An Assessment Framework for Practicing Facilitator

Aida Azadegan · Gwendolyn Kolfschoten

Abstract   There is an on-going recognition of the need for facilitation to support different group settings. However, the skills and expertise required to successfully facilitate a group of participants to achieve their goal is a challenging task to achieve. There are a number of barriers towards facilitation: A facilitator needs to operate at many different levels at the same time; understand the politics within the group; encourage interaction within the group; and guide participants through tasks and activities, while balancing the needs of the group and the client to reach real outcomes. One of the key competences of a facilitator is flexibility, to adapt to varying circumstances. The complexity and dynamic nature of delivering an appropriate and effective facilitation service makes it therefore difficult to assess the facilitator's performance in any facilitated session. In this paper we describe a framework in the form of an artefact developed to aid the facilitators in assessing their own performance in different meetings. Facilitation Service Assessment Framework (FSAF) allows facilitators to define metrics and measures in the context of facilitator's goals. The assessment framework consists of a structure and a process which facilitators use to apply the framework to facilitation scenarios. Finally, the paper describes how experts evaluated FSAF in alternative scenarios by running a survey and then by conducting interviews.

Keywords   Facilitation · Assessment framework · Roles · Competencies

A. Azadegan (✉)
Sheffield Business School, Sheffield Hallam University, City Campus Howard Street,
Sheffield S1 1WB, UK
e-mail: Aida.Azadegan@gmail.com

G. Kolfschoten
Faculty of Technology, Policy and Management, Delft University of Technology,
P.O. Box 5015, 2600 GA, Delft, The Netherlands
e-mail: G.L.Kolfschoten@tudelft.nl

🖄 Springer

1 Introduction

Collaboration is challenging, and especially when group size and task complexity increase, teams and groups can benefit from collaboration support. In order to achieve effective collaboration, such teams need not only a step-by-step process that directs the group effort towards the goal but also a *facilitator* to intervene and guide the group to follow the collaborative process.

Teams rely on professional facilitators to design and conduct *high-value* collaborative tasks. A task is said to be high-value if the organization derives substantial benefit or prevents substantial loss or risk by completing the task successfully (Kolfschoten et al. 2006b). Facilitators coordinate different activities of teams to ensure that members work together and follow up the sequence of activities according to the agenda of work (Paul et al. 2004).

The task and role of the facilitator in meetings requires a diverse pallet of skills and expertise, and often is built on experience (Adla et al. 2011). The facilitator is often compared to a juggler, needing to monitor and manage the group at many different aspects at the same time (Schuman 2005). Tasks include understanding the politics within the group; encouraging interaction within the group; and guiding participants through tasks and activities.

As a result, facilitation, especially for novice facilitators, is a challenging process. The complexity of delivering appropriate and effective facilitation services makes it difficult to evaluate the facilitator's performance in any facilitated session. Therefore, there is an urgent need for facilitators to access their performance in a way that offers insight in their actual skill and performance in offering structure to the group, and motivating them in their effort.

Success of collaboration and group work is usually based on a comparison between the group goal and the outcome achieved. However, the extent of which the goal of collaboration is achieved (see Fig. 1) does not only depend on the performance of the facilitator, but is also affected by the performance of the collaborating participants in the group.

In Fig. 1 we explain the relations between the quality of facilitation services and the overall participant perception of the success and quality of the collaborative effort. The facilitator creates structure for the group to work according to a more efficient and effective collaboration process. Furthermore, the facilitator has an impact on the motivation of the participants, for instance by keeping stakeholders on board, but also directly by managing the energy in the group. Motivation and the structuration of the process have impact on the group effort made. However, part of the motivation of participants is intrinsic, or depends on for instance organizational factors, importance of the goal, and cultural factors. The facilitator's performance can be affected by the group motivation; therefore we expect an interaction effect here. Group effort is a key factor in the quality of the group outcome, however, again, an intrinsic factor in this are the skills and expertise of the group members. In some cases, facilitators have influence in selecting the group. Often, they cannot choose the participants as these are already assigned to the task. Objectively, the difference between the goal and the outcome (combined perhaps with efficiency) should determine quality of the collaboration process. However, studies have shown that the participant perception of success
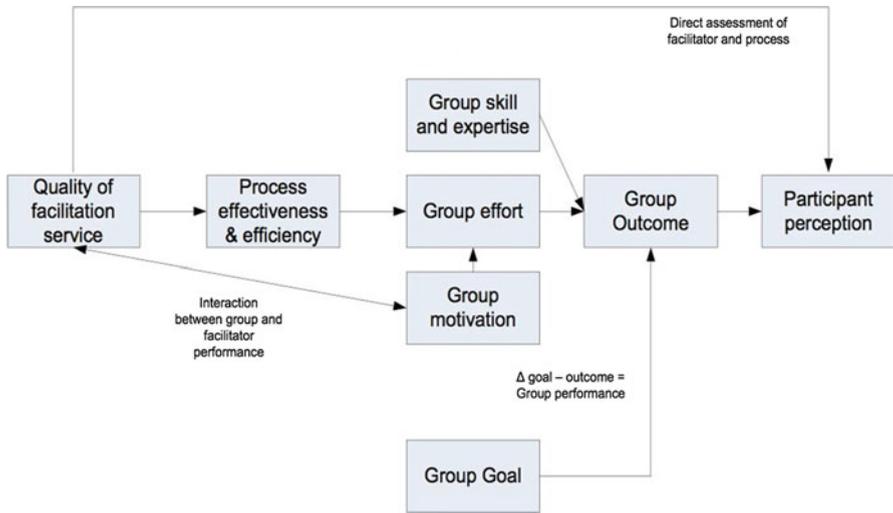
Fig. 1 High-level overview of the impact of facilitation service

