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## Project Management : The Pitfalls

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Every time a new air conditioning plant needs to be installed, it becomes a project. Indeed, a large population of air conditioning professionals engage in managing projects. Though all project teams set out to finish projects in time, within budgeted cost and as per the required quality standards, not every team succeeds. Not every project is a success. Mismanaging projects is a malaise that affects the bottom line and reputation of so many contracting companies. As a matter of fact, every contracting company experiences both successful and unsuccessful projects. Successful projects lead to improved bottom line, enhanced image and higher staff morale. On the contrary, unsuccessful projects pull down everything – profits, company reputation and morale. Over the years, companies tend to have a mixed record of implementing air conditioning projects—some successful and some unsuccessful. The challenge is to maximise the proportion of successful projects. This article explores the challenges in managing air conditioning projects, and the pitfalls to avoid, for turning any project into a success.

### Three Challenges

All projects offer three basic challenges:

## Cost Compliance

Thanks to the system of awarding projects based on the lowest price, projects are often booked at razorthin margins. Contracting companies remain under constant pressure to control project costs. Managing a project within the budgeted cost is a key challenge for any project team.

## Timely Completion

By nature, a project is a flexible activity and containing it within the stipulated time duration remains a challenge for the project team.

## Meeting Quality Standard

The third key dimension of a project is quality. If the quality of material, installation and performance falls short of the specifications, it is a bitter reality which leads to many secondary problems. Delivering a project as per agreed quality standards does not happen automatically and becomes a formidable challenge for the project team.

Should the above – mentioned challenges be taken seriously for every project? Even if an organisation/project team has implemented hundreds of projects in the past, it should never lose sight of these two basic characteristics of a project:

- Every project is unique.
- By nature, a project involves uncertainty.

So, for every single project, the three challenges – cost, time and quality–remain fresh as ever. What are some of the pitfalls that project teams/contracting companies can avoid in order to maximise the chances of turning any project into a success?

### Pitfall # 1: Not appreciating the interplay among cost, time and quality

Perhaps, the very fundamental of project management is to appreciate how the three dimensions of a project – cost, quality and time – are interlinked. Typically, contracting companies, project departments and project teams place greater emphasis on cost than on schedule and quality. In practice, quality problems and project delays seem to be more acceptable than cost deviations. This is a big pitfall. In reality, each of the three dimensions affects the other two and ignoring one means, ignoring the other two as well (**Figure 1**).

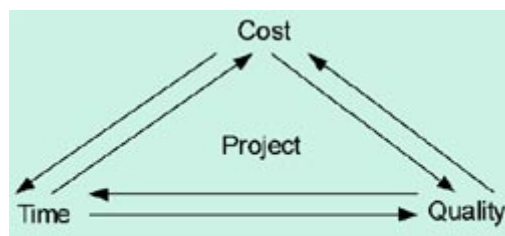


Figure 1: Interplay among cost, quality and time

For example, if a project team finds itself going over budget, its pace of releasing orders for sub-contracted items tends to get dampened considerably and its choice of vendors, choice of materials, etc. is affected too. Under the pressure of negative cost deviations, the project team may appoint the cheapest subcontractors/ vendors even though it may mean slower work and inferior quality. Cost may be saved, but something else suffers – quality and schedule.

Similarly, if the team finds itself embroiled in some quality problems, say, rejected materials, defective installation, or non-performance of installed equipment, it can lead to project delay and eventually, to extra rework costs.

Again, if the project gets delayed due to, say, delay in building completion, the project team should immediately become cautious. A delay in completion straightaway means delayed cash flow, loss of interest cost and locked resources over a longer period of time. I was once involved in a project where the contracting company supplied 150 hp motors to meet the delivery schedule but these motors could not be installed and kept lying at site for over a year due to overall project delay. The result: loss of windings' insulation value and eventual rejection by the client. This was a case of project delay giving rise to quality and cost issues.

So, cost, time and quality should be seen as tightly interlinked and successful project management means taking care of all three– simultaneously.

### **Pitfall # 2: Uncertain, chaotic start to a project**

It is not uncommon to see the euphoria of booking a new project turning into a nightmare within the very first few weeks of the project lifecycle. Often, the sales team would commit to a tight schedule in order to clinch the deal, but by the time project team gets its act together, it has already missed a few deadlines. This leads to firing from the charged up consultant and client and the project team goes on the back foot right at the beginning of the project. Chaos right at the beginning of the project can have deadly snowballing effect on the health of the rest of the project. The team feels demoralised and unsettled and loses control. Poor start to a project is like launching a missile on a wrong trajectory.

The starting phase of any project is the most crucial phase when key engineering decisions are made, major equipments are ordered and the credibility of the project team is established. A few key mistakes during this phase can lead to major disasters for the overall project. Organisations and project teams should pay maximum attention on this phase of the project lifecycle. But, this pitfall can only be avoided if the project company avoids pitfall # 2 and # 3.

