Chapter 4 | overview

This chapter focuses on the team effort that is needed to bring a project to a successful end. It shows why teamwork is essential and why it should not be taken for granted. It explains which challenges the project manager faces in developing a group of specialists into a coherent team. The chapter provides you with several ideas and tools to help you deal effectively with these challenges. For instance: it provides specific advice on choosing which leadership style to use in which situation. After reading this chapter you will understand how to select the members of your project team, how to organise your team and how to lead your team from day to day.

Chapter 4 | outline

Chapter 4
Building and leading the team

by Chantal Savelsbergh and Peter Storm

4.1 | About the teams

What is a team?

The most common description of a team is that it consists of *a group of people who work together towards a joint goal.* However, almost any department of any organisation has these properties. If a group has just these properties then we would still call it a group and not a team. In order to be truly referred to as a team we believe a group must also have these characteristics:

- To reach the joint goal, the team uses a *joint approach* (a game plan),
- in which each team member has a *unique role*,
- which is customised to her *specific abilities*.
- To guide their efforts along the way the team uses joint *performance criteria*,
- which *all* team members have *adopted*.

Now we can properly distinguish a department from a team. More important: these additional characteristics imply that a group cannot become a team simply by calling itself a team. In order to become one, the group must transform itself.

In practice there are different types of teams:

1. *Would-be teams:* groups who call themselves 'team', but which are not.
2. *Football-type teams:* highly structured teams with a detailed game plan.
3. *Basketball-type teams:* highly flexible teams in which joint improvisation is important for success.
4. *Baseball-type teams:* teams in which individual performance alternates with joint performance.
5. *Tennis-type teams:* teams in which individual performance is enhanced by a joint spirit.

Is teamwork essential for project success?

Charles Pellerin is a former director of NASA's Astrophysics Division. He led the team that repaired the Hubble Space Telescope. When he started this repair project his first objective was to find out why the billion dollar telescope did not function properly right after it was launched. To his

own amazement the root cause had nothing to do with technology. It had everything to do with poor teamwork. As a consequence he changed jobs and dedicated his life to promoting better teamwork at NASA and elsewhere. He believes that teamwork is the # 1 factor for success in HighTech projects.

Claude Bessner and Brian Hobbs (2012) performed a large study to find out which project management tools are most useful for different kinds of projects. A *team building event* turns out to be the most frequently used tool in the area of team management. However, the results also show that the value of this tool is limited. A much more valuable, but less frequently used, tool is the use of a *team development plan*. This added value is highest in complex, innovative projects and lowest in repetitive, non-innovative, simple projects.

Lynn Crawford and Terry Cooke-Davies (2012) conducted a similar study but from a different perspective. Where Bessner and Hobbs surveyed project and programme managers, Crawford and Cooke-Davies interviewed corporate executives who obviously have a more strategic focus. Over all industries covered *collaboration and partnering* – in which team management plays an important role – turns out to be the fifth most frequently mentioned driver of strategic success. The full list contains 22 strategic drivers. Risk management, for instance, ranks 11th on this list.

These are but three of the many observations which have shown that team management is a crucial factor in attaining project success.

Are human beings 'made' to work in teams?

Human beings prefer, by their nature – like ants, cows and wolves – to live in a 'herd'. Does that mean that they are born team workers? No, most certainly not. There is an important difference between human beings and, for instance, ants.

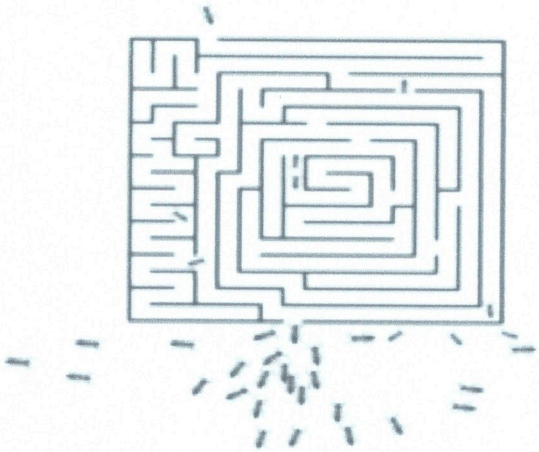

Figure 4.1: A maze with ants trying to find their way out

An experiment with humans and ants

Imagine a maze like the one in Figure 4.1. Ants can find their way through the maze by trial and error. Just like human beings do. When you add more ants they will find the way out quicker. That's because their nature drives them to cooperate with each other. Human beings can cooperate with each other but only if they want to, not because they do so by nature in a situation like this. Human beings also like to compete with each other. But even if they decide to cooperate with each other in this assignment there still remains a difference between ants and human beings. The positive effect of cooperation between ants does not decline if there are many of them. For humans the optimum number is between six and eight. If the group becomes larger, then the positive effect of cooperation will decline.

So, human beings sometimes decide to cooperate with each other and at other times they decide to compete with one other. The results of various laboratory experiments indicate that people are more likely to cooperate than to compete with each other when they:

- are insecure about the circumstances they are facing and about what is going to happen. This phenomenon can be seen when a group on a sailing trip suddenly is confronted with bad weather. We can call this the *security* effect of cooperation;
- have a desire to accomplish something which they cannot accomplish individually. We can call this the *performance* effect of cooperation;
- have strong feelings of belonging together. Of sharing the same norms and values. We can call this the *socialisation* effect of cooperation;
- expect that helping someone else will bring a reward of some kind. This we can call the *rewarding* effect of cooperation;
- expect that working together with someone else will teach them something new. Something that can help them in the future. We can call this the *learning* effect of cooperation.

You as a project manager should be aware of these basic drives and apply them wisely in your role as a team leader.

