Reflection manual

A method for project success focussing on soft factors

Anno Perk BSc.

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Table of contents

1 Introduction

Collaboration is an important criterion when implementing Information Technology (IT) projects. However, in practice, client and contractor in a project often put their own interests before the interests of the group. This leads to distrust between the project members which can result in negative behaviour. Eventually, conflicts arise and mediators have to be brought in.

This method provides a solution which gives attention to the soft factors between client and contractor to help improve the success of large IT projects.

1.1 Background

Large IT projects using project management methods like Prince2 and PMBoK still cope with exceeding budgets and plannings and do not deliver according to the specified requirements. As a result extra time and money is required or the project does not deliver the required functionality. These problems occur despite the use of formal project management methods. Project management methods focus mainly on hard factors of the project like setting up planning and requirements documents. However, soft factors like collaboration, communication, behaviour and attitude only receive minor attention in these methods. These soft factors are indicated as important for project success (Perk, 2009).

Because of lack of attention to soft factors, the situation can occur where both client and contractor have different interpretations of agreements in the contract. By the hectic of the project there is little or no communication and both parties assume that they are on the right track, working towards the desired solution. However, this is not where they are heading. At a certain point in time both parties are confronted with the fact that they are not working towards the same solution anymore. At that point, the behaviour of the project managers can change and they might blame each other which results in a conflict. This is shown in Figure 1.1.

Creating a stronger relationship between client and contractor can improve the project process because fewer conflicts will occur and the participants find more pleasure in their work. This ensures that people are more cooperative in difficult situations. However, creating a stronger relationship has some practical challenges because both client as well as contractor has their own goals they want to achieve. However, with the use of the theory of reflection (Schon, 1983) and focusing on their shared and contrasting goals, both parties should be able to create a stronger bond. One precondition to form a strong relationship is that all involved parties are willing to work for it.

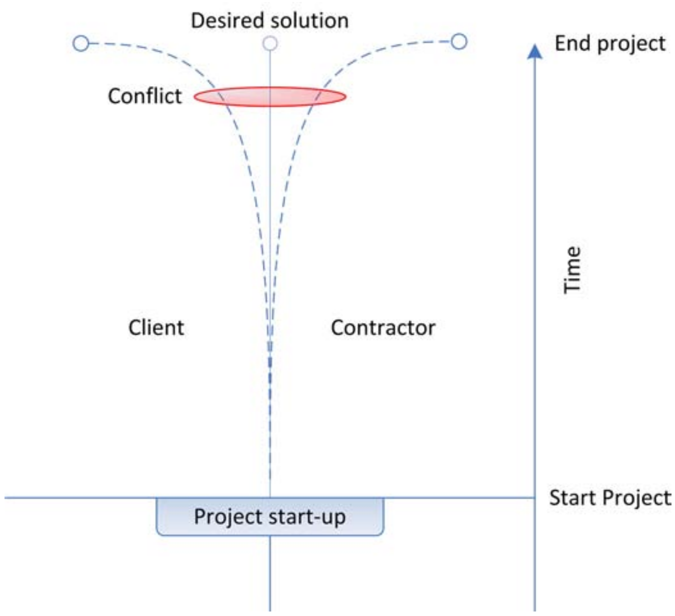

Figure 1.1 - Projects without focusing on the project relationship (Adapted from Perk, 2009)

This method is designed to assure that both client and customer learn from former and current situations in order to use it for future acting. It is setup as an element of the Master thesis 'Reflection in large IT Projects: A method for project success focusing on soft factors' (Perk, 2009). More information on the design of the method and relevance of reflection in large IT projects can be found there.

1.2 What is reflection

To improve the relation between the client and contractor in a project, the theory of reflection-on-action (Schon, 1983) is used as a basis to form a method to improve the project process. Reflection-on-action is the examination of former actions in order to adjust these actions for future situations. The goal of reflection-on-action is thus to learn from these former actions. From here on the short term reflection will be used when referred to the theory of reflection-on-action. Furthermore, this method does not only focus on former actions, it also looks at current ones.

1.2.1 Process of reflection

The process of reflection is conducted in a regularly reflection sessions in which both client and contractor look back on current and former situations to learn and improve their acting for future situations. These sessions have to take place every four to six weeks. In a reflection session both project managers come together to discuss the process and content of the project. This leads to situations in which they find that the actions of the counterpart positively or negatively influence the project process or their relationship. Together they can formulate alternative actions and decide whether to change the action for the future, and if so, which alternative to use for future situations. The process of reflection is depicted in Figure 1.2.

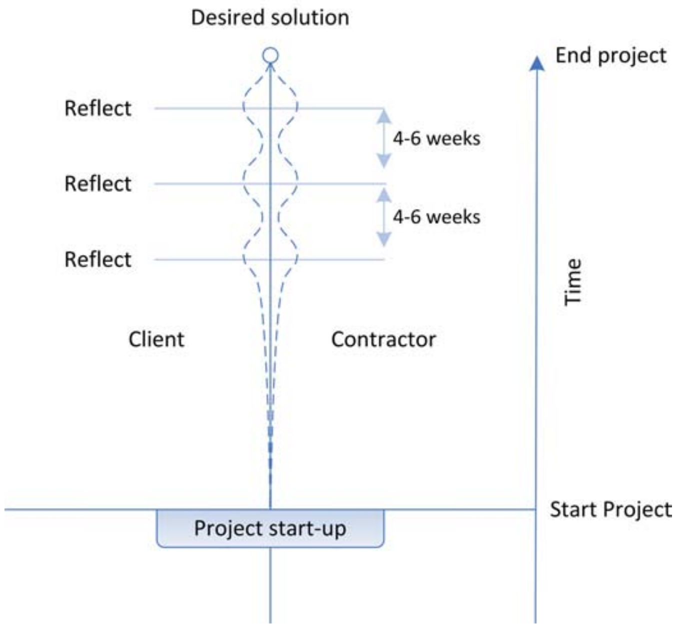

Figure 1.2 - Process of Reflection (Adapted from Perk, 2009)

The project managers are assisted in these discussions by a facilitator, called reflector, which facilitates the sessions and helps both client and customer to create understanding in each others motives for their actions during the project. This is done by giving the client and contractor insight in four soft key aspects: collaboration, communication, attitude and behaviour as they discuss the content and process of the project. The process of reflection is described more thoroughly in Chapter 3.

1.2.2 Four aspects: collaboration, communication, attitude and behaviour

Research identified four soft aspects that encompass the various success and failure factors of large IT projects (Perk, 2009). The four aspects identified: collaboration, communication, attitude and behaviour, serve as key aspects in reflection on large IT projects. These aspects can show how the relationship and interaction in a project is arranged. By giving attention to these aspects using reflection the relationship and interaction in large IT projects is improved.

Collaboration

The collaboration between client and contractor is important in projects as is defined as a positive form of working in association with others for some form of mutual benefits (Huxham, 1996). While collaborating, shared and contrasting goals will arise between the project client and contractor. Both the mutual and contrasting goals in a project should be discussed. By discussing the mutual goals both parties assure they are working towards the same solution. Discussing each others contracting goals can improve the working relationship as it creates respect and trust.

Communication

In order to collaborate, communication can be seen as one of the most important aspects. Communication is important to assure that information is timely, accurate and relevant. This assures no misinterpretations of information can arise. Misinterpretation of information may lead to work that has to be done over and can lead to conflicts about the responsibility of mistakes made. When project managers discuss their communication they can prevent misunderstandings and conflicts.

