

# Planning Considerations to Avoid Issues and Risks in Adverse Situations

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## Abstract

A project with 6 resources and 3 months strict schedule, and two resources left in between. A big setback but still managed to pull the project neatly without cost and schedule overruns. The task overlap among at least 2 resources and priority based scheduling saved it from a spoiler to be a success.

The worst case scenarios and corresponding responses were considered in the planning phase. This article will cover following items, if well taken care in planning, can save the project even in adverse situations.

- While estimating the project we had kept a buffer of 15% for risk mitigation
- Task assignment was done such that at least 2 resources had the knowledge of each task
- Knowledge sharing session were planned within and across the teams
- Effective use of lags in the tasks
- Proper prioritization of tasks, a very important aspect in planning

Above points are outcome of various projects' experience and learning. These when applied to project in discussion, proved beneficial.

## Introduction

A new IT project for a financial company was to be initiated. It was a regulatory compliance project, that had to be implemented by a specific date otherwise the implications may be severe and financial company has to live up to its expectation. The project was approved and given to my team for planning and implementation. It was a small project with effort of 350 man days which was scheduled with 6 resources over 3 month's timeframe. This was a hard deadline which had to be met because of compliance requirements. I had to play a role of on-boarding my team and ensuring delivery within timeframe with the desired quality. Another challenge was to execute the project with available resources because the kind of resourced I had, I was not very confident about few of them, as there was a risk of losing them.

I had to go back to my memory lane and remember all the tricks that I can apply here so that I can meet the project goals.

Here are some major points that I would like to highlight at the beginning itself –

- Since the time was a major constraint, resources were expected to put extra efforts to complete the work so expectations were set accordingly.
- Communication among all the Stakeholders was very critical as there was not spare time to do any rework.

- We had some dependency on Vendor to deliver a certain phase components.
- Training of resources was very much required as some of them did not have prior experience of such kind of project.
- To have the resource back up at the beginning itself as few of them had some or other grievances that was not practical to meet so there was a risk of attrition.

## Requirement

It was a compliance requirement to implement a functionality that would provide more facilities to internet banking users by displaying the additional fields on screen and associated reporting and processing. The modules had to be implemented and delivered for User Acceptance in next 3 months.

Some of the requirements were not very clear and the stakeholders had to be taken in loop so that both the functional and delivery teams will be on same page.

## Background / Key Challenges

I was responsible for coming up with the plan that would incorporate all the risks involved and still meet the hard deadline. Many factors had to be considered in the plan so that we can ensure a successful delivery. Needless to say that Quality cannot be compromised as any live issues during production will not be welcomed. .

As it always happens, the project plan is outdated as soon as the project starts. Exceptions started happening from the very first day and we had to update the project plan quite frequently. The moment a projects starts, issues start coming up and it's the responsibility of us (project managers) to deal with them. So this project was not an exception. It is not possible to think of all the issues / risks but most of them should be considered and planned proactively.