or quality is not necessarily based on this comparison, and is instead often linked to expectations. Furthermore, participants will develop an independent perception of the facilitation service based on direct experience, and comparison with similar collaborative efforts. Therefore, assessing facilitation performance is not straight forward, and assessment based on (perception of) outcome alone seems insufficient.

In order to understand the quality outcome of group collaborations both group and facilitator's performance in teams should be well analyzed and be assessed. Researchers have studied different approaches to describe assessment frameworks in order to measure the quality of group performance and collaboration (Hengst et al. 2006; Steves and Scholtz 2005).

Alternative criteria and different models and methods have been described by researchers to evaluate facilitator's performance from the *professional perspective*. Mann (2007) introduced the Feedback Model, which provides a means for the facilitator to ensure understanding among participants, remove uncertainty and translate and develop ideas. Jenkins and Jenkins (2006) describe nine disciplines of a facilitator as a structured model to be followed by facilitators to have a professional analysis and understanding of their role and performance in groups. Schwarz et al. (2005) describe key features of the skilled facilitator approach and integrate the features with the 360 degree feedback model to evaluate the role of the facilitator in groups.

While these frameworks offer key insights in facilitation performance, they are not very direct in assessing facilitation performance. In the literature, various approaches have been developed to measure outcome quality, satisfaction with outcomes, and collaboration success from a participant's perspective (Vreede et al. 2002; Hengst et al. 2006). However, while these offer insight in performance, they do not offer direct assessment of facilitation performance, and thus less insight for the facilitator to assess and improve their interventions. In this paper we will

therefore develop a framework to assess facilitation performance in a more direct manner.

In this paper we first describe an evaluation framework that has been developed to assess the facilitator's performance against facilitation goals in meetings or workshops. FSAF delivers a framework which allows facilitators to define metrics in the context of the facilitator's goals and evaluation objectives, and guides them through a systematic method to evaluate their performance in meetings or workshops having alternative levels of complexity. FSAF is used to capture the participants' opinion to evaluate facilitator's performance in meetings and consists of a structure and a process for application in facilitated meetings. FSAF is evaluated by experts in the field.

2 Background

During the facilitation process a facilitator intervenes to help improve the way the group interacts and collaboratively shares and creates knowledge to accomplish a goal. Facilitators structure and focus the meeting and correct any deviation in group dynamics to maintain commitment to the goal and outcomes of the meeting (Adla et al. 2011). Facilitators should monitor if the group is moving away from it's objectives and should support the group in keeping focus. A facilitator should assist the group, identify problems, focus the group on solutions, and intervene within the process when necessary. The benefits of facilitation have been recognized in face-to-face as well as distributed meetings (Vivacqua et al. (2009)).

2.1 Facilitator Competencies

The Facilitator Competency Model is an aid to understanding the facilitation values and what facilitators do. In order to be competent, facilitators should have requisite, adequate ability or qualities. To be more precise, competencies are defined as the knowledge and skills which are critical to producing high quality outcomes. Basically, competency can be referred to as the ability to use skills and knowledge for effective results (Pierce et al. 2000).

Many researchers have studied facilitator's competencies (Garavan et al. 2002; Vreede et al. 2002; McFadzean 2002; Clawson and Bostrom 1996; McFadzean and Nelson 1998). Also in practice, facilitator competencies and skills have been investigated by members of the International Association of Facilitators (IAF) as well as the Institute of Cultural Affairs (ICA). Facilitator competencies have been discussed by these groups at informal meetings, conferences, and workshops since 1990.