Natural stages of team development

Teams do not automatically perform at the optimal level from the first day onwards. People have to settle into their roles. They have to get to know each other and adjust to the style of the leader, the project manager. Extensive research has been done into how teams are being formed. That development goes traditionally through four or five stages. These stages are also known as *forming*, *storming*, *norming*, *performing* and *adjourning*. The fifth stage is not always included, but is definitely important for a project team, that has by design a short and discrete lifetime.

In the **forming** stage trust and interpersonal relations have to be built. The team needs to find its place and so do the members of the team. Not much work will be achieved, but people will learn how to deal with each other. People are typically very much on their own initially, feelings are not dealt with and weaknesses are covered up. This is probably a good time to agree the team charter. Agree how people want to work together and how issues will be resolved. This is the time for setting the standards for the project together and by doing that learn to join hands. At the second stage, the **storming** stage, people will start experimenting. Boundaries will be tested, feelings being raised and the concern for others will grow. Some stressful negotiations will take place in order to establish positions and mutual dependencies. The team feeling will grow and the charter will be tested and deepened.

At the third stage, the **norming** stage, roles become accepted, the team starts developing based on agreed procedures, methodical working and established and tested ground rules. In the final operational phase, the team is fully effective and **performing**. More use is made of the abilities of the team members and the available energy. The needs of all participants are met and the social aspects are duly considered. The leadership style is appropriate to the phase the project has reached. At the final stage of the team, the team will be disbanded and **adjourn**. One of the challenges for the project manager is to make sure all her team members, with whom she has worked for the duration of the project, find a new project or a new position in the line organisation. The selection of her next team might be dependent on how she dealt with her previous staff.

The challenges of building and leading a team

What you have been reading so far gives you several clues of what it takes to build and lead a team:

- First, you must understand yourself as a team member. This may sound strange because you are the leader, are you not? However, reality dictates that you cannot ask your team members to be good team mates if you are not one yourself.
- Second, you should find out what your project demands from your team. What kind of team is needed for your project.
- Third, once you know what kind of team you need for your project you will have to select your team members. Not only the selection itself can be a challenge. In many cases the project manager, you, will not automatically have a say. Hence, you will have to somehow 'wriggle' yourself into the process.
- Fourth, when your team members have been selected you will start to mobilise them. This is easier said than done because most of them will have other obligations. The challenge is to convince them that when they spend a little time now in getting acquainted with you, the project and each other they will save a lot of time later on.
- Fifth, after mobilisation comes the most challenging *and* rewarding part of leading a project team: developing your team into a well-oiled machine.

4.2 | Creating a project team

What kind of team does your project need?

Not a would-be team obviously. Earlier we offered you a choice between four types of real teams. Let us analyse with the help of Table 4.1 which type is needed when:

Table 4.1: Types of teams

Which type of team?	When?
Football-type teams: highly structured teams with a detailed game plan.	Operational projects that require simultaneous, well-coordinated efforts from a large number of people. An example is a so-called turnover project in the process industry.
Basketball-type teams: highly flexible teams in which joint improvisation is important for success.	Tactical projects that require flexibility through improvisation and adaptation to changing circumstances. Rescue operations are an example of such projects.
Baseball-type teams: teams in which individual performance alternates with joint performance.	Technical projects that alternately require individual expertise and collective coordination. For example: product development projects.
Tennis-type teams: teams in which individual performance is enhanced by a joint spirit.	Small projects that require most of all individual ingenuity, expertise and perseverance but cannot do without group support. For example: fundamental research projects.

This book focuses on the first type of projects: Operational projects that require simultaneous, well-coordinated efforts from a large number of people. These projects need well-oiled organisational machines so to speak. The success of such projects depends to a large extent on the care with which:

1. the project organisation is structured,
2. the tasks among team members are distributed,
3. these tasks are executed and
4. the execution activities are synchronised.

If these four conditions cannot be met the project may end up in chaos.

How the team can be organised

In the case of larger engineering projects the project manager will normally be a part of a business development team. The business developers have, based on market information, on contacts with prospective clients or with resource holders, come up with a possibility to develop a new opportunity (a plant, a factory, a plant extension, additional storage capacity). The direct stakeholders in this new venture will for the duration of the project be the business opportunity manager, the project manager, the future operations manager and possibly the (new) technology manager. This so-called asset development team will be governed by a steering team consisting of line and commercial managers (see Figure 4.2).