### **Pitfall # 3: Not preparing in advance**

Very often, after the project is booked, the project department would start identifying the project manager, supervisors and draughtsmen to form a project team. These people, busy with other projects, would usually take sometime to get into the new project. The crucial starting phase of the project is thus spent in 'warming-up.' Delay in allocating human resources is a big pitfall. Very often, it leads to exasperated clients calling back sales people to explain the poor performance of their colleagues in the projects department. If an organisation recognises the criticality and importance of the starting phase of a project, it will not use it to 'warm up.'

The key to gaining control of a project right at the beginning is to prepare in advance. As a strategy, the project department should plan for and allocate key human resources even before the project is formally booked. Usually, there is always a gap between the time sales department knows it has clinched the project and the release of formal Letter of Intent (LoI). This small but strategically useful period in the project lifecycle should not be wasted and instead used for preparation and warming up.

The idea here is nothing new and in fact, it is already being used in many companies where much of the planning and even ordering is done before the project gets into the hands of the project team. But, the advantage of these early gains will be lost quickly if the project team is not in the top gear when it assumes charge of the project.

### **Pitfall # 4: Poor resource management**

Typically, human resource allocation for a project is seen as a one-time exercise. At the beginning of a project, a team is appointed and then, left to handle the project. It is not uncommon to see projects getting into rough weather right at the beginning or fizzling out towards the end without proper completion.

In reality, the human resource demand for a project could be different from a straight line (**Figure 2**). Just like a rocket spends maximum energy during the take-off, a project requires maximum attention and human resources at the beginning. Inadequate human resources at the beginning – the most important phase – of the project is the single most common reason for project delays. Lack of heads and hands invariably leads to missed deadlines, mistakes and lost credibility. As a strategy, the organisation should see resource allocation as an ongoing exercise and deploy more resources at the beginning of a project. If 4 draughtsmen can complete the drawings in 2 months, it is much better for the overall

health of the project than allocating 2 draftsmen who would take 4 months to complete the drawings.

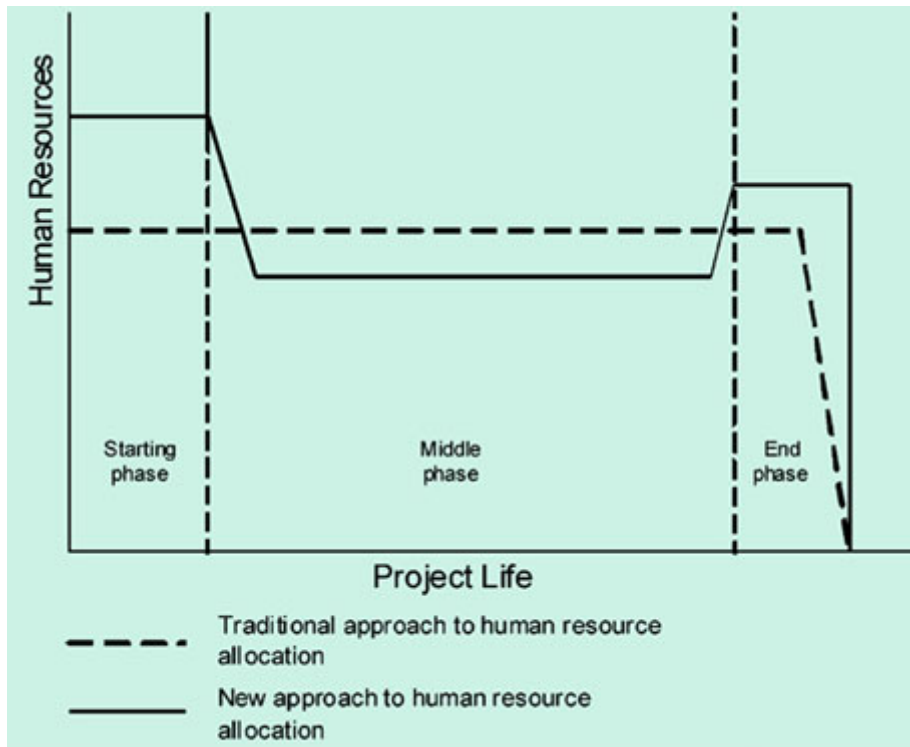


Fig. 2 Traditional and new approach to human resource allocation

Similarly, many companies start dismantling project teams before the actual completion of a project. Nothing can be more disastrous than changing people towards the end of the project without having achieved the final milestones, such as testing, documentation, training, supply of spares, and most important of all, handover, with the collection of final payment. Evidence of this pitfall can be seen in outstanding payments locked for years because of the issues that no one knows about.

### **Pitfall # 5: Ignoring the importance of relationships**

Normally, an air conditioning project team works along with a battery of other contractors, consultants, architects, structural engineers, client and of course, the internal support departments of the organisation. Arguments, controversies, problems, push, and pull among the members of this larger team are common for any project. But, if the project team focuses on people instead of issues, it can get caught in entangled relationships and create major problems.