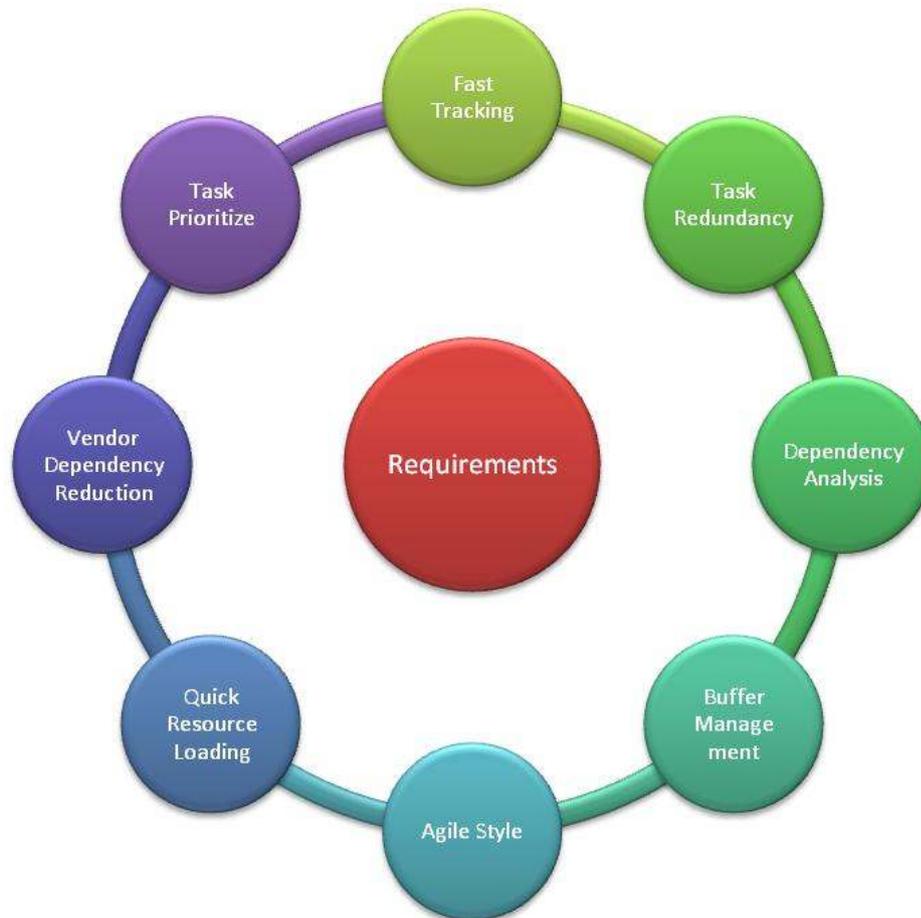
Key challenges faced during the project planning and execution -

- Strict deadline but no other option as it was a compliance requirement.
- Backup resources had to be identified as few of the team members may leave but due to their good technical skills, they were a part of the project team.
- Backup resources for each module had to be identified and trained within the project team.
- In order to avoid dependency on single resource, task allocation was done by ensuring that there are more than one resources involved in any area.
- Change in requirement is inevitable but handling those requirement changes within the timeframe was a difficult task.
- Replacing the two project team members by new resources when they left the organization in the middle of the project.
- Full utilization of resources as no luxury of any waiting time / idle time.
- High quality standards had to be met.

## Methodology / Process Followed

The worst case scenarios were considered during planning. Redundancy of knowledge, fast tracking, priority based scheduling were given utmost importance which played an important part in the success of the project despite having many risks and constraints.

This article is not covering all the risks that we came up in the plan. Here we are mentioning only those risks for which we used a tool or mechanism and incorporated it in the plan. Let's go through the tools that made our plan more robust.



*Figure 1: Effective Planning Tools*

- **Fast tracking** – it is very effective while working on such a tight deadline project. A good thumb rule says that sequential activities can sometimes be fast tracked by up to 33%. The project schedule was analyzed for dependency and lags to look for opportunities where overlapping was possible and without the risk of rework. Initially these tasks were sequenced but we underlined few tasks that could be executed in parallel. Though this approach may sometimes slightly increase the amount of rework but it was worth taking the risk to meet the deadline.

We also had some general tasks like database setup, auditing, documentation etc that could not started early in the cycle but after identifying the lag and looking at the resource utilization in that period, we started fast tracking those tasks as well.

Mitigation plan was in hand, because the task that were first to start had very clear requirements and there was no change expected. This was the only place where we disregarded the prioritization of tasks but looked more at stability of tasks.

Design started even before the requirement analysis was completed, construction started even before the design was completed, and testing / quality assurance also in the similar fashion. Idea was to load the team as quickly as possible and assign the tasks to them as they should not wait until planning / designing is done for all the work. Obviously next phase tasks were taken up only when the relevant earlier phase tasks were done. Dependency management played a good role here in deciding the tasks that can be fast tracked.