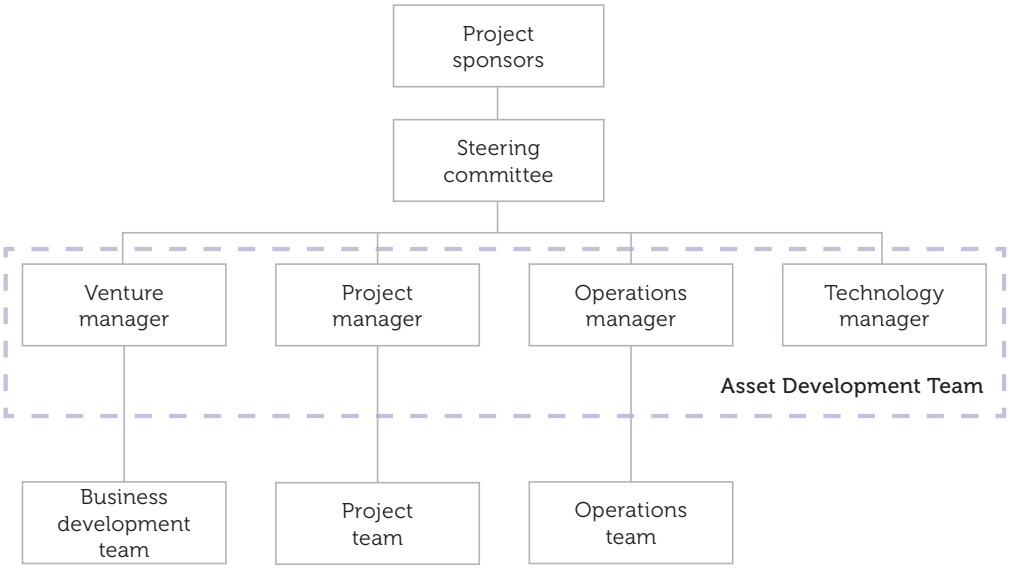

Figure 4.2: Venture team and related governance and assurance

Assuming that the project manager or project director is already nominated by the powers in charge – either the board, the head of the project department or the engineering manager (with input from the project sponsors and/or the steering team) – her first task after trying to

understand what the project is all about is to find herself a team. This course will be a cascading process. First the project manager will decide what types of roles are required to manage the project towards successful completion.

Depending on the size and the complexity of the project more or fewer roles will be required to manage the project in all its aspects. But traditionally the project team will consist of various project engineers, a project controls or finance controls expert, an engineering manager, a construction manager, a planning and estimating engineer, a contracting and procurement specialist (either combined or separate) and a quality assurance/quality controls engineer. All these roles will report to the project manager although with bigger projects some of the roles will report to the project services manager, who quite often acts as the deputy of the project manager (see Figure 4.3).

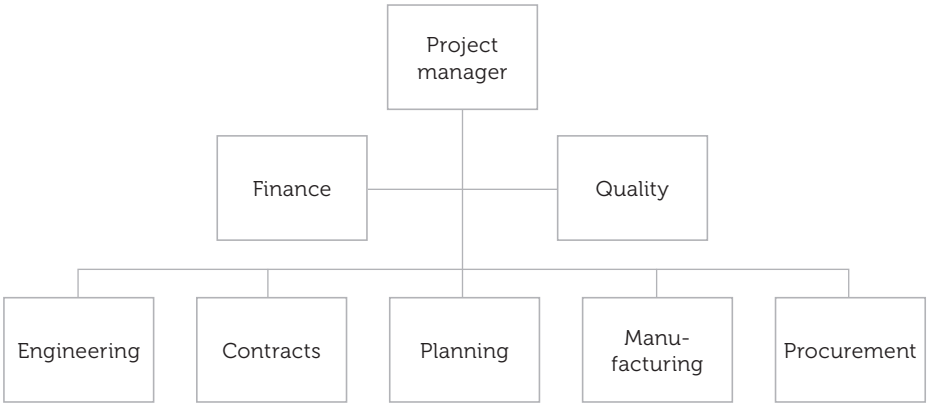

Figure 4.3: Project team with a number of required functions

The preceding paragraph identifies the basic functions to be fulfilled in the project. Each of these functions makes a unique contribution to the development of the project. However, all of these contributions are interdependent. Interdependency can take on different forms:

- *Pooled interdependency*. This means that different functions share the same resources.
- *Sequential interdependency*. This means that one function depends on the outcomes produced by another function.
- *Reciprocal interdependency*. This means that two or more functions are simultaneously dependent upon each other.

A proper organisation of the project, therefore, does not only describe how the functions are distributed but also how they are coordinated. Coordination can be accomplished in various ways:

- Through *direct supervision* by a team leader. For example: a decision made by the team leader to form a temporary task force to jointly solve a problem that cannot be solved by each of the functions alone.

- Through *formal guidelines*. For instance a chart describing who has what kind of responsibility and authority with regard to which kind of issue. This is called a RACI chart (see Table 4.2), where *R* stands for Responsible to take action, *A* for Authorised to decide, *C* for must be consulted and *I* for must be informed.

Table 4.2: Example of a RACI chart for the execution of a project

Task & Responsibilities	Decision Executive	Decision Review Board	Businiss Opportunity Manager	Project Managers	HSE Consultant	Construction Manager	Site Operations Manager	Site HSE Manager	Contractors
Implement HSE project plan (and sub HSE plans)	A	I	t	R	C		C		
Governance	A	I	R	C	C	I	C	I	
HSE management	A	I	R	R	C		C	I	
HSE targets	I	I	A	R	C	C	C		I
Communication / HSE in meetings			A	R	C				I
Toolbox process			I	A	C	R			I
HSE monitoring (rounds / audits)	I		A	R	C	R			I
Management of change	I		A	R	C	C			I
Contractor selection			A	R	C				
HSE project introduction				C	R				I
Emergency respons			I	A	C	R			I
HSE in workplanning and execution				A	C	R			I
Permit to work process			I	A	C	R			I
Risk assesments				A	C	R			I
HSE supervison				A	C	R			I
Incident management	A		R	R	R		C		I
Waste management	A		R	C	C	R	I	C	I
Competence and fitness to work			A	R	C	R			I
Process safety in design and construction				A	C	R	C		I
Business leadership									
Project leadership									
Project team members									
Site leadership									
Contractors									

- Through *formal and informal communication*. Time schedules together with progress meetings are examples of formal communication which aims at coordinating the efforts of the different functions.
- Through *training and drilling*. This involves training combinations of functions to attain the highest possible level of joint competence and to practice coordination in try-outs. In sports teams this is the most preferred way to improve coordination. In business teams it is the least widely used.