A project is never an isolated undertaking and the project manager and his team should strive hard to be a good team player. Managing relationships within the larger team for mutual benefit is an important element of effective project management.

### **Pitfall # 6: Fail to plan..plan to fail**

Many people are action type and find it difficult to sit down and plan first. With such people in charge of the project, the action takes place before planning. While, they may be able to show some progress, the overall result of implementing a project without planning is mistakes, U-turns, reworks, delays, wasted resources and ultimately, an unsuccessful project.

Successful project management process relies on two sequential activities—planning first, and then doing. This sequence forms the very basis of the project management, and a project team should ignore this sequence only at its own peril. Plans help to foresee problems, constraints and provide a road map to go forward. The project team should constantly remind itself of this famous quotation: "Those who fail to plan, plan to fail."

### **Pitfall # 7: Appointing unskilled Project Manager**

Often, the senior people in an organisation are automatically considered to be eligible for the position of project manager. While experience is important, it alone is not sufficient for being an effective project manager. Choosing an experienced but unskilled person to lead a project is perhaps the single most disastrous decision. It leads to mismanagement because handling a project requires not just experience but also the following key skills:

- **Interpersonal communication skills:** A project manager will ultimately be responsible for coordinating the efforts of his own team as well dealing with consultant, client and other interfacing agencies. It's crucial that he has the necessary interpersonal communication skills to deal effectively with different kinds of people.
- **Leadership skills:** A project is always a team effort and the team's performance depends on the quality of leadership. The project manager should be able to communicate the goals clearly, delegate the work, motivate the team members to perform at their best and face numerous challenges.
- **Organisational skills:** It is a critical attribute for a successful project manager. The ability to assign resources, prioritise tasks, and keep tabs on the budget will ensure quality and impact the project's success.
- **Problem-solving skills:** In every project, it's unexpected problems or challenges that drive everyone crazy. The project manager must be able to effectively handle these situations and mitigate risk so they don't get out of control. As an organisational strategy, every potential project manager should be trained in the

above skills. The cost of training will be far outweighed by the cost of nonperformance.

### **Pitfall # 8: Ignoring the timing of actions**

Many project personnel fail to act at the right time. They ignore the importance of timing. As a result, problems surface when it is too late, too costly or too embarrassing to do anything. For instance, imagine a situation where the specified indoor conditions cannot be satisfied due to incorrect sizing of fan coils units. Such a problem can only be prevented if someone acts to check equipment sizing at the design stage— after that, it is already too late! Illtimed actions lead to almost irreversible problems that become black holes, consuming attention, time and all kinds of other resources, not to mention, giving rise to controversies.

A project is a dynamic activity and demands action at the right time. Appreciating that action alone is not enough and it is the timing of actions that is equally important and can help in preventing many daunting problems.

### **Pitfall # 9: Poor time management**

Project managers tend to make a lot of fuss about and often blame insufficient manpower for mismanagement in projects. But, there is one resource that some of these managers and their teams don't care much about – time. Time is one of the most important resources, which, if not managed well, leads to shoddy project performance. Typical signs of poor time management include excessive time spent on site visits, too frequent outstation tours and generally chaotic working atmosphere in the office. Add to this list the most common symptom: working late everyday and on every weekend. Poor time management results in very busy and tired workforce, but few satisfactory results.

People working on projects must treat their time a valuable asset and never confuse activities with results. One person spending time on right activities is better for a project than two persons wasting time on unimportant activities. In fact, that's what the Paretos' famous 80/20 rules is all about. It states that typically 80% of results are achieved with only 20% of the effort. Effective project management means focusing first on those 20% activities that will deliver the 80% of the results.

### **Pitfall # 10: Not harnessing intellectual capital**

Unfortunately, many organisations fail to harness the knowledge generated in projects. There is no post-mortem after the project is completed and no one asks questions, such as:

- What went right and why?
- What went wrong and why?
- What were the surprises in this project?
- What we could have done differently?
- How did our equipment perform?
- What impression we have left on the client, consultant and fellow contractors?
- What were some of the weaknesses that we should fix?
- What were our main strengths and how can we maximise them?
- How can we do similar projects in less cost?
- What are the key data/ information (e.g., energy consumption, test data, design data, standard drawings, etc.) that we can archive and use in future projects?
- Which vendors/suppliers supported the project well and which ones did not?

Dismantling teams and closing projects without asking some of the above questions is like burying a goldmine of knowledge. Without capturing the knowledge from a completed project, organisations and individuals tend to repeat the same mistakes , get trapped in the same weak spots and fail to march on the path of continuous improvement.

This pitfall can be avoided. It just needs the top management to realise that systematically harnessing knowledge is the key to competitive advantage. A project is like a journey into an unknown territory, full of challenges, excitement and uncertainty. Avoiding some of the above pitfalls could help turn this journey less bumpy and more enjoyable.