Attitude

Attitude is described as the overall degree of favourability for or against a psychological object (Thurstone, 1931). This means individuals have certain thoughts, emotions or feelings that positively or negatively affect their decision. When individuals have a positive attitude towards the project, this leads to positive reactions by other participants and increases the amount of trust and motivation. On the other hand, negative attitude like disbelieve in the success of the project leads to a negative reaction at the project members.

Behaviour

Finally, the behaviour of project managers is also seen as a key aspect. Behaviour is described as “a meaningful reaction on a meaningful situation” in which meaningful means that one uses cognitive processing instead of just reacting to physical stimuli (Orlemans et al., 1997). Behaviour of individuals is described as very complex and is linked to the attitude one possess. Especially in projects where multiple individuals have to work together, behaviour of individuals has great influence on the results of the group. Unlike attitude, behaviour is a visible reaction. Because of this visibility, positive or negative behaviour can be spotted and solved with more quickly. Examples of negative behaviour in a project are: not showing effort, disrespecting each others opinion or not helping each other in difficult situations.

1.2.3 Combination with project management methods

The method can be used perfectly in combination with currently used project management methods like Prince2 and PMBoK. By using the reflection method next to project management methods, the reflection method can focus on the soft side of process steps described in project management methods. An example of this that the reflector can observe when the project managers decide to escalate an issue (explained in Section 2.4.1).

By combining both methods a great potential is indicated as both hard and soft factors receive attention.

1.3 Target audience

This method is written for use in large IT projects contracted by the central government (Client) to commercial system developers (Contractor). The target audience of this method for reflection on large IT development projects falls into three categories:

- *Top management of large IT development projects contracted by the government to commercial system developers.* This method describes why and how reflection can be useful for usage in large IT projects. As top management decides on the usage of this method, this document can help in this decision.
- *Information system project managers who find themselves responsible for good management of large IT projects*. By reading this method the project managers will find out what to expect of reflection during their day to day job.
- *Individuals who are selected by the top management to facilitate in the reflection process.* By reading this method the process of reflection and the specific tasks that need to be conducted are presented. In this method these individuals are called reflectors and are described in Section 2.4.

1.4 Readers guide

This manual describes a method to improve the project process of large IT projects. A reference card is delivered with this manual (See Appendix). On this card the different phases and involved parties are shown and linked to the different sections in this manual. This way one does not have to read the whole document.

This manual starts in Chapter 2 with the parties that need to be involved when reflecting on large IT projects. It presents the tasks that need to be conducted and the criteria that these parties must have for reflection to be effective. Chapter 3 will then continue with a step by step description of the reflection process. This provides an easy way to use reflection in large IT projects.

2 Involved parties in reflection

The parties involved in reflection may be active on different levels in the project. As depicted in Figure 2.1 reflection may involve the strategic-, tactical- and operational level in a project. From the strategic level it is the top management in the project that is involved. On the tactical level these are the project managers. This is the default level where the reflection sessions take place. On operational level some of the team members are involved. These three parties, top management, project managers and team members, are involved from both the client as well as the contractor side of the project.

Next to the persons from the client and contractor side of the project itself, there is another party involved which is the role of the reflector. This is the facilitator for the whole reflection process. The roles and criteria for each of the parties involved are described below.

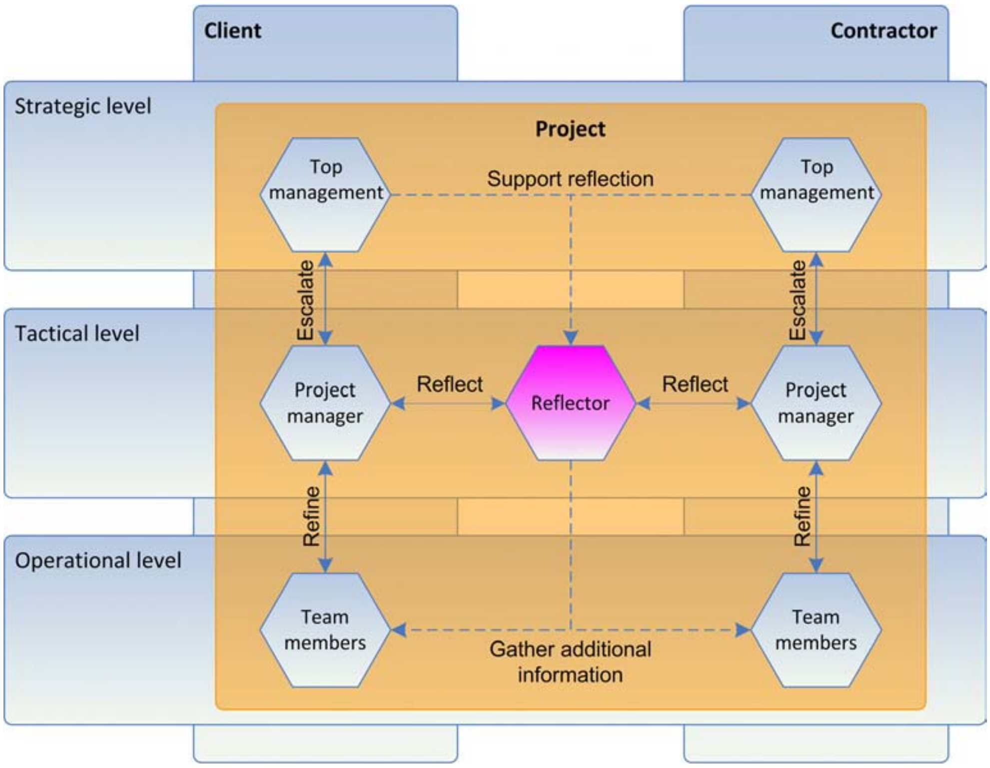

Figure 2.1 - Involved parties

2.1 Top management

The top management of both client and contractor are the first parties that have to be involved to use reflection in a large IT project. Top management of both client and contractor organizations have to support the reflection process and the time investments it requires for project managers, team members and possibly themselves. The top management decides whether to use reflection before the actual development of the project takes place. This is described further in Section 3.1. Furthermore, top management has to decide which type of reflector formation is used (Described in 2.4.3).

2.2 Project managers

Reflection focuses on the partnership between client and contractor in a large IT project. Both project managers of client and contractor are responsible for the collaboration, communication, behaviour and attitude of the employees working on the project. Therefore, both project managers of the client and contractor are included in the reflection process.

During the reflection process both project managers will discuss both positive as well as negative aspects which affect their collaboration during the project. By discussing the process and content of the project they can look at aspects that have gone right and wrong. By discussing these positive and negative aspects with each other, they can formulate improvements for future situations together. How this is done, is explained in more detail in Section 3.4.

Project managers in large projects are often focused on action rather than reflection (Daudelin, 1996). For reflection to be effective the project managers have to make time available to reflect upon the actions happened in the past. This ultimately means they have to be willing to reflect and stay committed towards the reflection process and each other. Willingness and commitment is extremely important. How this can be investigated and created is explained in Section 3.2.

Next to the willingness and commitment a project manager must have for reflection, it is also important that both managers feel that they are able to speak freely and trust each other. Both project managers should feel safe in order to reflect. Because reflection takes place between project managers of different organizations this is difficult because there can be a higher feeling of distrust. With clear communication on what reflection is about and by discussing what the project managers expect of reflection this environment can be created. Also, to assure the relationship between project partners is not already negatively affected, reflection should start from the beginning of the project.