In complex engineering projects all four are needed. It is up to the team leader to combine and synthesise these four means of coordination. For many team leaders in established organisations this is a challenge because they often do not feel authorised to adapt the formal guidelines, not influential enough to change the informal communication and not skilled enough to train and drill their team. It is a fact of life for most project managers that their authority to make decisions and change the rules is very limited. However, there is another way. So far we have been talking about 'functions'. A function is an abstract thing. A construct. But the people who fulfil these functions are not. Given the limited authority a project manager has, it is crucial that she acknowledges this fact to the fullest extent. In the next paragraph we will explain why and how.

What is your leadership style?

When you start leading a team you will be regularly confronted with dilemmas. Forinstance, when you have to make a decision quickly: will you take the time to listen to suggestions made by members of your team before you make the decision or not? Or, when you notice that a team member is struggling with a task: will you give her specific advice or will you let her find out for herself? There are advantages and disadvantages to 'both sides of the coin'.

Over a period of time team members will notice a basic pattern in the way you handle these dilemmas. For instance they might notice that you tend to behave in a directive style. Which means that you (a) have the final say over decisions, (b) rarely include team members in your deliberations, (c) reward team members for doing the right thing and punish them for what you consider to be misbehaviour and (d) give precise instructions to team members on how to do their work. Or, alternatively, they might notice that you have a participative style of exerting leadership. Which means that you include team members in most of the decisions that have to be taken. In this style you share your leadership responsibilities with your team. A third leadership style that is often recognised is the delegative style. When you use this style you delegate as much responsibility to your team members as you can. You treat your team members as responsible and experienced professionals who know what they have to do and how to do it. You focus on stimulating and inspiring them, rather than punishing or rewarding and on dealing with the external issues of the team.

The way you have been reared by parents, teachers and leaders during the first phases of your life probably has a great influence on your natural leadership style. As you take on the role of a leader yourself it is important that you are aware of what your natural style

is. You can assess your style by taking one of the available tests (see for instance: http://psychology.about.com/library/quiz/bl-leadershipquizb.htm) and by asking feedback about your behaviour from those who work closely with you. The general opinion of those who study leadership is that there is no such thing as the 'one best leadership style'. In certain situations the directive style is most effective, in others it is not. For instance, in dangerous situations where immediate threats are present it is probably best to apply the authority you have, give clear instructions, correct misbehaviour and take decisions quickly. Earlier in this chapter we wrote about experimenting with your leadership style. Finding out which style works best in which situation. If you do not experiment with your leadership style then your effectiveness as a leader will wear out in the long run.

Selecting the members of your team

In most cases the members of a project team are selected and assigned by higher management. The project manager needs to make the best of what is assigned to her. However, there is always a moment when you have the opportunity to influence the selection process. This means that you have to reflect about what you consider the best possible composition of your team and express your thoughts to higher management.
On the one hand you want the best specialists available. On the other hand you want the most devoted team players. So it comes down to finding a good mix.

Climbing Mount Everest

The first Dutch expedition to conquer the Mount Everest was launched in the early nineteen eighties. This team consisted of the best and most experienced climbers available at the time in the Netherlands. It failed because of poor teamwork. One reason why the teamwork was poor had to do with mutual competition within the team. Every team member wanted to be the one to reach the top.

A couple of years later, in preparation for the second attempt, it was decided to select a limited number of 'top climbers' and add a number of 'supporting climbers'. In order to make the expedition attractive to these supporting climbers they were given the opportunity to improve their personal record regarding the highest level they had ever reached. This expedition was a success.

Who are the 'best specialists'? Is the number of years of working experience decisive? Or is it something else? Of course, years of experience is a relevant criterion. But it tells you only what a person potentially *can* accomplish. It does not say anything about what she *wants* to accomplish. So, what you want is someone who is experienced *and* motivated. What motivates people? Well, general motivation theory tells us that people tend to be motivated when the job is:

- *Challenging* in the sense that it is neither too easy nor too difficult.
- *Rewarding* in the sense that their personal achievement will be recognisedrecognized and rewarded.
- *Instructive* in the sense that it provides the opportunity to gather new knowledge and insights.

Complex engineering projects potentially provide all of this. But not in the same way. For some projects the crucial success criterion is to do the project in the most efficient and cost-effective way possible. For other projects the crucial success criterion is to manage the external risks as completely as possible. And for still other projects the main criterion is to apply brand-new technology successfully. Each of these provides different ways of making the jobs within the project team challenging, rewarding and instructive. It is up to you to find out what the primary success criterion of your project is and to find specialists who want to be part of it. Higher management rarely has the opportunity to talk extensively with specialists about their motivation. You can create that opportunity for yourself and influence the selection process indirectly by inspiring enthusiasm on the part of the specialists of your choice. If they are enthusiastic they will ask to be included in the team.

Who are the most dedicated team players? The answer is rather simple: the most dedicated team players are those who put team play above anything else even if they are the only team player in the group. Generally speaking: the less the team spirit in the group the more effort team players will spend to restore it. This implies that you do not need that many dedicated team players. But it also implies that you must make an effort to recognise and acknowledge their contribution to the team. This is easier said than done because dedicated team players do their job in a very subtle – almost invisible – way and they are not apt to ask for recognition. Above all, do not make the mistake to judge a team player solely on her performance as a specialist.

In order to identify team players you can use the 'Are you a team player?' test. Not in a formal sense like: 'Hey can you do this test for me?' but in an informal sense by just talking to people and asking questions in such a way that they do not feel judged. Do not hesitate to adapt the test so that it corresponds closely to what you think is characteristic of a team player.

Are you a team player?

In each of the following situations you have three options. For each situation select <u>one</u> option which is most applicable to you.

1. When we have a quarrel at home, then I
A. will do my best to maintain a peaceful atmosphere.
B. will try to mediate and refrain from becoming involved.
C. will seek support from others.
D. ask myself if this issue is worth a quarrel.