Since the fast tracking was done in all the phases, the testing / quality assurance team got involved at a very early stage so that they get sufficient time to understand the requirements and prepare the test cases. Then overlapping was done and testing started of various modules as and when they were ready to be tested.

- **Task Redundancy**

- Task allocation - It was done keeping redundancy in mind. In order not to have dependency on any single individual, each module was divided logically and assigned to more than one resource. This method ensured that at least two resources had the knowledge of each task, and other person could take over in case anyone is absent or leaves, without causing any delay to the project.
- Knowledge Sharing – It plays a very crucial role in order to remove dependency from the certain people. Knowledge sharing sessions were planned within and across the teams twice per week. Invite had been sent to all the team members to attend the session and share their knowledge, learning and discuss issues if any. Team was recognized for putting extra efforts and was rewarded as well. It helped in motivating the team and to keep the spirits high. Informal tea / coffee parties were organized on weekly basis. Overall objective was sharing and learning with all, along with recognition of team's contribution.

- **Dependency analysis** - Identification of independent tasks and dependency analysis. The more independent tasks we have the more flexibility and options to adjust the plan. We identified the critical tasks, and ensured if there is no dependency on other tasks. Some of the tasks did have dependency but after particular event/tasks became independent; these were also recorded and treated as independent after the event occurred. These independent tasks were used in fast tracking and during lags and delays.

- **Buffer Management** - While estimating the project we had kept a buffer of 15% for risk mitigation. This buffer was utilized in two ways –

- Additional resource – we had added an extra resource (during development) to support our redundancy and to avoid any delays because of unplanned leaves or issues.

- Schedule – to buy extra time in case of minor slippages happen.

We also broke the buffer down and prioritized the tasks to be done while using the buffer in case risk does not occur. By doing this, we got the privilege of performing the Group reviews, to double check the code quality and standards.

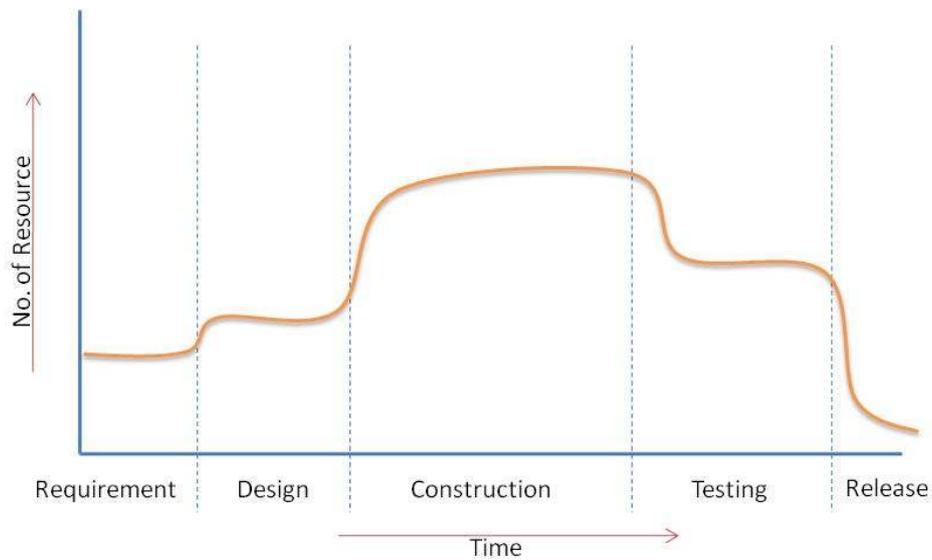
- **Agile Style**

- Daily Stand Up Meeting - Ensured that project includes all stakeholders' needs to avoid any last moment chaos. Although we had the mandate to adopt waterfall methodology in this project but considering the fact that duration was short and some changes were expected in between, I preferred to put in some agile methodology concepts here. Most helpful tool was stand up meeting every morning with the team and available stakeholders, reducing the chances of any kind of communication gap or requirement issues. Stand up meetings ensured that stakeholders' expectations are taken into account and all the parties have the common understanding and everyone is in sync. These meetings were very beneficial to take up the decision and escalate the issues quickly. It reduced the cost of changes as issues / changes were identified at earlier stage.
- Iteration wise planning – We used milestones as iterations and planned accordingly.

