

Project Team Members and Change Requests¹

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Introduction

This is the sixth article of the series: Project Management for Team Members (aka Project Followership). We will deal with the role of project team members in change requests. The idea is that, while projects are an inherently turbulent environment, such turbulence can be controlled or exacerbated by team members. One of the typical ways to increase or decrease the instability of projects is through change requests.

Those who do not frequently participate in project activities or, due to the responsibilities assigned to them, do not require a global vision of the project very often feel that projects are a chaotic, disorganized environment where the company, more than providing support, almost seems to be rowing against the current.

It is rare during a project that what is planned is then carried out without undergoing changes: revisions to schedules, budgets, and the objective are very common and plagued by ubiquitous urgencies.

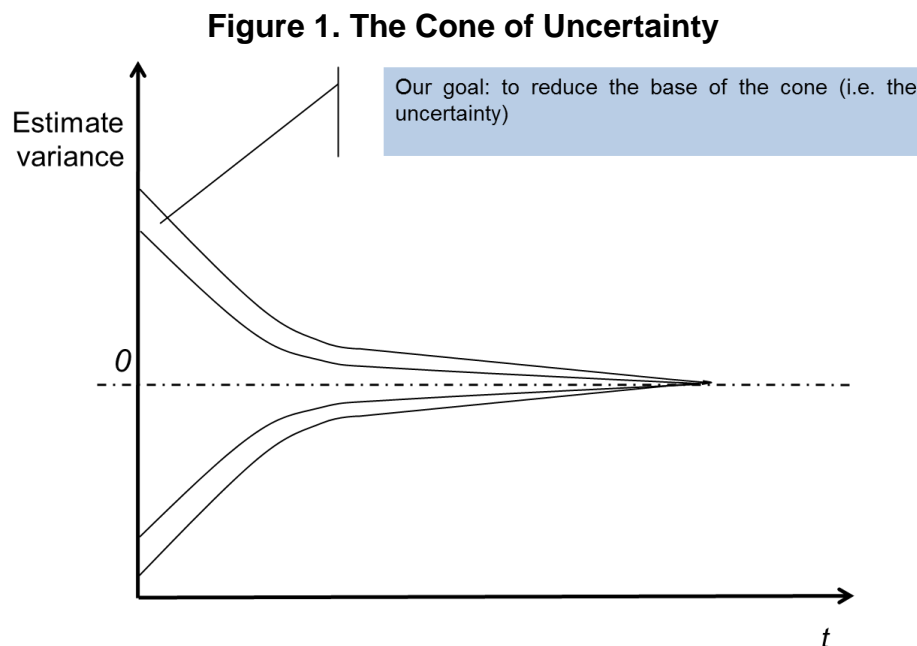
Let us clear up any misunderstandings: it is true, some projects are turbulent due to a real inability to manage them or even because those who should manage them actually make the environment even more turbulent and instead of “putting out the flames, throw fuel onto the fire”. However many other times the project manager and the company in general do a good job but, despite this, the projects are still unstable: the decisions made are called into question and work plans are frequently updated.

Why does this happen? How should a project team member interpret this continuous shuffling of the cards? And, finally, how can a project team member help to stabilize a project?

One characteristic that all projects have in common is the attribute of innovation, uniqueness. Similar projects exist, but there are no identical projects. This characteristic translates into another element: uncertainty. Given that there are many variables at play in a project and given that these variables can change from project to project, by nature projects become uncertain and unstable environments.

¹ This paper is a shorter and modified version of the Chapter 9 of the book: Sampietro, M., Villa, T. Empowering Project Teams. Using Project Followership to Improve Performance. CRC Press, Taylor & Francis Group, 2014.

The situation can be depicted by the diagram in Figure 1, which represents the so-called “cone of uncertainty”.



The diagram can be interpreted as follows: the horizontal axes represents time, while the vertical axes represents the estimate errors referred to the typical project variables (times, costs, use of resources), compared to the real values of the project (the horizontal line with the number 0). As we can see, the worst time to make forecasts is at the start of the project as that is when the uncertainty is greatest. Logically, uncertainty in the estimates is reset to zero at the end of the project, as by that stage the values have been calculated (in reality, in some situations even the final calculations are uncertain, but this is a discussion that touches on project control systems).