2.3 Team members

As stated above, the project managers of both client and contractor are included in reflection. They are responsible for the collaboration, communication, behaviour and attitude of the employees working on the project. However, when only the project managers of both parties are involved, some input on the process might be missed. Therefore, the project team members from both sides of the project are involved in the reflection method. This is done in meetings with the reflector to gather additional information to use during the reflection sessions. How this information is gathered is described in Section 3.5.

2.4 Reflector

The reflection process is facilitated by a reflector. This reflector has the task to lead the whole process of reflection. The main part of this process as described in Chapter 3 consists of facilitating the reflection sessions. During these sessions the reflector helps both project managers while they discuss positive and negative situations that have occurred during the project.

Section 2.4.1 starts with a description of the tasks of the reflector. To perform his task the reflector needs certain characteristics which will be described in Section 2.4.2. Third, two different formations of the role of the reflector are presented in Section 2.4.3.

2.4.1 Tasks of the reflector

A reflector also has several tasks that he has to fulfil during the reflection sessions. Table 2.1 shows these tasks. Below each of them is described.

Table 2.1 - Tasks of the reflector (Perk, 2009)

• Facilitate the thinking process of the project managers
• Report to top management
• Give advice on decision to escalate or refine issues
• Gather additional information on the project

Facilitate the thinking process of the project managers

During reflection a reflector should act as a facilitator and not as an advisor. This means that the reflector will help with finding and concretizing both the positive and negative situations that happen during the process. He does this by looking at the following aspects:

- Asking open and challenging questions;
- Keep on asking questions;
- Do not offer own interpretations of the situation;
- Giving support and encouragement;
- Provide them with tools that may be of use.

The reflector will provide feedback to the project managers about what he observes as positive and negative in their collaboration, communication, behaviour and attitude. If those aspects between the two parties are strong, trust is created between both parties. This trust can provide a solid base for the project managers to find solutions to their problems.

The reflector helps with finding solutions to problems but try to let the project managers formulate the solutions themselves. How far a reflector can go in helping the project managers will depend on the problem that is discussed. However, the intention of the reflectors should be to try to stay out of the actual content of the solutions. This way the project managers will learn more from reflection. It is therefore important that the reflector does not offer its own interpretations of the situation but reflects what he observes. The reflector can advise the project managers to make use of tools to help them. This can be for example the use of team role tests or making a list of the agreements between both parties.

Report to top management

During reflection, the reflector should report to top management. With these reports top management can monitor whether reflection is useful and adds to the success of the project. One must beware that the project managers do not see these reports as a form of monitoring whether they are doing their job correctly. Therefore, this should be explained to the project managers (See Section 3.3).

Give advice on decision to escalate or refine issues

During a project the project managers have a relation with both strategic level (top management) and operational level (experts from the project team). This relation arises as in project management methods, tools like escalation are described. With escalation the project managers decide that a decision has to be taken on a higher level (strategic level) in the project. This often means that top management of the project has to decide on a certain subject. Project managers can also decide to refine issues at a lower level (operational level) in the project. This means they can ask experts in the project teams to conduct more research on a certain subject before they make a decision. Situations in which escalation or refinement is used are linked to the content of the project. This often means the content is not clear enough for project managers to make a decision. Making such decisions can be difficult as they mean that the project does not goes according to plan or both project managers cannot find a solution together and help is needed to from other levels. This can feel as if project management has failed.

The reflector can help in situations where the decision to escalate or refine has to be made as the reflector focuses on the soft factors which are important when making such decisions. The reflector should watch whether project managers do not use escalation or refinement too often or too seldom. For example when they “do not feel like” discussing the situation. This can be caused because the project managers have a certain attitude in the project. For example when they are very busy and according to them there is no time left to spend on searching for compromises. Another possibility is that the project managers keep on trying to find a solution to all problems they face and escalation or refinement is used seldom. Constantly trying to come to a solution together can take too much time which slows down the decision making process. Moreover, finding a solution is not always possible and sometimes escalation or refinement is needed.

Gather additional information of the project

A reflector also gathers additional information on possible issues that are formed during the project. This is done by studying project documentation, attending project meetings and by observing and talking to individuals on the project, this will be discussed in Section 3.5.

2.4.2 Characteristics for a reflector

In order to do perform its tasks well a reflector has to have certain characteristics. These characteristics should be taken into account when a reflector is selected. They are shown in Table 2.2 and are elaborated below.

Table 2.2 - Characteristics for a reflector

• Independency
• Experience with IT projects
• Authority
• Strong listening skills

Independency

The most important characteristic of a reflector is that he or she is independent. This to assure the reflector does not interfere in the project outcome.

Being independent in this context also means that a reflector does not have any close relationship with the project. This means that besides being reflector on the project they do not have any other interests in the project. A reflector must be able to look with an independent and objective view to the project so that he can give advice that can satisfy both parties involved.

Experience with IT projects

A lot of the problems that arise during a project often have occurred in previous projects. Having experience in project management of large IT projects is therefore a requirement to reflectors so that they can recognize issues and problems faster. To be able to help the project partners with conflicts on the contract aspects, experience on how agreements are arranged in IT projects is also important.

Authority

A reflector also needs authority to facilitate the reflection sessions. Authority in this context means that the project managers of both client and contractor listen to the remarks and observations made by the reflector. Individuals with more experience on the job often have more authority. Authority can also originate through the position one occupies in the organization. When the project managers see the reflector as someone with authority, they will more quickly accept the observations.

Strong listening skills

To fulfil the tasks of a reflector one needs to have strong listening and communication skills. In order to observe the softer aspects during the reflection sessions, the reflector should be able to listen carefully to the project managers. Good observations of, and listening to, the project managers helps finding aspects that could influence the collaboration, communication, behaviour an attitude between the project partners. These observations should then be communicated back in such a way that they will accept this message and start thinking on possible solutions. To improve the observation skills, a reflector can attend training (for more information see Section 3.1.3).

2.4.3 Formation of the role of the reflector

The role of the reflector can be formed in two different ways which are described below. Each of the manners is applicable for different situations. It is the task of the top management of both client and contractor to choose which formation they want to use. This decision is made in the reflection start-up phase (See Section 3.1).

Reflection with one external reflector

The first option for the role of the reflector is to use one external reflector (see Figure 2.2). An external organization will then deliver one individual that will act as the reflector.

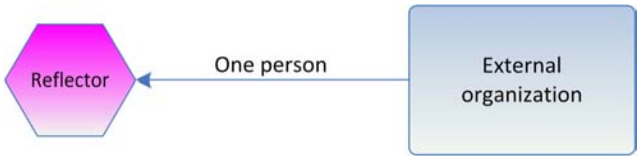

Figure 2.2 - Reflector role formed with one external reflector

The advantage of using an external reflector is that the person acting as the reflector can be selected more on its reflection skills. An external reflector then does not need any training in observing the project managers for finding blind spots in their own behaviour. A reflector from an external organization will also have a more independent view on the project.

A disadvantage is that an external reflector has a more formal relationship with the project managers which can lead to the fact that he is seen by the project managers as someone who checks upon the project managers and reports this to the top management. When this is the case the project managers might not feel safe and therefore they will not tell everything they should. Hence, it is important that when this form is used, the project managers know exactly what the tasks of the reflector are. Then it is seen that the reflector is not present to monitor them.