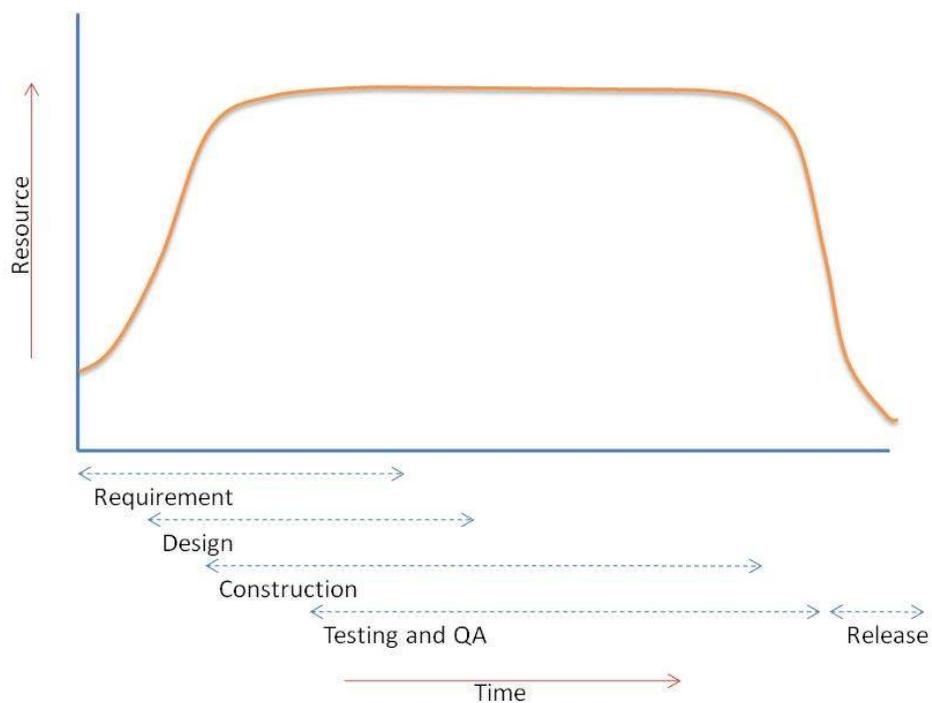
- **Quick Resource Loading** - It's all about juggling the resources. Since we had only 6 resources it was not very easy to break down the things into two categories – time and available resources. Time was a bigger constraint, so during the resource leveling it was ensured that the critical path doesn't get delayed at any cost.

Also we had a risk of losing few resources but that was taken care of well in advance by providing the training to redundant resources and ensured their availability as well for the specified period. In order to ensure the timely deliveries we needed to stay ahead of time, the critical path tasks were crashed by adding extra resource. Any delay in the critical path could have created a major chaos so extra care was taken to avoid it.

Resource loading was done differently than the ideal scenario. We increased the team size to peak just after the requirement gathering stage. We used few concepts of agile methodology in order to get the effective utilization of resources. Internal release was planned in every 2 weeks and Milestones were used as iterations, planning was done around them and different phases of more than one iterations, done in parallel, ensured maximum utilization of the resources.



**Figure 2:** Classical Resource loading with leveling for each phase



**Figure 3:** Resource loading with fast tracking and iterations

- **Vendor dependency reduction** - We also had a vendor company that was responsible for delivering a component. Our progress might have been hampered as there was some dependency on that component, had the vendor delayed the delivery. This dependency had created some lag in the overall plan. We took the following approach –
  - A testing interface stub was created to reduce the dependency.
  - Overlapping of tasks / activities was done to avoid any waiting time.