In this research we use the competency model developed by International Association of Facilitators (IAF) and published in February 2003. The competencies reflected in the document and assessed in the Certification Process form the basic set of skills, knowledge, and behaviors that facilitators must have in order to be successful facilitating in a wide variety of environments (Thomas 2005). Using this model, the areas of competency and skill are used to define the profession of facilitation for facilitators and clients or groups. The competencies identified in this model are a result of strate-

gic approaches and desired positive outcomes as experienced by many facilitators and practitioners (Pierce et al. 2000).

The IAF facilitator competency model identifies eighteen core facilitator competencies grouped into six categories. There are three competencies under each of the six categories. The skills, knowledge, or attitudes which illustrate the demonstration of each six category of competency are described as follows (Schuman 2005):

- **Create Collaborative Client Relationships**
  Professional facilitators need to recognize and analyze the complex organizational culture, business, technologies, and issues and transfer them to different clients in a comprehensive way. Professional facilitators understand the value of knowledge and experience in the client organization and help them to have a clear view of this knowledge and experience together to meet their objectives (Pierce et al. 2000).
- **Plan Appropriate Group Processes**
  A facilitator needs to understand the variety of ways people process the given information. A facilitator should engage participants through their performed modes of thinking and learning (Pierce et al. 2000).
- **Create and Sustain a Participatory Environment**
  A facilitator should be aware of the environment settings and take advantage of those settings in a way to improve the group collaboration. Increasing active listening, clarifying conflict resolution, consensus building among team members are all tasks that can be achieved by creating a participatory environment. (Pierce et al. 2000).
- **Guide Group to Appropriate and Useful Outcomes**
  The facilitator needs to take clear decision actions in order to be able to mix the contributions of each individual into a unified group process. The facilitator is always aware of the participants' experiences, the effectiveness of processes, and the group dynamics (Pierce et al. 2000).
- **Build and Maintain Professional Knowledge**
  The facilitator is required to have basic knowledge in disciplines related to each group facilitation process. Concepts drawn from this knowledge are applied to the needs of each group. The area of team facilitation is constantly developing therefore facilitators need a discipline of lifelong learning (Pierce et al. 2000).
- **Model Positive Professional Attitude**
  The work of facilitation is founded on personal authenticity and trustworthiness. The facilitator should demonstrate behaviors that support team values and processes. Sometimes a facilitator is required to co-facilitate with other teams (i.e. client's team) to transfer the skills to the organization. Demonstration a professional attitude and observable behaviors by a facilitator enables a group to more fully participate and collaborate (Pierce et al. 2000).

Table 1 illustrates the facilitation competencies according to IAF (Schuman 2005).

Besides the competencies of the facilitator, we need to understand the role and objectives of the facilitator. We therefore need to go through a more detailed description and understanding of what roles should be considered by the facilitator while he/she acts with respect to each competency. These roles are captured in the seven layer model of facilitation.

Table 1 Facilitation competencies (Schuman 2005)

Facilitator's competences	Indicators
Create collaborative client relationship	Working partnership development
	Meeting client needs
	Effective multisession management
Planning appropriate group processes	Selecting clear methods
	Preparing time and space to support group processes
Create and sustain participatory environment	Effectibe participation and interpersonal communication skills
	Diversity recognition and ensuring incluslveness
	Group conflict management
	Evoking group crearvrty
Guide group to appropriate and sustain outcome	Having clear methods to guide the group
	Facilitate group self-awareness about the task
	Guide the group to consensus and desired outcome
Build and maintain professional outcome	Effective knowledge base maintenance
	Knowing a range of facilitation method
	Maintain professional standing
Model positive professional attitude	Self assessment and self Awareness
	Act with integrity
	Trust group potentials and model neutrality

2.2 Seven Layer Model of Facilitation

The seven layer model of facilitation delivers a precise and comprehensive description of a facilitator's role in a team. The facilitator operates at a number of different levels at the same time. However, these levels are not necessarily independent of each other and they can be described as a number of levels built on the top of each other. There are a number of activities that the facilitator needs to engage in at each layer. These activities are actually carried out concurrently by the facilitator (Kolfschoten et al. 2006a). The seven layer model of facilitation provides a full picture of the role of the facilitator. The model is shown in the Table 2 (Macaulay 1999):