Reflection with two reflectors working jointly

The second option for the role of the reflector is to use two reflectors who work jointly. These reflectors are two project managers selected from both client and contractor (see Figure 2.3).

Figure 2.3 - Reflector role formed with two reflectors

When individuals of both organizations are used it is important that always one individual form both organizations is selected for the role. This can be for example project managers from other projects in the organization. It cannot be so that the reflector originates from only one organization as this would make the environment unsuitable for reflection. Project managers might not feel safe when one extra individual from only one side of the project is placed in the reflector role. Also, the independency of the reflector can be questioned in such a situation.

To use this formation of the role of the reflector, both project managers who will fulfil the role of the reflector have to apply to certain criteria described below:

- Both reflectors cannot have any interest in the project they are reflecting upon. This is important so that the project managers of both client and contractor feel safe to reflect upon their behaviour. If they have any interest it could be possible that they would try to force their opinion to the project managers. Furthermore, a relation in which the reflector is too closely related with one of the project managers may lead to unwanted favouritism.

- It is important that both reflectors act as if they are one. That the reflector role exists of two individuals from both client and contractor creates an objective relation. As two persons are involved an extra relationship arises in the project as both reflectors have to work together. To assure their objectiveness, a reflector will never operate alone but always acts together with the reflector of the other organization.

Deciding on the formation of the reflector

To decide which formation is used, the aspects of each of the two forms have to be weighed. Table 2.3 shows the positive and negative aspects of both types of formations. These aspects can help top management in their decision for one of the formations.

Table 2.3 - Aspects of internal and external reflector

	Two internal reflectors	**One external reflector**
Relationship	More informal Extra relationship between the reflectors exists which must be kept strong	More formal
Costs	Higher	Low
Observations	Two individuals to take observations and can observe more than one	One persons might miss aspects
Background	Already familiar with the existence of the project and organization	Has to learn much about the project background
Resistance	Lower, as reflectors are familiar	Higher, as reflector is someone from outside the organization.

3 Process of the reflection

This section describes the process of reflection. It gives focus to the collaboration, communication, attitude and behaviour between client and contractor. It is based upon the generic process model of Cadle and Yeates (2008) which describes the typical stages of a software development project. Large IT projects are seen as projects in which an IT solution is implemented. Therefore, this process model can be used in large IT projects as well. Using the model assures a good alignment with the project management methods used in large IT projects.

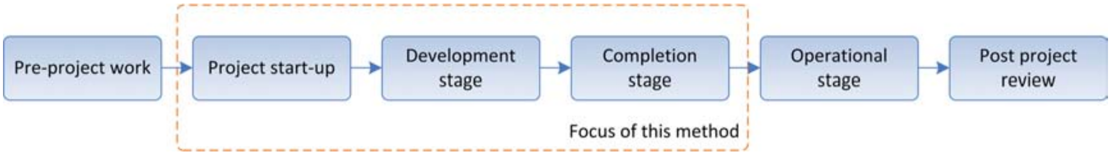

Figure 3.1 - Generic process model with focus of the method

The method focuses primarily on the development stage of the project process. However, it is important that trust and commitment is present during the reflection sessions. Therefore these aspects are investigated in an earlier stage of the project, which is the project start-up stage. Evaluating the reflection sessions during the completion stage of the project can be used to learn from reflection for future projects. This is conducted in the completion stage. This means the method focuses on the project start-up, the development and the completion stage as is depicted in Figure 3.1.

For each of the three stages the activities that can improve the project success are discussed. The total process overview of the reflection method is depicted in Figure 3.2 where the phases of reflection are presented per stage.

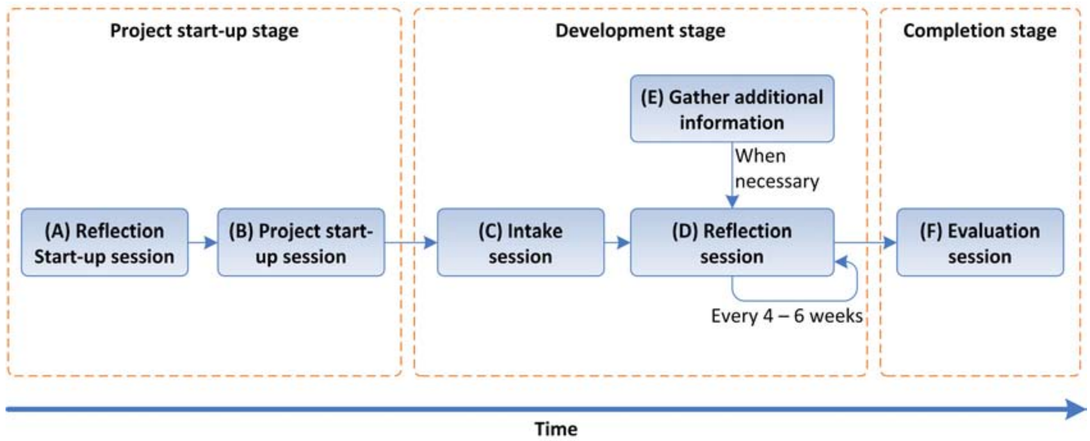

Figure 3.2 - Reflection method overview for large IT projects

During the project start-up stage of any IT project, the foundations for the actual project are placed. Much of the work that is conducted in future stages will find its basis here. During this stage the responsibilities between both client and contractor are described. During the project start-up stage, two phases of reflection take place. The first phase contains the decision to use reflection and select a reflector (Phase A, see Section 3.1). Secondly, the project start-up session (Phase B, see Section 3.2) is conducted.

During the development stage of a project, the IT system will be implemented. During this stage both project managers of client and contractor are in control of the project. During this stage of a project three phases of reflection take place. The first phase is an intake session (phase C, see Section 3.3), the second phase in the development stage consist of reoccurring reflection sessions which take place every 4 to 6 weeks (phase D, see Section 3.4). The last phase in the development stage contains the gathering of additional information from the project that could be used as input for the reflection sessions (phase E, see Section 3.5).

After the development stage is completed, the project moves into the completion stage. In this stage the implementation is conducted and the process can be evaluated. During this stage, the last phase of reflection takes place. This is an evaluation of the reflection process (Phase F, see Section 3.6).

3.1 Reflection start-up session (Phase A)

This first phase, the reflection start-up session (as depicted in Figure 3.3), consists of three steps. In the first step the decision to use reflection by top management is made. Second, a reflector is appointed. The third step consists of the training of the reflector.

Reflection start-up session

Actions:	***Involved parties:***
1. Top management decides to use reflection	- Top management
2. Appoint reflector	- Reflector
3. Training of the reflector	

Figure 3.3 - Decide to use reflection (Phase A)

3.1.1 Top management decides to use reflection

The first thing that has to be done in order to reflect is making the decision to use reflection. This decision has to be made by the top management of both client and contractor. Together both parties have to decide if they want to make budget free for reflection.

Top management can base its decision to use reflection on the evaluations from previous projects (See Section 3.6). They can also ask former or current reflectors and project managers to their experiences.

During reflection the reflector will provide regular feedback to the top management so they can decide during the project whether reflection is of use.