Unfortunately, in reality, the first time estimates are typically required, which are essential for producing the budget, calculating its future profitability and proposing an acceptable delivery date to the client, coincides with the estimates' highest point of uncertainty. This is why some changes during the course of the projects cannot be explained by their poor management but rather by the fact that they are inherent to the nature of the project, linked to the estimation process. The challenge is to understand to what degree the error rate is physiological and to what degree it is instead pathological.

It would be utopian to think of removing uncertainty, whereas it is realistic to try to reduce it.

Project team members have great responsibilities as concerns this aspect as they very often collaborate in estimation processes and therefore are partly responsible

for the subsequent instability of the project. In complex projects, then, the high number of activities makes estimation errors even more macroscopic: many badly planned activities, in fact, result in a project that contains even highly significant errors.

So how can project team members help to reduce the cone of uncertainty? Part of the answer has already been provided in the article “Project Team members and Estimates”: the most suitable estimation techniques for a specific situation must be chosen and attempts must be made to counteract physiological errors that are introduced even unconsciously.

Besides this, however, another way to reduce the cone of uncertainty is to lower the innovation rate and thus the uncertainty of individual activities. Note that lowering the innovation rate of individual activities does not mean carrying out a project lacking in innovation: real innovation actually exists, which leads to benefits in the product or service developed, but fake innovation also exists, which consists of creating products or services (or part of them) from scratch which are actually already available on the market thus rejecting the already existing external knowledge. This attitude is called NIH (Not Invented Here) and consists of rejecting or considering any idea, result, product or service from outside, which has therefore not been invented by us or our team, to be of inferior quality (Clagett 1967, Katz and Allen 1982, Lichtenthaler and Ernst 2006).

The problem is then defining the boundaries between what is considered in-group and what is considered out-group since the in-group does not want to share or collect information from the out-group. The concept of in-group is not linked to the legal entity (the company) but it can be found at different organizational levels: departments, projects, teams, and individuals. It may happen that certain departments dismiss the ideas of others or do not use semi-finished products or services for the simple fact that they come from another area of the company. It is thus apparent how project team members are key players in promoting, accepting or rejecting the NIH syndrome, and therefore how their decisions can help to make the project more or less stable.

Contributing to the reduction of changes

Changes to projects may come from various sources: they may be encouraged by clients, they may imposed by regulatory changes, they may result from unexpected moves by the competition and they may come from within.

Changes belonging to the last group include those supported by project team members. Project team members, in performing the activities they are responsible for, may in fact request different types of changes: the renegotiation of schedules and/or the budget for the activity, a change to the activity's expected output, a change to the input necessary to carry it out, a change of processes or the instrumental means supporting it, and a change in the other collaborators involved in the activity.

Contributing team members should ask themselves three questions:

- Are the changes really necessary?
- Do the changes I am requesting really support the project objectives?
- Am I on time to request a change?

Let us start with the first question.

Similarly to what was stated in the article “Team Members and Estimates”, humans experience some distortions in the interpretation of events, distortions that can have an impact on various aspects, one of which is the request for changes that, depending on the point of view, may be considered necessary to a greater or lesser extent.

Let us examine some of these situations.

The proximity of temporal phenomena

Let's take a situation where a team member is responsible for an activity in which other colleagues are involved. Let's us imagine that the activity owner and the project manager meet every 15 days to take stock of the situation, discuss any problems and then support their resolution. If a colleague involved in an activity makes a serious mistake 10 minutes before the meeting it is very likely that this problem will be mentioned during the meeting. There will be talk of dissatisfaction with regard to the collaborator and perhaps of replacing him or her, thus making a change request.

If the meeting had taken place 3 days later it is very likely the dynamic would have been different and the problem would not have even been mentioned. This is because problems that are closer in time are experienced more intensely than more distant problems. This dynamic is linked not so much to memory but the time necessary to rationalize and analyze the situation better and if necessary re-establish calm.

Pressure over results

When people are under pressure they tend to see problems that they would not have otherwise noticed. A trivial example: a printer that jams in the middle of printing documents that will be needed in a few hours is an event experienced much less negatively than if a jam occurs when we are about to print documents that our boss is waiting for on his or her desk. The example shows how very often changes are requested only because the problem occurs at a critical moment and not because of the problem itself, which might not be so unusual.