- **Task Prioritization** – The proper prioritization of task is a very important aspect in planning and at times it can decide the Making or Breaking of the project. Higher priority tasks should always be taken up first to reduce the risk of the project rapidly. In our project, we prioritized the tasks in consultation with the stakeholders and scheduled them accordingly. During later stage of the project, one low priority task came up with lot of changes and issues, the impact of which could have affected the deadlines. As this was low priority task we discussed with stakeholders and pushed it to next release.

There was one exception to prioritization which was at the beginning of the project. There were some requirements which were very clear and no further changes were expected. Design tasks were assigned for those requirements while other requirements were yet to be finalized. We did not want to put effort on task where less clarity was. When the team got some work to do, we analyzed the priority of different tasks.

Achieving success requires analyzing setbacks and failures in order to improve further. These methods are outcome of experiences with the previous projects and these learning applied to projects proved very beneficial.

## **Critical Success factors**

- No Schedule Overrun – Time was the most important success factor as it was a compliance project. There was no slippage in schedule and all the deliveries were made in time.
- Customer Satisfaction – Customer was happy with the good quality and timely delivery. Using the additional buffer, the group reviews were performed and even the minor review comments were identified and fixed before the final delivery. It improved the overall quality and increased the customer satisfaction.
- Cost Effectiveness – The internal group reviews were planned and performed by experienced resources before the delivery, so most of the things were taken care of and external rework cost was less. Also few concepts taken from agile methodology ensured the lesser rework and low cost of changes.
- Low defect leakage – Keeping pace with the schedule and early involvement of testing and QA ensured that reviews and testing was done rigorously resulting in low defect leakage.
- Resource utilization – Dependency analysis, fast tracking, effective analysis of lags and delays helped in maintaining resource utilization to its peak.

## **Quantified Benefits to Business**

- Successful Implementation without any schedule slippage made the organization compliant as per regulations.
- Improved user satisfaction resulting in reduced number of user complaints and queries as they were able to view the desired details on their internet banking screens. The incoming calls in the customer care unit was reduced by the considerable amount, hence reduced the overall running cost.
- Customer was happy with the successful handling of project and its execution. The quality was high with low defect leakage. This overall resulted in an improved Customer Rating and feedback in the satisfaction survey.

## Lessons Learnt

This project was a major learning in terms of planning and resource allocation.

- Visionary and proactive planning can save project even in adverse situation.
- Knowledge sharing sessions helped in ensuring the timely deliveries. Moving resources from one module to another was not much difficult as secondary resources were already prepared. There was less time taken by them to pick up the new tasks, and this is how lags were avoided in the schedule in spite of two resources parting from the team.
- Concepts that we implemented from Agile methodology were very helpful in progressing fast especially the stand up meetings with stakeholders present and iteration planning helped a lot in order to manage the changes.
- The most critical functionality to be implemented first to reduce the risk at later stage.
- The buffer included in the project for risk must be effectively utilized. This buffer is the additional cost and we can utilize it in various forms. As in this case, we used it for both, Time and Resource. Some additional resource for giving support for redundancy and some extra time for adjusting any minor delays.
- Priority based scheduling is very important. High priority tasks should be taken up first because without them release will not be accepted. Lower priority tasks should be done later and in case of shortage of time can be negotiated for the next release.
- Productivity improvement – More interaction with stakeholders and knowledge sharing session helped to increase the productivity of the team. Also the appreciation of the team members at the end of the knowledge sessions helped in increasing the motivation and hence productivity.

## Conclusion

The methods and tools discussed in this article are few important points which have proved very beneficial for me every now and then. Focusing and sharing of each project's challenges and learning helps to build a more capable and successful project management skill-set. I hope other managers, my colleagues and friends use these tools to their advantage. These methods may be included as checklist for a plan to ensure that manager's reap benefits from it.

By using them properly we can deliver projects even in adverse situation.

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