3.1.2 Appoint reflector

After the top management has decided to use reflection, they have to decide which formation of the reflector role will be used. As described in Section 2.4.3, two types of reflectors can be used for the formation of the reflector role. These options are: one external reflector or two internal reflectors from the project, where the reflectors are project managers from both organizations. They can not have a direct relationship with the project he will reflect upon. To make the decision which type of reflector easier, five aspects of both formations are compared in Section 2.4.3.

It is important that the reflector has a strong match with the project managers of both client and contractor as he will help them in their reflection process. This relationship is investigated during the project start-up session.

3.1.3 Training of the reflector

After the form of the reflector is chosen, the reflector should receive a short training to assure he will be able to observe more of the aspects that affect the project process. Special attention should be given how to observe positive and negative characteristics of the collaboration, communication, behaviour and attitude in a project. Examples of these attention points are: looking at the atmosphere of the session, the behaviour of the participants, style of verbal and non-verbal communication and conflict handling styles. As the role of the reflector has similarities with the role of a coach or mediator, such trainings can be conducted by an external organization specialized in coaching or mediation trainings.

3.2 Project start-up session (Phase B)

In the project start-up session (as depicted in Figure 3.4) six steps are presented which are conducted to improve the collaboration, communication, attitude and behaviour at the beginning of the project. These steps are described below.

Project start-up session

Actions:	***Involved parties:***
1. Introduction to reflection **2.** Investigate and create willingness and commitment for reflection **3.** Investigate relationships between all involved parties **4.** Discuss mutual and contrasting goals **5.** Informal team building session **6.** Make appointment for intake session	- Top managament - Project managers - Project team members - Reflector

Figure 3.4 - Project start-up session (Phase B)

3.2.1 Introduction to reflection

The first step in this session is the introduction of reflection to the project managers. The reflector introduces itself to the project managers and the project team from the client and contractor. During the introduction they make the project managers and the project teams familiar with the process of reflection and how reflection can help to improve the factors of collaboration, communication, attitude and behaviour. This step is important because reflection can be interpreted in different ways.

Emphasis should be given to the fact that reflection in this context is a group process and not an individual process. Improving the soft factors of the project to reach the common and contrasting goals of the client and contractor should be the goal of the reflection sessions. It should also be noticed that the intention of reflection is not to become a psychological session. Therefore, the project managers should discuss both the process and content of the project.

3.2.2 Investigate and create willingness and commitment for reflection

To be able to reflect effectively it is important that both project managers are willing and feel committed to use reflection as a method to improve the project process. It is thus important to check this willingness and commitment at the start of the project.

The willingness and commitment of the project managers is investigated by the reflector and top management. By asking the project managers if they think reflection will have added value their willingness is investigated. Top management and reflector try to create the willingness at the project managers together. This is important as the project managers are the ones who have to conduct in the reflection sessions. As reflection will cost time and money it is important that they see the usefulness of reflection.

Creating willingness is conducted by explaining that the project success can be improved with the use of reflection. Several factors affecting the success and failure of projects depends on soft aspects and that it is therefore important that organizations focus on these aspects. Furthermore, there should be emphasized that reflection can improve the enjoyment in their work as the relationship between client and contractor improves and the attitude and behaviour of the counterpart are positively affected.

3.2.3 Investigate relationships between all involved parties

In order to have effective reflective sessions it is important that all the involved parties get along and trust each other. Therefore these relationships are investigated at the beginning of the project. This can be done in two ways:

- A dialogue in which they discuss their way of working in a project.
- Conduct behaviour tests like the Belbin Team role inventory, Enneagrams or Core quadrants. With these tests the project managers can find out how they behave in certain situations and how the behaviour of the project partner affects their own behaviour. The project managers can investigate whether their personalities match. Knowing what the other likes and dislikes can help the project managers to have better interaction with each other. The reflector can assists in conducting these tests. It should be noted that these tests are optional as the project managers cannot be forced when they do not want to participate in the tests.

To investigate the relationship between the reflector and the project managers (and between two reflectors when this form is chosen) a short meeting between the reflector and project management in which they introduce them to each other and discuss what they find pleasant in their relationship is conducted. If serious problems arise between them, top management should decide to replace the reflector.

3.2.4 Discuss mutual and contrasting goals

In order to let reflection be effective the project managers should keep in mind that they are both working on the project to achieve certain mutual goals. It is important for the success of a project to discuss these goals and check if there are no misinterpretations on these goals as these are often factors that negatively affect the collaboration. Aligning these goals at the beginning of the project will create extra commitment towards the project.

Furthermore, next to the mutual goals, the contrasting goals should be discussed as these often cause problems. When both parties are open when discussing their contrasting goals project managers will increase the respect towards each other. This also makes sure both parties know what to expect from each other.

To have a smooth project, agreements should also be made on the communication, behaviour and attitude between both parties in the project. This step is necessary to provide a strong basis for the successful collaboration. This basis is mainly established on trust. If both parties trust each other and are committed to gain success in the project, they probably want to put energy in a strong relationship.

3.2.5 Informal team building session

Next to the investigation of the relationships, a team building session in the project start-up stage is used to bond client and contractor together and take away any boundaries between them. It improves the relationship between the client and contractor and with that the collaboration in the project. Such a meeting should be arranged at the end of the project start-up stage.

3.2.6 Make appointment for intake session

At the end of the project start-up session it is important to make an appointment for the next phase of the reflection process. The next phase is an intake session with the reflector and the project managers of both organizations.

3.3 Intake session (Phase C)

After the project start-up, but before the reflection sessions take place, an intake session is conducted. In this intake session (as seen in Figure 3.5), four steps are conducted. These steps are described below.

Intake session

Actions:	***Involved parties:***
1. Reflector explains his tasks **2.** Exchange thoughts and expectations of reflection **3.** Discuss topics that project managers find important **4.** Make appointment for first reflection session	- Project managers - Reflector

Figure 3.5 - Intake session (Phase C)

3.3.1 Reflector explains his tasks

Next to the general idea of reflection it is important that the reflector explains his specific tasks. It has to be clear for the project managers, what is, and what is not included in the tasks of the reflector during the reflective sessions. These tasks are described in Section 2.4.1.

By making the tasks of the reflector clear at the start of the project, the project managers can manage their expectations of the reflectors and know in what way the reflector can help them.

3.3.2 Exchange thoughts and expectations of reflection

In order to create a common view of how the project managers see reflection as a method to improve the success of a project, the reflector asks the project managers what their expectations are and how they think that the reflection sessions can help the project managers to improve the soft factors in the project. This is important to know so that the expectations of both the reflector and project managers are in line.

3.3.3 Discuss topics that project managers find important

In reflection it is important that the participants think about subjects they want to discuss. This means that the project managers think about specific points of attention that they consider as important. These attention points can be derived from previous projects. One of these topics can for example be that one project manager thinks that it is important that there should be some room for own interpretations instead of always keeping strict to the agreements. These topics can serve as a starting point for the first reflection session.

3.3.4 Make appointment for first reflection session

In order to begin the actual reflection, an appointment has to be made for the first reflection session.

3.4 Reflection session (Phase D)

During the reflective sessions the two project managers of client and contractor discuss the process and content during the project. From this discussion the reflector can distract aspects that have a positive or negative effect on the four factors of collaboration, communication, behaviour and attitude. This is done by following steps presented in Figure 3.6.