2. If I were to be asked to take up a position on the board of a community service organisation, then I will say
A. yes if I believe that the board and I can make a success out of this.
B. yes if it fits in my time schedule.
C. yes if I believe that the service organisation really needs me now.
D. no to find out how badly they need me.

3. When I arrive late at a meeting, then I will
A. quietly find my place and start to listen.
B. apologise and ask which point of the agenda is being discussed.
C. apologise and listen quietly to find out what the discussion is about.
D. make a joke to relieve the pressure.

4. If my team is being criticised by someone outside the team, then I will
A. bring in the criticism at the next team meeting.
B. defend my team and challenge the person giving criticism.
C. ask that person to inform my team of his or her criticism.
D. listen politely and refrain from an immediate reaction.

5. When a colleague in my team has done a fantastic job, then I will
A. immediately seek her out and congratulate her.
B. organise an informal celebration at the end of the day or week.
C. send an email to congratulate her.
D. wait till I happen to meet her and congratulate her.

6. If we encounter a serious problem in our work, then I will
A. start looking for a solution as soon as possible.
B. inform higher management as soon as possible.
C. bring various people together to find a solution.
D. first determine the urgency of that problem before I do anything else.

7. If a colleague, with whom I work together regularly, tells me in confidence that she is looking for another job, then I will
A. try to keep her for our organisation.
B. advise her to go for her best interests.
C. explore her motivation for wanting to leave our organisation.
D. show respect for her choice and explore the consequences of her decision for our team.

8. The best working environment for me is one
A. in which I can do my job according to my own belief.
B. which is stable and supportive.
C. in which joint performance is more important than individual performance.
D. in which vision and strategy guide the actions and interactions of people.

Your score

For each time you have chosen one of the following options add ‘1’ to your score. Start with a score of ‘ 0’.

Question 1	Question 2	Question 3	Question 4	Question 5	Question 6	Question 7	Question 8
B	A	B	B	B	C	D	C

If your score is higher than five, you are most likely a team player.

4.3 | Leading your team: the forming stage

Kicking off with your team

Once you have your team assembled it is time for a kick-off. To kick off you can have a meeting with your team in which you explore the project. When you prepare this meeting make sure that:

- Everyone knows the essence of the project, what it is about. Its goals, deliverables, constraints, challenges, risks and opportunities. In headlines, not in detail.
- Each specialist has prepared a brief presentation about her personal goals, deliverables, constraints, challenges, risks and opportunities. Again, in headlines, not in detail.
- All team members are present.
- You have an agenda which allows you to try out the three different leadership styles mentioned earlier.
- You have in mind what you want to observe in your team.

Tools to help you

Ideas for an agenda which allows you to try out different leadership styles are given in Table 4.3.

In the following practical example all aspects of a project play a role. The task at hand is restricted in time, a true team effort is required to ensure a successful outcome, the task is non-routine – it is not something you do every day, it requires meticulous planning and it can be risky if you do not take the right precautions.

Practical example

As a team (4 - 8 persons) you are to arrange a 10 meter long endless rope into a perfect square. While you are doing this each of you is blindfolded and each of you should actively participate in the task. You may determine the precision of your square and you should perform the task of rearranging the rope within 5 minutes (from the moment you touch the rope). You have 30 minutes to prepare yourself for this job; 15 minutes of these should be devoted to searching and selecting a solution and 15 minutes should be devoted to designing a procedure.

Figure 4.4: The project ingredients

Table 4.3: Agenda for trying different leadership styles

Topic	Ideas for how to address this topic	Your style
What is this project about?	Give an Elevator pitch. Stand up and write down some essential points. Invite questions which ask for more information. Restrict discussion.	Directive style. Be brief and firm. Show your commitment to and enthusiasm for the project.
What kind of team does the project need?	Invite team members to share their experiences regarding working in a project team. Note all positive experiences. Introduce the idea that 'different projects require different teams.' Ask the team to jointly describe what kind of team this project needs.	Participative style. Lead the process but limit your own input. Stimulate interaction and joint exploration.
What kind of team are we now?	Find one or two team exercises on the internet and do these with your team. Ask the team to evaluate the way they worked together and compare the outcome with the outcome of the preceding step ('what kind of team does our project need').	Delegative style. Give clear instructions at the start and then sit back and observe.
How are we going to organise ourselves?	Ask your team to design: ‣ A team structure: who is responsible for what? ‣ A mutual dependency chart: who is dependent on whom for which tasks? ‣ A communication plan: what kind of meetings do we need? How do we keep each other informed?	Participative or Delegative style, depending on what your natural leadership style is.
How will I lead and control this project?	Tell your team how you intend to lead and control the project and what kind of contribution you ask of them in order to make it possible for you to lead and control the project successfully.	Directive style. However, do not hesitate to show yourself as a real life person rather than just as a manager.
Round up	Ask your team members to share with each other what they 'take-out' of this session, how they feel about being part of the team and which questions still remain on their mind.	Participative style. Do not hesitate to be open and frank about your own thoughts.

Ideas for an observation list which helps you assess the strengths and weaknesses of your team are given in Table 4.4.

