

COLLABORATIVE PROJECT MANAGEMENT

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Coordination and **collaboration** are the two essential components of handling a project. Coordination is within a location for traditional projects, and across locations for distributed projects. There is a need for Collaborative Project Management Architectures *CPMAs* in order to build systems that can overcome the challenges faced by traditional project management.

Traditional Project Management Scenarios

When team members or companies carry out project management *PM*, there are many potential mistakes or pitfalls to which they can easily fall prey. Instead of highlighting them all, let's focus on a few common overarching themes identified in the literature. Combining together all of these themes account for the reason why many major projects either fail or are significantly less efficient and effective than they could be.

Over-emphasizing of PM as a Project Reporting Mechanism

Traditional project management often employs a simple passive reporting mechanism instead of a dynamic teamwork coordinating approach. In many companies, the project management methodology is assumed as a corporate reporting tool rather than an efficient system that the various parts of the company can use to help themselves. In this type of situation, information flow is less among project contributors.

Ineffective and Inefficient Communication

In traditional PM, communication may be ineffective due to many reasons –

- Misunderstandings due to inexplicit or poor communication.
- Members having a poor grasp regarding the problem.
- Different interpretations by different team members.

Communication is also inefficient or not up to the mark because of various reasons like –

- Untimely communication.
- Failure to update latest notification to every team member who needs to know.
- Poor communication skills and capabilities are mostly cited as the main reason for project failure.

Managing Project Inputs and Outputs but not Process

Another serious problem in traditional project management is that employees manage deliverables and resources, but they don't manage the process.

- Team leaders create PERT and plan the project within a timeline, they manage time, budget, equipment, human resources, and the product; but fail to manage work process.
- One reason for the failure of software projects is the lack of real-time improvement measurement systems to identify potential risks in the initial stages, before they become serious threats to the progress of the product.
- If employees only handle project inputs and outputs, the process remains a black box and project members are unaware of the fact that something has gone wrong until it is too late to correct the issue without causing large amounts of rework and increase complexity.

This results in making PM a reactive process, rather than a proactive one.

Reactive Management

Reactive management defines a passive PM strategy in which project managers conduct incomplete planning with a hope that everything will be fine in the end.

- Reactive project managers react to what has happened and they seldom plan for the future. They do not review their own or others' previous experiences to gain insight from lessons learned over time.
- In reactive management, employees spend a significant amount of project time on reworking deliverables and rectifying errors.
- Another common issue in reactive situations is almost all the rework must be done manually, including searching for work that is influenced by changes in other parts of the project.

Reactive Project Management is often accompanied by lack of systematic procedure for storing project information which leads to compounding the problems of poor planning and the need for rework.

Lack of an Electronic Project Repository

Lack of an electronic repository is a company-wide problem as well as a project-specific issue. A paper-based repository has several limitations like –

- Retrieval delays
- Lost documents
- Incomplete files and storage problems
- Error proneness due to data extraction, interpretation, and repackaging.
- Difficulty in coordination and failure under given time constraints.

Lack of an electronic project repository leads to inadequate project documentation.

- Project members are usually more concerned with accomplishment of current project rather than capturing and archiving information that can be useful at a later time.
- Most of the project related information is not stored at all, like the project processes, contexts, rationales, or artifacts. Even if they are stored, they may not be structured, organized and indexed in a way that enables project members to easily access, search, and retrieve the information.

Collaborative Project Management as a Solution

We assume that various challenges faced in traditional PM can be addressed by using collaborative PM tools and processes. A collaborative PM tool deals with explicit representation of project information and timely sharing of the adequate information.

Let's have a look at how a collaborative PM environment can overcome the limitations that plague traditional PM.





Considering PM as a Project Analysis Mechanism

When team members consider PM as a project reporting tool, they care about the outputs of the PM rather than the analysis process which gives those outputs.

- When people consider PM as a project reporting tool, extra project-related information that is usually not formally captured, will effectively be lost when memory fades.
- On the other hand, when employees treat PM as a project analysis tool instead of considering it as merely a reporting tool, the product will be the task information, decision rationale, and other related artifacts.

Effective and Efficient Communication

Explicit representation of project information is important for effective and efficient communication, especially in distributed situations.

- Effective communication also describes clear specification and unanimous agreement of significant project information such as key concepts, ideas, project process, team member duties, and responsibilities.
- All these are documented and saved for future reference by the team members.
- In addition to support for explicit representation of project information, a collaborative PM tool needs to support, manage and handle automatic notification of task status changes, and allow members to discuss and give feedback on one another's work.

Explicit representation, however, is an important step towards effective communication.

Managing Project Process as well as Inputs and Outputs

Managing the project process is the most crucial part of PM. One way to get an idea about the process is through a project lifecycle. The project lifecycle is broadly categorized into four major steps –

- **Step 1** – Understanding the project *problem definition and specification* – planning the project.
- **Step 2** – Executing.
- **Step 3** – Tracking and controlling the project.
- **Step 4** – Closing the project.

Here the team members manage the inputs and outputs, but not the process, they overemphasize step 1, 2, and 4 at the cost of step 3.

The nature of project processes is dynamic and changes significantly from the original project plans and expectations as the project improves further. An ongoing process always leads to some changes in project inputs and outputs and these changes, in turn, lead to further changes in the project process.

A collaborative PM tool allows team members to update, and review one another's work progress, collect project measures like resources spent on the task, and access the current work of others within a time bound.

Proactive Project Management

Proactive project management refers to future-oriented planning, risk management, and change management in the current ongoing project. Proactive management requires project team members to conduct precise, specified, clear, and detailed planning at the beginning of the project cycle, identifying potential risks, and making plans to mitigate those risks.

A project manager, who conducts proactive management, examines task interdependencies and makes their decisions based on precise "hard" data rather than wishful thinking.

- Proactive management is followed by learning.
- Proactive management of the PM process requires an Enterprise's project memory, from which members can learn during an ongoing project and refer back for future projects.

One way to implement an effective business organizational project memory is with the help of an electronic project repository.

Employing an Electronic Project Repository

With the growing advancement of information technology, files in digital format are easier to store, access, retrieve, edit, and route. The paper-based repository is replaced with an electronic project repository. The goal of an electronic project repository is to control, handle, and share project information efficiently and effectively.

- Effective information management improves the overall project performance within budget, reducing data entry and reentry costs, eliminating duplication, information loss, reducing product development time, fostering progress in process quality, standardizing work processes, improving management's ability to efficiently retrieve accurate information, and increasing management control.
- An electronic project repository can be connected via middleware with other information systems in the organization and provide a smooth information flow.

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