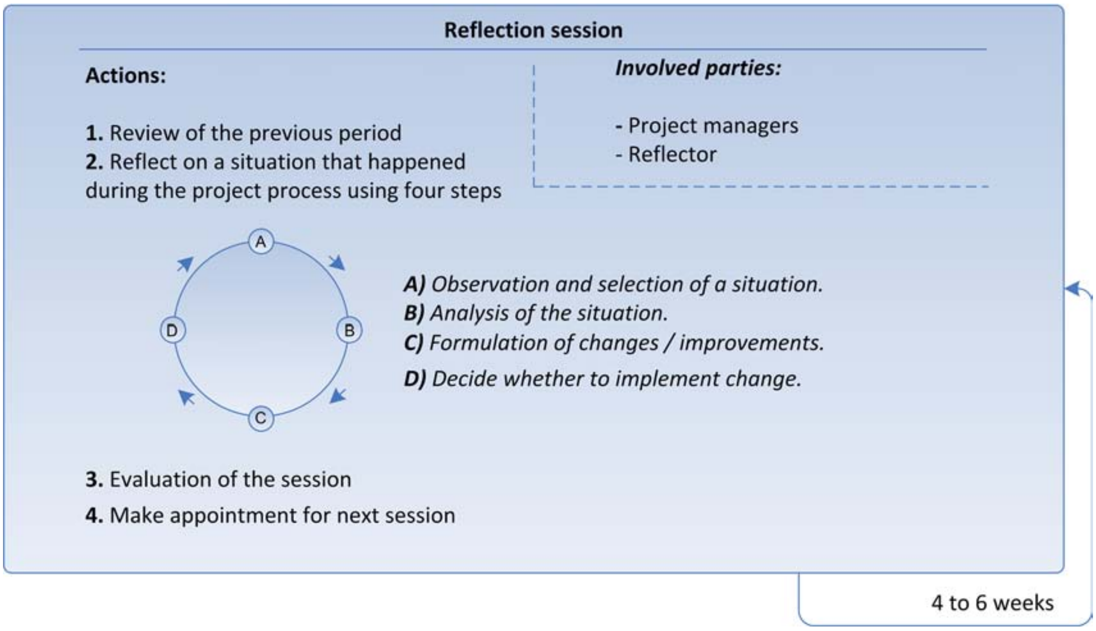

Figure 3.6 - Reflection session (Phase D)

A reflection session takes place every 4 to 6 weeks. However, this time span may be shortened or extended when the reflector and project manager find this necessary. The time span of 4 to 6 weeks between sessions assures that issues in the four soft factors that are discussed become more visible for a reflector. The issues can become more visible because both parties might get a bit irritated on certain aspects in the project. These irritations can be made explicit and concrete more easily. For these concrete problems a solution can then be found. This process can be compared with looking in the mirror. When looking in it everyday one sees no changes. If however one looks in the mirror only once a month changes become more visible and an action to change certain aspects can be taken. If one waits to long with looking in the mirror, the changes can have become so big that it becomes difficult to change aspects. This latter part is the reason that not too much time should be taken between the reflective sessions.

3.4.1 Review of the previous period

During this review at the beginning of the reflection session, the agreed actions from the previous reflection session are reviewed. During this review the agreements made during the last reflection session are analyzed. With this analysis it can be seen whether the agreements are kept by the project managers. Together with the reflector the project managers discuss what went well and what situations should receive some more attention. These situations can then serve as a starting point for reflection in the next step.

3.4.2 Reflect on a situation that happened during the project process

Each session is a discussion on the process and content of the project, focused on the collaboration, communication, attitude and behaviour between both parties. During each session an adopted version of the reflection process of Daudelin (1996). This leads to four steps that are repeated for each situation (see Figure 3.7).

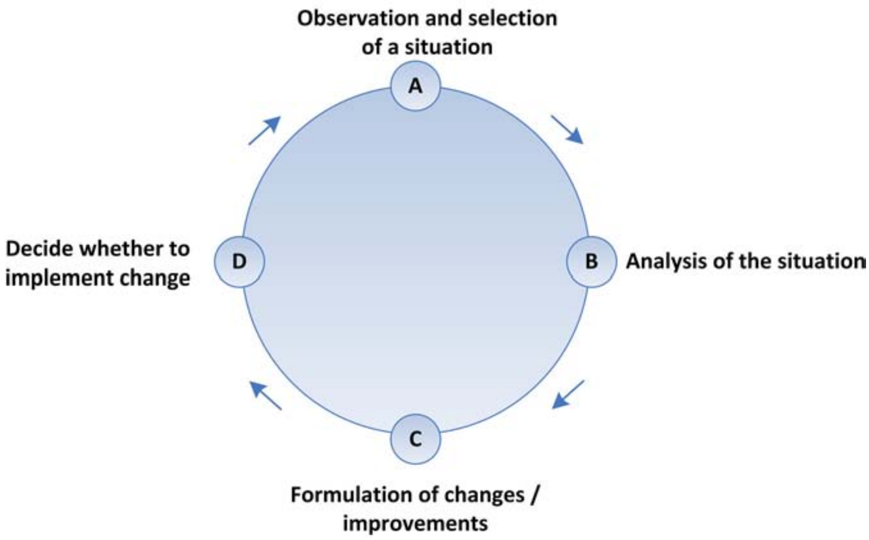

Figure 3.7 - Process of reflection during a reflection session

First the process and content of the previous period is discussed and observed by the reflector. From the observations made a situation will be selected (A). This is followed by the analysis of the situation (B). After the action is analyzed, changes and improvements in the form of alternatives used for future acting are formulated (C). Finally the project managers together decide whether they are going to change the situation and what alternative formulated in C is used (D). This alternative will then be tested in practice and will be reviewed at the beginning of the next session. This process of four steps can be repeated for multiple situations that occur during the project process. Each of the four steps is described below.

Step A. Observation and selection of a situation

In this first step of the reflection process the project managers try to make a situation discussable. Both project managers discuss the process and content in the project. The Reflector observes this discussion and tries to find aspects that negatively affect the collaboration, communication, behaviour and attitude during the project. During reflection it is important to not only provide attention to the negative aspects of the project but also give focus to positive aspects. With this first step reflection tries to answer the question: What positive or negative situation is important to discuss?

Discussion and observation

In order to make situations discussable, it is wise to start with questioning the project managers to positive aspects that happened during the project. Giving focus to positive aspects will make the project managers more enthusiastic. It is often difficult for an individual to discuss negative situations. This can be for various reasons, like they do not see the problem themselves, or because a project manager does not like to talk about an issue he is responsible for. This is where the task of the reflector comes in. The reflector will have to look for aspects during the session which could negatively influence the process and thus the project outcome. He helps both project managers to create understanding in each others motives for their actions. During his observation the reflector asks open and challenging questions and tries to keep on asking questions to let the project mangers deeply think of their actions. The reflector can give attention to the following aspects:

- Atmosphere of the session;
- Verbal and non-verbal communication;
- Returning subjects during the conversation;
- Conflict handling between partners.

Explain the observed and ask if they see the same

The reflector communicates his observations back to the project managers. This is an important step because with this explanation the project managers and the reflector can check if their observations match the feelings that the project managers have on certain situations.

When for example the reflector feels a negative atmosphere is present in the session, he can ask the project managers if they feel this too. If this is the case, the situation can be analyzed further. If the reflector spots positive aspects in the project it is also important that a reflector explains these to the project managers. Focusing on positive aspects can improve the trust towards each other.

If the observed situation is explained to the project managers, and they agree that something should be changed they can continue to step B and analyze the situation.