Table 4.4: Assess strengths and weaknesses of a team

What you want to know about your team	What to observe
Do they interconnect?	▸ Do they ask for each other's opinion? Are the less outspoken members of the team invited to speak up? ▸ Do they show interest in each other's expertise, experience and personality?
Are they goal-oriented?	▸ Do they raise and discuss the question 'what do we want to accomplish now?' ▸ Do they refer regularly to the goals and deliverables of the project?
Do they manage the team process?(this topic is only relevant when you use a delegative style)	▸ Do they raise and discuss the question 'how shall we approach this?' ▸ Do they stick to the approach that was agreed? ▸ Does someone lead the discussion and is this person accepted by all as a leader?
Are they action (progress) oriented?	▸ Do they regularly repeat the same points of view? ▸ Do they work towards joint conclusions?
Do they explore the challenges of the project?	▸ Do they look for solutions for dealing with the constraints of the project? ▸ Do they share knowledge about the stakeholders of the project?
Do they reflect about themselves and the way they are working together?	▸ Do they reflect on the process (how it was accomplished)? ▸ Do they share feelings about their mutual relations?

Do not expect your team to score high on this list during the kick-off. That would be unfair because hardly any group has all of these properties right from the start. The idea is that you start observing your team objectively.

4.4 | Managing your team from day to day: the storming phase

Issues

The day to day issues of managing a project team are manifold. We will explore those that you are most likely to encounter. It is up to you to lead your team through this storming phase and introduce the routines they need to deal with these issues.

Which issues can you expect?

- *Soldiering*: some team members are not pitching in as much as they should.
- *Intra-team conflicts*: task related disagreements become personal confrontations.
- *Inter-team conflicts*: your team experiences difficulties in dealing with another team which is somehow involved in the project.
- *Not delivering on time*: ignoring the time schedule, not knowing what the time schedule is or making excuses for not delivering on time.

Acknowledging that these things may happen is the first step in curing them. They are quite natural phenomena and it does not really help to become irritated when you encounter them. We will give you some simple and straightforward advice on how to deal with each of these issues.

Soldiering

Why are some people not pitching in as much as they should? This may happen because they have other obligations which occupy their minds and hearts more than their contribution to the project. A very common phenomenon in projects. Another cause might be that someone does not feel comfortable with her position or role in the team. Yet another cause can be that someone is not fully aware of what is expected or does not feel capable of meeting these expectations. Three different causes that require different solutions.
The first step is to find out what the major cause of soldiering is for this team member. This requires a private conversation in which you lead the way by showing sincere interest and using open questions. Do not address this issue in public and do not gossip about this person.

Once you have established what makes it difficult for someone to contribute fully to the team effort you aim at finding a *joint* solution. As indicated, different causes call for different solutions:

- Being occupied with obligations outside the project is, at core, a rational problem that needs to be addressed in a rational way. A rational solution, for instance, is to temporarily reduce the workload. Our standard cause of action here is to make sure that the team member focuses on her contributions to the work of other team members. This prevents the person involved from isolating herself and, potentially, dropping out of the team.
- Not feeling comfortable with the team or the specific role in the team is, in essence, a social-emotional problem. There are no rational solutions in such a case. There are courses of action which can be taken but you will have to find out by trial and error what works and what does not. Different options are, for instance: invest more time in social team activities, give the team member a special assignment which requires frequent contact with other team members, reassign her to another position in the team, hold intervision sessions with the team in which personal experiences are addressed and explored in a way that is non-threatening or select a personal coach.

- Not being able to live up to the expectations of the job is both a rational and a mental problem. Sometimes the problem is relieved by specifying more precisely what is expected. In other cases it helps when performance goals and learning goals are separated and a course of action, such as additional training, is chosen to help reach the learning goals. On the mental side it is up to you as a leader to invest more time in coaching the team member involved. The conversation with which you started the process will have given you insight into what kind of challenges and what kind of support works best with this person.

Intra-team conflicts

Disagreements among team members are like wake-up calls. They take the team out of its comfort zone and challenge it to review its assumptions about the true nature of the problems it faces and about the preferred solutions to these problems. It is up to you to guide your team in dealing with disagreements in such a way that they come up with better joint solutions. And to prevent disagreements from becoming interpersonal conflicts. In order to do so you need to understand why task-related disagreements can become interpersonal conflicts.

Basically, disagreements tend to become interpersonal conflicts when there is not only a clash of opinions but also a clash of social styles. *What* people say to each other becomes less important than *how* they say it. Some people talk more in an *asking* way: they state their opinions more carefully and speak in a softer voice. Others talk more in a *telling* way: they state their opinions in a more authoritarian way and tend to speak in a louder voice. Some people talk more in a *controlled* fashion focusing on facts and limiting small talk. While others are more *emotive* in the way they talk, expressing feelings and involving in small talk. When we combine these different ways of how people talk to each other we end up having four different social styles:

1. Analytic: talking in a controlled and asking fashion.
2. Amiable: talking in an emotive and asking fashion.
3. Driving: talking in a controlled and telling fashion.
4. Expressive: talking in an emotive and telling fashion.

When nothing is at stake and the surrounding atmosphere is relaxed, like at a party, these different styles tend to mix well with each other. Together they create variety and make the conversation pleasantly unpredictable. When the stakes are high and the atmosphere is tense, the opposite may happen. People with a driving social style may become irritated by the amiable style used by others and vice versa. They do not understand each other anymore, both at the content level and at the relational level.

Recognising these different styles can help you draw attention to the underlying phenomenon of social styles and bring them to the table. Call for a time-out and ask team members to stop talking about the content for a moment and start sharing what they noticed about *how* they are talking to each other. It is up to you to help your team recognise and deal with this phenomenon. Once they learn to appreciate the different social styles rather than feel bothered by them they will find it easier to separate content from style and avoid getting into a fight just because the styles are different.

The next step in preventing disagreements from becoming interpersonal conflicts is to set the *ground rules of collaboration* within the team. What kind of ground rules? We suggest behavioural ground rules rather than intentional rules. Behavioural rules are for instance:

- 'Be on time for meetings'.
- 'Appreciate other points of view even if you disagree'.
- 'Talk *with* others, not *about* them'.
- 'Bring conflicts out in the open and take responsibility for solving them'.