A project environment that is very different to how operational activities are carried out

Sometimes a project manager adopts a different management style to the one prevalent in the company. For instance, when dealing with a very hierarchical and bureaucratic company culture, the project manager may adopt a more participatory style focused on listening. This difference in style may lead to the emergence of an excessive number of changes with respect to the actual needs as the project is perceived as a rare occasion to have one's voice heard, a sort of place of compensation for one's own discomforts and frustrations. So a team member with a contributory approach should therefore take these physiological phenomena into consideration in order to limit change requests that have no deep rational roots.

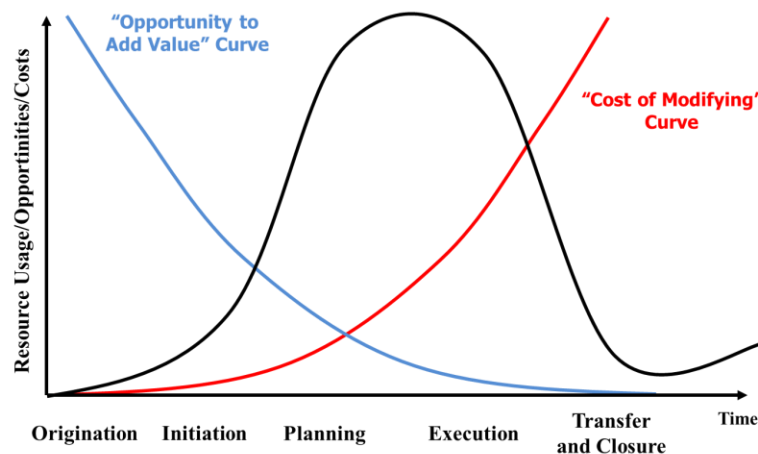
Let us now comment on the theme of aligning the changes with the project objectives. Starting with the consideration that a change request is aimed at improving a situation, team members must assess if the improvement is in tune with the project objectives or if it opposes them. For a better understanding of this point, let us refer to a case study.

A project management consultancy company also offered training services. Clients typically requested a 2 day course and, to provide a more practical edge, the consultancy company included a 2 hour exercise on a free project management software. The profitability of the courses fell over time and so the consultancy company started to be very selective even in the teaching material provided, in order to contain costs. The team member responsible for the software exercise proposed replacing the software with the new version, which would require a considerable outlay. The project manager pointed out that, while on the one hand the new version had numerous improvements, on the other these improvements could only be appreciated with continued use; during the 2 hour exercise it is only possible to demonstrate the basic functions, for which even free software would do the job.

The example shows how a request that could have at the most had a slight impact on the quality perceived by the client would have essentially threatened an increasingly important performance dimension such as cost. In general, a change could also generate improvements, but it is necessary to assess whether it would support the project performance dimensions deemed to be priorities or whether, to improve a secondary dimension, the priorities would be affected.

Finally, let's consider the question related to the proper timing for asking changes. It may seem strange, but the positive nature of the change depends on when it is proposed. To explain this concept better let us use the diagram in Figure 2.

Figure 2. Cost of Modifying and Opportunity to Add Value Curves



The figure shows a classic diagram referred to the life cycle of the project, broken down into time phases. Besides that of the life cycle, two other curves are represented. The first is called the “Cost of Modifying Curve” and it describes the fact that the cost associated with a change to the project varies depending on the progress of the project. Specifically, the closer one is to the end of the project the more costly it is to implement the changes. For instance, when a house is almost complete, adding a window means knocking down walls, rebuilding a part of them, and adding reinforcements etc. The same alteration during the design phase would have been easy to implement.

The second curve is called the “Opportunities to add value curve” and it communicates that a change can significantly increase the value of the project (intended as performance improvement), above all if it was promoted in the initial phases; the same change then gradually loses value as the project progresses. This downward curve depends on the existence of the cost to modify curve, which on the other hand grows as the project progresses. In summary, a potentially positive change ceases to be such when the cost associated with its implementation surpasses the benefits.