Discussion with one project manager

Another possibility to receive information from the project managers is to start a discussion with each of the project managers separately. In the reflection sessions, both project managers of client and contractor are present. This can lead to situations where a project manager does not speak freely because he cannot discuss certain aspects of the project. This can happen when for example top management has forbidden him to discuss certain subjects. This can result in unwanted behaviour. A discussion between one project manager and the reflector can then help.

In such a discussion, the reflector speaks with the project manager in private. The project manager can then explain his problems to the reflector in confidence. The reflector might be able to help the project manager with the problem he faces or just understanding the situation is created. In order to have these kinds of conversations it important that the reflector treats the information he receives confidential. A letter of confidentiality can be signed by the reflector to assure the confidentiality.

Step B. Analysis of the situation

During the analysis of the situation the reflector helps the project managers with analyzing the negative or positive aspects of the situation. This step gives answer to the question: How do both project managers experience the situation?

Because both project managers can have different views of the situation, it is important to try to make sense of the situation to find out what actually happened, and why. Sensemaking (Weick, 1995) is the process in which both project managers use rational considerations to reanalyze the situation and make order out of the chaos. Because everyone has its own interpretations of the world, both project managers can have a different view on what is happening. By critically examining the underlying assumptions each of the project managers has with a specific situation, misunderstandings can be prevented.

With Sensemaking both project managers can analyze their collaboration, communication, behaviour and attitude. When analyzing those aspects they can develop a shared language that arises from investigating a situation with the other project manager. Assumptions and interpretations are then made more visible. With these visible, they can question what actions should be adjusted.

To make sense of the situation one could use several tools. Below two of those tools are described. Combining these tools with discussions about the situation can help to reduce the unknown aspects of the situation. During the discussion a reflector can use probing, clarification and active listening to understand the experience as deeply as possible. Also the reflector should try to explore the underlying interpretations, assumptions, beliefs and expectations that the project managers have. In helping the reflector to reach understanding in the situation, the project managers will be deepening their own understanding.

The first tool, using concept mapping to visualize the situation (Gray, 2007), is a good manner to make sense of the situation. The goal of concept mapping in this context is to make positive or negative situations explicit by visualizing the actions that have effect on the situation. By making a concept map together the project managers can develop a generic view of the situation which can be adjusted for future situations by formulating alternatives in the next step.

A second option to make sense is making use of the nine questions of Korthagen (2003). These nine questions can be used by both project managers to create understanding in what you wanted, felt, thought and did, and what you think others wanted, felt, though and did in the selected situation. The answers can then be compared with the answers of the other project manager. If these are not in line, misinterpretations between the project partners can arise. These questions can be used to find out if what we are doing is in line with the expectations both parties have. If not, this can result in improvements in our behaviour. If so, it can be questioned if they are pleased with these results or whether there are options for improvement. The questions are shown in Table 3.1.

Table 3.1 – Nine questions of Korthagen (2003)

What is the context of the situation?	
What did you want?	What did the others want?
What did you feel?	What did the others feel?
What did you think?	What did the others think?
What did you do?	What did the others do?

As stated before, it is important to notice that the reflector should not only focus on the negative situations that occur during the project, but also the positive situations should be highlighted. With concept mapping and the nine questions of Korthagen both positive as well as negative aspects are made explicit by the reflector.

At the end of the second step, the situation is analyzed and should be made clear to both project managers. However, to make sure that both parties still do not have different interpretations the reflector should summarize the results of the analysis and ask both managers if this version strokes with their view.

Step C. Formulation of changes / improvements

During the previous step, the problem is analyzed and it is clear what happened and why it was a problem. During this third step alternatives are formulated which lay a basis for future actions. It actually answers the following question: How can we change and improve the situation?

When formulating alternatives it is important to distinguish the relation between process and content. The general idea of reflection is that the reflector does not help with finding solutions to the content of the situation. This can sometimes be difficult because for example the reflector has a lot of knowledge and experience on the subject. However, to assure the reflector stays objective he should interfere with the content of the project as less as possible.

The project managers who have to search for alternative actions on the content of the problem themselves. This is part of the learning experience of reflection. However, the reflector can help with the process coming to the solution. He can help with supplying tools so the project managers can find a solution more easily.

Step D. Decide whether to implement change

During this final step there has to be decided whether the project managers go on in the same way or that changes are going to be made. It thus answers the question: What are we actually going to change?

When it is decided that changes are going to be made to the situation, one of the alternatives developed in step C is chosen. This alternative will then be used for future action. Both project managers make agreements on the actions to be taken. These will be discussed in the review (Section 3.4.1) of the next reflection session in four weeks time.

After the agreements are made they can continue discussing another situation by returning to step A, or choose to end the reflection session by moving towards the evaluation of the session described below.

3.4.3 Evaluation of the session

At the end of each session an evaluation of the session is conducted. During this evaluation the reflector asks the project managers if they feel that everything is discussed. A short summary of the items discussed and the agreements made is given by the reflector.

Ensure everyone is heard

It is important that participants do not leave the meeting feeling that they have not been heard or that things have been left unsaid. This can be prevented by the reflectors by asking each participant how they feel about the agreements made during the session, or if they would like to add extra points of attention.

Summarize the agreements

In order to prevent miscommunication it is also sensible to summarize the outcomes of the session. These consist of all agreements made in the reflection step but also of the actions that were not agreed upon. By summarizing these agreements, the project managers have the same view on what is discussed during the session. The reflector asks the project managers if they see things different or that certain aspects need to be added. It is important for both project managers that they know which actions they must take in order to improve the project.

3.4.4 Make appointment for next reflection session

An important aspect in reflection with project managers is to assure that during the project the emphasis also stays on reflection, rather than action alone. Reflection should take place even when the project managers get busy. This can be assured by planning a new appointment for a next reflection session at the end of the current session. A new session should be planned in about four to six weeks time.

3.5 Gathering of additional information (Phase E)

During each reflection session a discussion on the project process is facilitated. Positive and negative aspects on collaboration, communication, behaviour and attitude during the project process are discussed. The input for these sessions is given by the project managers themselves. However, sometimes a reflector would like to have some more information about the project.

Gather additional information

Actions:	***Involved parties:***
1. Study project documentation	- Project managers
2. Observe during project meetings	- Project team members
3. Observe and speak with members from the project teams	- Reflector

Figure 3.8 - Gather additional information (Phase E)

As seen in Figure 3.8, there are three manners of gathering some additional information to use as input for the reflective sessions. First, the reflector can study project documentation. Secondly, he can observe the project managers, project team from the contractor by attending a project meeting. The third option to gather information is to observe and speak to individuals from both the project team and employees from the client.

When the reflector wants to observe during project meetings or wants to speak to other individuals on the project, this has to be agreed upon by the project managers.

Gathering additional information does not have to be conducted at a specific interval. It is the experience of the reflector which states when it is needed to gather some additional information about the project process. Especially in situations where the collaboration between project partners is not optimal it can be important to find out why this is the case.

3.5.1 Study project documentation

To learn more about the situation in the project it can be important for a reflector to study project documentation. A reflector can use this documentation to spot issues that happen during the project faster. This documentation can be obtained from the project manager. This has to be agreed upon by the project managers in the intake session.

3.5.2 Observe during a project meeting

A reflector can use project meetings as instrument to observe the project managers in a different setting. Also other parties can be observed during these meetings. Reflectors can attend meetings at both sides of the project, thus client or contractor. But he can also attend project meetings in which both client and customer are present.

