

Best Practices for R&D Project Management: Team Building

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Abstract. The future of project management lies in team building and teamwork. This document focuses on team building in R&D projects. The paper starts with the definitions of key words: project, project management, project manager, team, team building. Then there are presented the four key elements for member selection as well as the five typical phases in team management. Team building in research projects is not only about project manager (his role, functions), but also about the other partners and maintaining their constant interest in correctly developing the project. Through this article, the 2 key persons in project management and team members are the project manager and his economic specialist. The cooperation of these two specialists is the essence of the development and implementation of the project. Project managers control all threats through measures such as timely training in leadership skills, conflict management skills, communication skills, while the economic specialists identify and solve all budget problems, maintain and manage the financial accounting records and reporting mechanisms, balancing spend to budget estimates. This article also analyzes the best practices in building a successful research team: mutual trust, project management meetings, technical workshop, monitor and encourage progress, well written consortium agreement.

Keywords: project management, team, team building, project manager, research project

INTRODUCTION

This article proposes to put into evidence the best practices in team building in R&D projects. In order to best understand the content of this paper, it starts with the definitions of key words.

Some definitions of **projects**:

- The project is a set of actions executed in a period of time, at well-defined start and end, with a clear purpose of the work performed by its own budget and a specified level of results to obtain (Lewis, 2000)
- The project is an action that has a beginning and an end and it is taken in order to achieve a goal, while respecting certain costs, calendar plans and quality criteria (Hayes, 1989)
- The project is a controlled process of implementation of activities and use of resources to achieve a goal in a given time (Adamec, 1997)
- The project is an allocation of resources to achieve a predetermined set of goals, following a planned and organized method (Lients, 1999).

Project management is the process of coordinating a team in planning and managing operations of a number of defined and interconnected activities, which must be made within the specified time.

The project manager is the person directly responsible for implementing the project, devoting all the needed time and effort for its efficient and effective implementation. It is the main contact person for a project.

Team: Two or more people working interdependently towards a common goal. Getting a group of people together does not make a “team.” A team develops products that are the result of the team’s collective effort and involves synergy. Synergy is the property where the whole is greater than the sum of its parts.

Team Building: The process of gathering the right people and getting them to work together for the benefit of a project.

The way in which R&D projects are managed is fundamental to success (Barnes, 2006) as they have geographically dispersed participants, multiple consortium partners and diverse teams. R&D projects involve people of different cultural and professional backgrounds, which can lead to tensions. When managed well, this diversity can be strength. The challenge is to work through each problem sensitively, and to be aware that tensions may occur at different points in the project. Without an effective governance structure, most projects will struggle to progress to a successful outcome. Any changes to a project’s scope, timelines or budget need to be presented to all elements of the governance structure, and the changes documented and agreed. Without a rigorous approach like this, project can suffer from scope creep, poorly-defined scope and budget and time overruns.

MATERIALS AND METHODS

This article tries to determine the best practices in building a successful team in a R&D project. The method we used to identify the best practices is:

- Analyzing the key elements used when selecting a team members;
- Identifying the typical phases in team development;
- Defining the key persons in a project management;
- Presenting best practices.

RESULTS AND DISCUSSION

Staff from all levels of the project is the essence of quality assurance results. Total involvement of every member of the research team allows each member’s to be used for the benefit of the project. Also, projects achieve their outcomes through people – a variety of people working together in a coordinated way to produce their desired results. That is why, when selecting team members (Who, 2007) it might be useful to consider the following 4 elements:

1. team size,
2. overall team composition – a mix of members from relevant units/organizations involved in the project, having a wide range of experience and skills,
3. team member selection and exclusion criteria
4. member recruitment process.

Tuckman’s (Tuckman and Jensen, 1997) model proposed the following typical phases in team development:

1. forming: the initial orientation period when members do not know each other; the stage is complete when members begin to see themselves as part of the group;
2. storming: this is a sorting out period where members begin to find their place as team members;

3. norming: team members begin to use their past experiences to solve problems; it is now when the team establishes procedures for handling conflicts, decisions and methods to accomplish the team projects.

4. performing: this is the stage when the team starts to produce results;

5. dissolving and reorienting: the team dissolves when the team has completed the project; it may be oriented to continue on a next phase of the project.