The way to set the ground rules of cooperation is to do it in a cooperative or participative way. Ask each team member to recollect and share a previous experience which has shaped her opinion on how to collaborate in teams. Share one or two of your experiences too. Stimulate your team members to inquire further about these experiences. Why is a particular experience important to someone? What has she learned from it? How does she apply what has been learned? It takes some time to do this.

Inter-team conflicts

In complex engineering projects we rarely see just one team being involved. As mentioned earlier, at the owner's side there are the business development team, the project team and the operations team. At the contractor's side we can also identify multiple teams, such as the design team, the materials supplier team(s) and the construction team. Complex engineering projects are temporary alliances between organisations and their teams. The performance of the alliance as a whole has more influence on project success than the performances of the separate allies. Hence the degree of collaboration between the different team leaders and their teams is crucial. Collaboration between teams and their leaders in a project is commonly guided by contracts, policies and procedures, information systems, a coordinator or coordinating team and by the decisions made by the agreed decisions makers. As the risks involved in a complex engineering project are huge it is common to invest quite some time in designing, aligning and implementing these different coordinating mechanisms. Does that mean that you, the project manager, can rest at ease and focus just on leading your own team? No, not at all. Remember Pellerin (NASA) who discovered that the human factor is more decisive than any other factor. The human factor can only be controlled to a limited extent through the formal mechanisms mentioned above. There is no contract, procedure or policy that guarantees you will not experience inter-team conflict. You have a responsibility for preventing and solving inter-team conflicts. How to go about it?

First try to develop some degree of team spirit among the various team leaders. The very least you can and should do is to hold occasional and informal off-site meetings in which you share experiences, inform each other of planned or otherwise expected actions, talk about joint priorities and review the quality of collaboration among the teams. *Second*, hold frequent meetings with your team to explore: their interfaces with other teams, the degree to which your team structure matches the structures of the other teams, how the communication channels with the other teams function. Look for small and simple improvements on your side and implement them rapidly. *Third*, help your team understand the differences in the way-of-working of the teams they need to collaborate with. Pellerin's four-dimensional framework of team cultures may help you with that (see Figure 4.5).

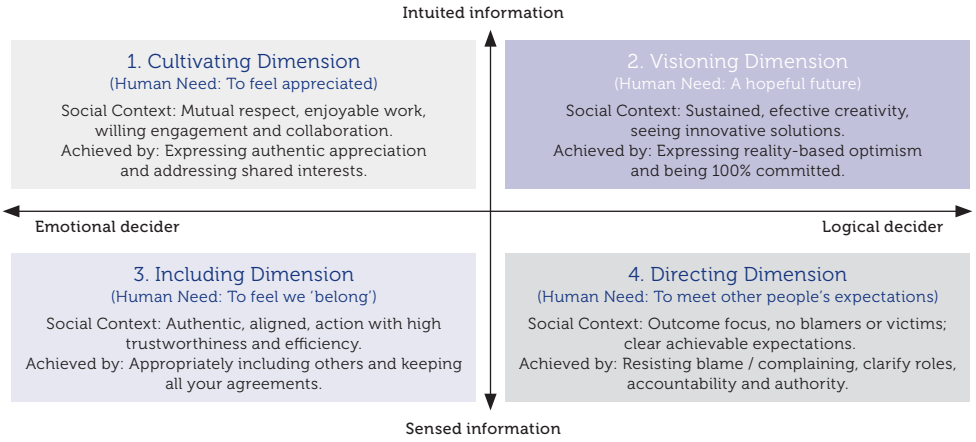

Figure 4.5: Pellerin's four-dimensional framework (Pellerin, 2009)

What the framework tells you is that all people have a basic need for Being Appreciated (box 1), Being Included (box 3), Having a Positive Vision (box 2) and Meeting other People's Expectations (box 4). Despite the fact that all people have these needs, very few teams are able to establish and uphold the values and norms that are needed to fulfil *all* of these needs equally. Some teams tend to become Green more than any of the other colours. When you visit such a team you feel respect and appreciation from the moment you arrive. The team from box 1 will take time to get acquainted with you. However, when you try to do concrete business with a team from box 1 you will experience some difficulties. A team from box 1 is not very capable of designing time schedules to which they will stick whatever happens. You will hear things like 'Just trust us, we'll do the job'. When you visit a team from box 4 on the other hand you should not expect them to take much time to get acquainted and exchange appreciative things about each other. They will like to come to the point as soon as possible. A team from box 4 will prefer to analyse the facts rather than the people. A team from box 4 is proud to be in control. Each of these four dimensions is related to two behavioural norms. For instance 'Keep your agreements '(box 3). You can help your team become a more complete team by:

- Observing which norms are being adhered most in your team.
- Discussing the other norms and explaining how important they are in dealing with teams which have a different colour.
- Practising the application of these other norms at various occasions. For instance during team meetings.

Not delivering on time

This happens a lot even when your team members are all working hard. Why is that? Well, the throughput time of a project is not really influenced very much by variations in how hard everyone is working. Of course, at the extremes it is. When everyone is doing nothing the throughput time will increase tremendously. However, we are not talking about extreme situations here. Instead we focus on what happens normally. And under normal circumstances the throughput time will be influenced much more by what happens between people than by what everyone is

doing by himself. This phenomenon is strongly related to interdependencies between the various activities in a project: *pooled interdependency*, *sequential interdependency* and *reciprocal interdependency*. You should manage these *interdependencies*. One way of doing that is to focus part of your team meetings on this subject. Even professionals need encouragement at this level because it is in their nature not to acknowledge that they are dependent on someone else.