During a project meeting the reflector should observe the conversation between the individuals of the meeting. Attention should thus be given to all involved parties and not just to the project managers. Other participants in the project meetings may also show behaviour a reflector can observe and mention during the reflection sessions. A project team member might for example state that he always receives the needed documentation later than agreed. This may lead to irritations so could be discussed during the reflection sessions.

An important observation that can be made is looking at the behaviour of the project managers in the meeting. Because of the presence of other individuals (top management or team members), the project manager might show other behaviour than he does in the reflection session. It is important that the reflector observes this behaviour and that he communicates this back to the project managers during the reflection sessions.

3.5.3 Observe and speak with members from the project teams

In order to gain more information from within the project itself the reflectors can observe or speak with members from the project teams who are involved in the project. From these observations and conversations extra insights on the way the project is managed can be derived.

3.6 Evaluation session (Phase F)

The evaluation session is conducted in the completion stage of a project. During this session the project process and the process of reflection during the project is discussed (see Figure 3.9).

Evaluation session

Actions:	***Involved parties:***
1. Evaluate the project and reflection process	- Project managers - Reflector

Figure 3.9 - Evaluation session (Phase F)

3.6.1 Evaluate the project process and reflection process

During this last session of reflection, the reflection process itself and the soft aspect during the project are evaluated in order to learn from it for future projects. Unlike the regular evaluation sessions already defined in project management methods this session will focus on the four soft aspects of collaboration, communication, behaviour and attitude. This is done by letting the project managers together with the reflector look back on the project and reflection sessions. By discussing how the project went and what aspects in the reflection sessions are helpful, the findings can be used for future projects. Finally, the project managers should try to formulate improvements for future projects which can also be used as a learning mechanism.

In order to use the findings in other projects the reflector documents the minutes of this evaluation session. This assures it can be read and used by others in both organizations so the learning effect of reflection is extended. However, one should be aware that no personal aspects are written down that could negatively affect the feelings of the project managers. Otherwise, the documentation of the evaluation cannot be made public.

By using a report from the reflection process these findings can be used as input to create top management support for reflection in new projects.

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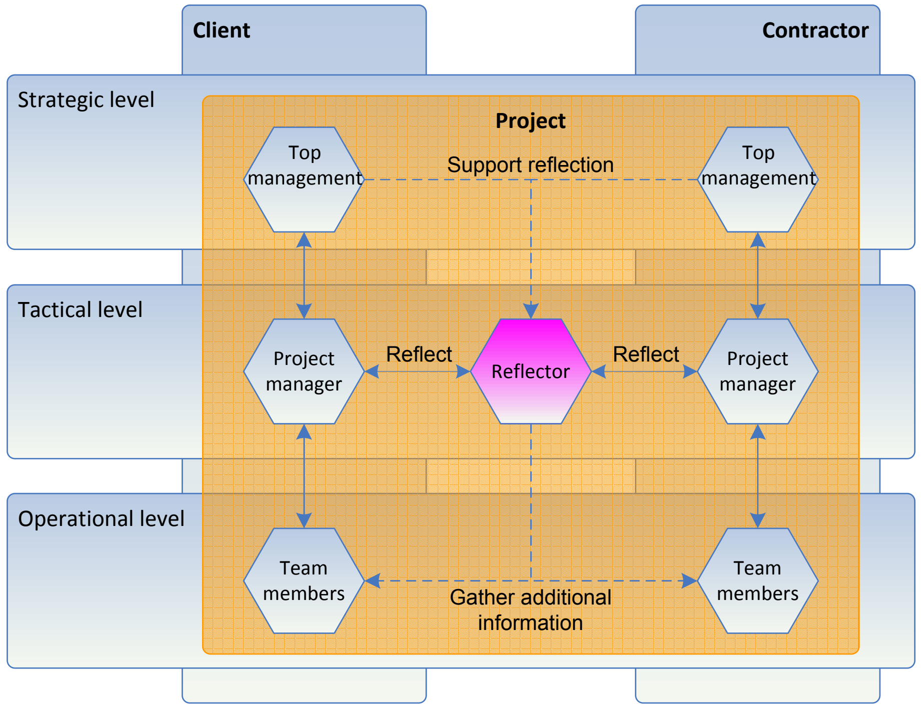
Referencecard

Reflection focussing on soft factors

Involved parties



Involved parties in reflection process

Reflector involvement:
All Phases [§ 3.1 - § 3.6]

Top management involvement:
(Phase A) Decide to use reflection [§ 3.1]
(Phase B) Project start-up [§ 3.2]

Project management involvement:
(Phase B) Project start-up [§ 3.2]
(Phase C) Intake session [§ 3.3]
(Phase D) Reflection sessions [§ 3.4]
(Phase E) Gathering additional information [§ 3.5]
(Phase F) Evaluation session [§ 3.6]

Project team members involvement:
(Phase B) Project start-up [§ 3.2]
(Phase E) Gathering additional information [§ 3.5]

Reflection process

Project start-up stage

(Phase A) Reflection start-up session [§ 3.1]

Involved parties:
§ 2.1 Top management
§ 2.4 Reflector

Actions:
§ 3.1.1. Top management decides to use reflection
§ 3.1.2. Appoint reflector
§ 3.1.3. Training of the reflector

(Phase B) Project start-up session [§ 3.2]

Involved parties:
§ 2.1 – §2.4 All parties

Actions:
§ 3.2.1. Introduction to reflection
§ 3.2.2. Investigate and create willingness and commitment for reflection.
§ 3.2.3. Investigate relationships between all involved parties.
§ 3.2.4. Discuss mutual and contrasting goals
§ 3.2.5. Informal team building session
§ 3.2.6. Make appointment for intake session

Development stage

(Phase C) Intake session [§ 3.3]

Involved parties:
§ 2.2 Project managers
§ 2.4 Reflector

Actions:
§ 3.3.1. Reflector explains his tasks
§ 3.3.2. Exchange thoughts and expectations of reflection
§ 3.3.3. Discuss topics that project managers find important
§ 3.3.4. Make appointment for first reflection session

(Phase E) Gather additional Information [§ 3.5]

Involved parties:
§ 2.2 Project managers
§ 2.3 Project team members
§ 2.4 Reflector

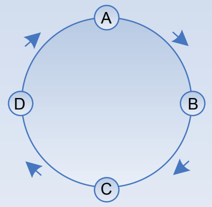
Actions:
§ 3.5.1. Study project documentation
§ 3.5.2. Observe during project meetings
§ 3.5.3. Observe and speak with members from the project teams

When necessary

(Phase D) Reflection session [§ 3.4]

Involved parties:
§ 2.2 Project managers
§ 2.4 Reflector

Actions:
§ 3.4.1. Review of the previous period
§ 3.4.2. Reflect on a situation that happened during the project process using four steps.



***A)** Observation and selection of a situation*
***B)** Analysis of the situation*
***C)** Formulation of changes / improvements*
***D)** Deciding whether to implement change*

§ 3.4.3. Evaluation of the session
§ 3.4.4. Make appointment for next session

Every 4 – 6 weeks

Completion stage

(Phase F) Evaluation session [§ 3.6]

Involved parties:
§ 2.2 Project managers
§ 2.4 Reflector

Actions:
§ 3.6.1. Evaluate the project process and reflection process

Time