The existence of these two curves² is very important as it provides project team members with behavioral guidelines: it is useful to state their opinion, express their doubts, and make proposals above all in the initial phases of the project; the technique of waiting, working in isolation in the hope that in the end all the pieces of the puzzle will fall into place can be very dangerous, as it delays the emergence of problems and therefore of changes, making them more costly and more traumatic. In view of these considerations, project progress meetings and discussions on the

² Different technical and project management approaches may lead to more favorable curves. For example, by applying Agile Project Management normally the cost of modifying curve is more favorable thus decreasing the cost to add late changes. In office construction, flexible office spaces are a way to decrease the cost of modifying curve in case a new office layout is needed.

deliverables must not be seen as moments of judgment but instead they should become valued moments for throwing light on critical situations and lowering the negative impact of the performances through changes.

How to effectively communicate changes

While on the one hand some changes are not capable of benefiting the project, and should therefore be limited, on the other hand sometime team members complain that project managers or project sponsors do not take their change requests into consideration. Sometimes this is down to project management attitudes that are hard to share, but other times there is a different reason: team members do not communicate their requests effectively.

The problem is well known and occurs each time one party with certain skills must dialog with another party with different skills (Eppler 2007, Kuslan 1995). To simplify, a common situation is where the project team member has highly developed specialist skills while the other party has more managerial or specialist skills in another area. The team member, to support the reasons for change, tends to describe the situation by going into operating details which, from his or her point of view, are the real justifications. Unfortunately there is a risk of the other party not understanding these details and therefore the creation of additional tension. The problem is therefore that the two parties are speaking different languages: the team member speaks in detail about technical problems, maybe using tons of acronyms, and the project manager or project sponsor speaks of benefits and the impact on costs and productivity. Thinking that the project manager or sponsor will acquire the skills necessary to fully understand the technical problem is utopian: it is the team members who must make an effort to convey their requests in other terms.

Another aspect is the way changes are requested. All too often the oral method is used, especially in teams or companies that are small, perhaps in an impromptu fashion at the earliest opportunity. There are a few reasons why this may not be very effective:

- a request expressed at any time, therefore without requesting an appointment or at a specific time, may be perceived as impromptu, not well thought out and therefore based on irrational reasons (Maltz 2000);
- a request expressed only orally may be badly interpreted, only remembered in part and badly communicated to others (Robbins and Judge 2009);
- a request expressed only orally cannot be filed and therefore does not become part of the important project documents to be analyzed.

To conclude, Table 1 shows an example of a useful document for formalizing change requests used in a company that constructs packaging machineries.

Table 1. An example of Change Request Form

Name and surname of applicant	Role
Project code	Project title
Change request name	
Description of the change	
Product performance dimensions affected by the change and quantification	
Speed (mt/s)	
Mean Time Between Failures (MTBF) (h)	
Noise (db)	
Product Cost Index	
Others	
Impact on the activity/ies (ID)	
Execution time (days)	
Cost (euros)	
Skills required (description)	
Equipment required (description)	

As it can be noticed, not only the technical features of the change request are asked but also the impact on the project performance and the activity(ies) the change request is linked thus permitting the project manager to better evaluate to request in management terms.

Conclusions

From the point of view of team members, the ideal situation would be to have maximum stability in the activities that fall under their responsibility. Unfortunately, however, project environments can be very turbulent. A part of this turbulence comes from external factors, but a large part of it also comes from internal factors. Given that change requires energy and resources, a good rule is to only try and implement

changes that have a positive impact on project performance and to anticipate them as much as possible, so as to reduce the cost of their implementation.

Team members play a key role in these dynamics as they are both the recipients and the proposers of change. Through this dual role they can contribute to both greater stability and greater turbulence. In short, many virtuous or vicious project dynamics depend on team members. The correct state of mind with which a team member should address changes is therefore sound rationality, whereby changes are not labeled from the outset but they are put forward for discussion and analyzed to assess the benefit of implementing them.

A project that is highly unstable in the initial phases may become more stable in subsequent phases through an in-depth comparison of the different possibilities of action; the initial stability of a project is not in turn a guarantee of success if decisions are postponed and addressed too late, prejudicing the outcomes.

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