required quantities. The price factor remains the same through the currency of the contract. This relieves the builder of any price escalations. Not only that, he is also able to precisely plan his capital outlay and effectively mobilise the same.

[3]

Source: <https://www.whirlwindsteel.com/blog/bid/407755/cost-effective-time-management-for-general-contractors>

What is expected of the Builder or the Project Manager?

Time factor is quite crucial for flawless execution of the project. Time management is very important for smooth going of the project.

The Builder or the Project Manager should also be a Person of a Go Getter Nature. He is not just like another employee in the project. He must possess Leadership Qualities and better be a Benevolent Dictator in getting this done.

In his capacity, he should do the following important things, which will reflect well in the quality of job and also the timely completion of the project.

- Understand the problem precisely and take immediate corrective action.
- A Project Manager must have leadership qualities and must maintain regular interaction with both the builder and also the working group. The broad terminology 'working group' covers all stake holders, ie, workers, suppliers, transporters and other agencies both directly and indirectly having a bearing on the project.
- Cordiality should be the quality ingrained in him. Many disputes could be easily averted or amicably solved, if cordiality exists. This is quite essential, especially for the Builder and Project Manager.
- Be always Proactive in identifying the problems and quickly finding out solutions.
- He should be a person of confidence and should also inspire the confidence of others.
- He should be an Excellent Communicator.
- He must be an Expert in expecting the Unexpected and getting fully geared up for the same.
- He must be well versed with the Government Regulations and Statutory Authorities.

The above are considered to be indispensable traits.

[4]

Source: <http://www.forconstructionpros.com/business/construction-technology-software/project-management/article/12284609/20-tips-for-construction-project-managers>

Conclusion

Capital is the basic concern in all the sites. All the builders are uniform in the expression that while institutional finance is there, private finance only comes handy to their needs. They largely bank upon private finance as it is immediate in availability, though at exorbitant rates.

This is the business where 'liquid cash' is needed for various obvious expenses. Land acquisition is one such.

No cumbersome procedures or security mortgage – only word of mouth. Damn risky as well. But the builders prefer this, as they are sound in business and confident of timely repayment.

All the builders have a feeling that RERA is favourable to Purchasers at the cost of Builders.

While they are striving their best for timely execution or even accelerated execution ahead of the schedule, invariably delays occur beyond their hands.

Inventory control becomes very difficult when the project size gets bigger.

Labour is always a matter of concern – availability as also maintenance.

Recommendations

For larger projects, the presence of Owner (s) is a Must at the spot. This was conspicuously felt at the sites visited. This gives a sense of security to the workmen and also instills motivation in the minds of all the people working in the project.

Closer co-ordination with the suppliers is a must. This will greatly minimize the delays. Even a delay of one day counts considerably in the overall project completion. With the technological development, this is not a problem at all. Only should be zealously followed.

Labour motivation should be given predominant importance. A Motivated Labour group is an asset to the builder.

Never pile up materials, as it is only costing the builder. Always, follow JIT Principle (Just In Time). Let the bother be with the Supplier and the Builder need not have same.

Let the construction be always as per Plan Approval and never make any deviation, however small it is. Penalty is heavy and also at times, it would even lead to 'stop work order' which will bring virtually an abortion of project execution.

Never entertain 'change order'. It is not only costing the builder but also, by entertaining unmindfully, destabilizes the whole structure. Simply Dangerous.

Be Customer Friendly in execution. All aspects of a prudent purchaser should be planned right before the construction and get them all implemented during the project proceeding.

Once the project is started, it should only proceed as per the master plan and no place for mending or amending the construction practices to fall in line with individual needs of customers. Big Builders never entertain this at all. It is good also.

In his own interest, the Builder should have periodic meetings with all stake holders.

Communication should be free flowing and everyone should be in the loop.

No compromise on Safety Aspects. This must be thoroughly adhered to.

Be Transparent in all Dealings.

As Time is the binding factor for success of the project, be Open and Vigorous in sticking to Time Schedule always.