Key persons in project management

The most important person in a project team is the project manager. Usually, he is the person who best knows the project, being involved in it from the submission of the proposal. It is also the person who meets all the evaluation and eligibility criteria. In order to manage the project properly, he needs to possess excellent analytical and organizational skills in order to:

- Clarify project team member roles,
- Set team and individual goals,
- Monitor and measure team and individual performance,
- Resolve conflicts between team members constructively,
- Delegate responsibilities and tasks,
- Motivate.

A project manager does not have direct managerial control over the project personnel as he is not a formal authority over consortium partners and their employees. The only method which limits his authority is based only on the commitments made in Consortium Agreement. The challenge of the project management is to keep everyone motivated to perform their work by ensuring good team dynamics and by applying excellent communicational and motivational skills.

For project manager, a technical proficiency in the specialist area of their project is also a distinct advantage. The project manager has mainly to coordinate technical work, ensure technical results, handle technical problems, and maintain the quality of technical results. But, because all activities that take place in a project is not only a technical activity, but it also means costs, the second most important person in a research project must be the economic specialist. He also needs to possess excellent analytical and organizational skills in order to:

- Keep himself well informed about:
 - changes in laws that affect expenses in RD&I projects,
 - monitoring procedures,
 - changes at contracting authority,
- Identify and solve all budget problems,
- Maintain and manage the financial accounting records and reporting mechanisms, balancing spend to budget estimates,
- Answer all requests from contracting authority.

All the project teams must have a team manager, in charge with the technical issues, and an economic specialist, in charge with all costs and budget issues. The cooperation of these two specialists is the essence of the development and implementation of the project.

Whenever you have team members working together on a project, effective project team management is a critical success factor. Techniques for building a team are:

- team coordination,
- a lot of suggestions and indications to give and
- a lot of questions to be asked.

It is also about:

- talking,
- discussing,
- asking and answering,
- being ready for brainstorming or for working more than usual,
- listening and asking for suggestions,
- respecting and following the indications received,
- keeping the moral as high as possible and motivating the people when needed.

Best practices in R&D project management, namely team building are:

- **Mutual trust:**

- o The first team meeting should be the one where the team manager clarifies and agrees, together with his team, “ground rules” that govern the team’s behavior. As this will be the first meeting, each team member will come to see more clearly where the other team members are coming from and what they need from the team to get their job done. That is why it is important to have a well-prepared and organized kick-off meeting during the first two project weeks in a proper meeting environment and spend enough time of the meeting to allow the team getting to know each other and building **mutual trust**.

- **Project management meetings:**

- o Another best practice in team management is organizing face-to-face project management meetings. They should be organized at least once every three to four months so people can build up their relationships and resolve any issues in personally. Project managers should use meetings at three different points in team building process: initiation of the project, when new team members join the project, when conflicts arise.

- **Technical workshops:**

- o Encourage technical teams to set up and run technical workshops to achieve results that cannot be done with teams working remotely.

- **Monitoring and encouraging success:**

- o Regular audio conferences are necessary to monitor and encourage progress. In order to be able to do this, the project manager should use appropriate tools for communication – regular audio-conferences within the most senior decision-making units of the overall project, as well as on a work package level, a mailing-list for asynchronous communications.

- **Well written consortium agreement:**

- o A Consortium Agreement should be produced and agreed upon prior to the beginning of the project. The Consortium Agreement should provide formal guidelines as to how reports, payments, management, tasks are organized and how delicate but important issues such as intellectual property rights and resolution of disputes are dealt with.

Analyzing best practices (Kausal et al, 2009), one can also identify success factors, such as:

- mutual respect and trust among partners (Dogson, 1997),
- good personal relationship (Davenport and all, 1996),
- clear and honest understanding of each other’s abilities (Mora et al, 2004),
- active participation on project team by all the parties (Weck, 2006).

CONCLUSIONS

Based on the results, it was concluded that, building a successful team is one of the key factors in project management. Human resource is one of the resources that should be paid constant attention to, as people who are not motivated or listened to might not perform as

expected. Every aspect of team building (persons in charge, time aspects, meetings, budget, results, reports and deliverables) should be discussed from the very beginning and should be noted in the consortium agreement.

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