4.5 | Developing your team to a higher level: the performing phase

Joint learning is the key

Once your team has gone through the storming phase it is time to take it to a higher level. There are many different views on what a high performing team is and how to stimulate the team to reach a high performance level (Griffith and Dunham, 2015). Our view is that the most essential characteristic of a high performing team is that it has developed a strong capability for *joint learning from experiences*. Our research (Storm and Savelsbergh, 2012) shows that a strong capability for joint learning helps the team to:

- Endure stress and misfortune better.
- Open up to perspectives other than the dominant team perspective.
- Come up with a larger variety of solutions when they meet new problems.
- Act more quickly when incidents occur.

What do we mean by joint learning capability? In our research we focus on *behaviour* which is indicative of a joint learning process. This is our way of looking at it.
Figure 4.6 represents eight different learning behaviours. The spider web in red indicates the

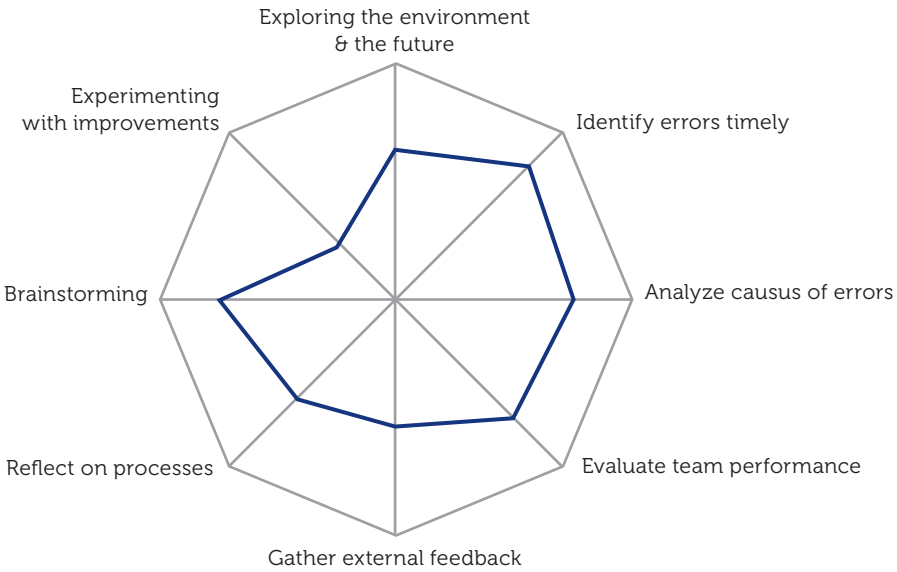

Figure 4.6: Joint Team Learning Behaviours (Storm and Savelsbergh, 2012)

scores of a particular team. This particular team scores high on behaviours like *identifying errors* and *analysing the causes of errors*. This means that they engage rather often in these behaviours *together*. If only one or two persons engage in these behaviours then that is probably not representative of the whole team. The team scores low on behaviours like *experimenting with improvements* and *gathering external feedback.*
Each of these behaviours has rather little value by itself. Only when all behaviours have a high score you will see the positive effects mentioned above. There is a small chance that a team will purposely try to increase its joint learning capability. You, the team leader, are much needed.

4.6 | Finishing the job: the adjourning phase

Adjourning may start rather early in the project if one or more team members leave the project and take on a new challenge. Adjourning ends when the team is fully disbanded. The early leavers present you with the opportunity to gain insight and practice in adjournment.
Adjournment can be a rewarding process to all concerned as long as you have clear objectives for it. In determining *your* objectives you might ask yourself these questions:

- How will I like the project to be remembered by those who leave?
- What would I like team members to remember of what they learned from the project?
- Which interpersonal issues should be solved before anyone leaves the project?
- How would I and my team members like to celebrate the end of the project?
- How can I help my team members make a successful transition from my project to their next assignment?
- How are we going to say 'goodbye' to all these fine people and teams we have worked with?

Many projects are in need of some kind of after delivery service. If you wait for that to happen before your official disbandment you will miss out on the rewards of proper adjournment. So, it is up to you to plan the moment of disbanding even when you are not sure when it will all end.

4.7 | The Wind Farm

In order to apply the ideas about successful teamwork to a particular project it is wise to diagnose the nature of the project in order to identify the specific challenges to the team. Our diagnosis leads to the following project characteristics and related challenges:

1. The project will bring three quite distinctive organisational cultures together into one venture: a routine-oriented culture (represented by Allwind), a process-oriented culture (represented within the organisation by the operator of the transport network) and a project culture (represented within the organisation by the construction company). The challenge for the project team is to learn rapidly how the strengths of these cultures can be synthesised and how potential clashes between these cultures can be prevented. As an example, it is our experience that the way in which people plan their efforts and how they deal with risks are quite different. A project start-up should include a joint exploration of this challenge.

2. On the operational side, the project essentially requires the project organisation to repeat the same thing – erecting a wind turbine in the sea – fifty times. In projects where repetition is a core task it is essential that everything is planned and organised to create a steep learning curve. This means proceeding more promptly and more efficiently every single time. People who have not been trained to think and act in terms of the learning curve have a tendency to think that improvement will come by itself. This is a fundamental mistake. The challenge for the project team is to explore extensively how a steep learning curve can be realised in all project aspects – technical, logistical, organisational, and financial. The topic of joint team learning, described above, prevails.

3. The project has a large number of very different stakeholders, some of whom have mixed interests (these are the inhabitants who are also part owners). Dealing with the contrasting interests of stakeholders is a major challenge in this project. We would recommend engaging an experienced stakeholder manager.