- **Environment**
  A facilitator needs to create and reinforce an open, positive, and participative environment (Alabdulkarim and Macaulay 2007; Hengst and Adkins 2005). This issue becomes more complex when the sessions need to be facilitated dispersed or virtually over the net.
- **Technology**
  Choosing the right technology to support collaborations is addressed in the literature many times (Bragge et al. 2007). Vreede et al. believe that the facilitator should select and prepare appropriate technology and understand the technology and its capabilities. A facilitator need to Creates comfort with and promotes understanding of the technology and technology outputs (Vreede et al. 2002)

Table 2 Seven layer model of facilitation (Macaulay 1999)

Facilitation model layers
Political
Social
Personal
Method
Activities
Technology
Environment

- **Activities**
  A facilitator needs to take care of the certain activities in a team i.e: Set the stage, Keep group outcome focused, manage the meeting, Manage time, Evaluate and redesign the meeting process. A facilitator should take control of recording outcomes, Make summaries at appropriate points (Hengst and Adkins 2005; Macaulay 1999).

- **Method**
  A facilitator is an expert in terms of selection and transferring the execution of defined methodologies to participants. Methods such as RAD, JAD, QFD, Participant Design PD Workshops, ETHICS or CRC are different alternatives a facilitator considers (Duggan 2003).

- **Personal**
  Facilitators develop self-awareness that they themselves are an important instrument in getting a group facilitated. This issue means they must also develop personal qualities in order to help groups achieve their purposes (Thomas 2005). Demonstrating self-awareness, self-expression and flexibility can fit into this category (Vreede et al. 2002). Using verbal and non-verbal techniques such as having an appropriate level of voice or facial expressions can be useful methods to be used by facilitators (Paulsen 2004).

- **Social**
  A facilitator in a group should be aware of social aspects of team facilitation. As an example, he/she should be sensitive to verbal and non-verbal cues. Understanding cultural and learning differences, individual and socio-emotional problems, or identifying human communication problems are issues that facilitators need to consider about (Vreede et al. 2002).

- **Political**
  It is important for facilitators to understand and work in a committed way with political complexity (Kirk and Broussine 2000). Many authors such as Bentley have addresses political issues such as power importance and dependency in relationships between groups and facilitators. As an example Bentley describes one of the methods to disempowering the group is to offer the group to help in advance of the group requesting it. Other examples are: development of learning and empowerment, understanding of the organizational experience, and the creation of new and different power relationships within society (Bentley 1994).

The role and the competency framework together offer a comprehensive overview of what a facilitator needs to do, under what circumstances. Some collaborative activities are supported by technology, others are not, some are political in nature, others hardly. These roles thus are more or less important in a given group activity. Similarly, competencies are more or less relevant in different contexts. Therefore there is a need to combine these frameworks, to create a comprehensive overview of potential needs in facilitation skills and experience. And consequently, some of these roles and competencies are more or less relevant given a specific collaboration task, group and context. We will therefore build the FSAF framework based on a combination of the frameworks above.

3 FSAF Development

FSAF consists of a structure and a process that can be used to assess the quality of a facilitation service. FSAF is based on the two frameworks described above. FSAF thus offers insight in the competencies that are relevant given the specific roles and objectives a facilitator adopts in a certain collaboration process. Competencies describe the skills, knowledge and behavioral aspects of the facilitator, while role describes the tasks the facilitator should perform in a meeting. The facilitator's competencies describe *How* the facilitation tasks are performed while the roles describe *What* a facilitator does in a meeting. In FSAF these are brought together to create a more detailed and in depth assessment of facilitation performance.

3.1 FSAF Structure Development

The competency framework offers a generic template for successful facilitation. However, each competency can have a different meaning, in light of a different facilitation role or objective. Therefore, competencies need to be analysed from different perspectives. For example; process planning for groups requires facilitator not only to understand the technology that should be selected for that specific process but also should consider the method to use to guide groups through the process. Moreover, political and social issues affect the process planning for group facilitation. Bringing together both competencies and the roles of the facilitator builds a strong foundation for a deeper understanding of facilitator's performance (Table 2).

To describe FSAF, the structure of a table with rows and columns is used to best combine the two criteria of the role and the competencies of a facilitator, as described above. Based on this we state, "A facilitator's *objective* is determined according to his/her roles and competencies. A facilitator's *objective* is satisfied when a facilitator can best use his/her *competencies* to perform the required *role* in the meeting."

The above quotation is fundamental to the development of the FSAF framework. Each cell can be used to describe a goal of the facilitator in the meeting. The FSAF framework is illustrated in Table 3; the facilitation goal is described by making appropriate combinations of the role and the competency of the facilitator.

Table 3 positions the facilitator's objectives with respect to "what" he/she should perform in meetings (roles) and "how" he/she performs to achieve them (competencies)

The roles and the competencies of a facilitator were described in the previous section of this paper.

Once the roles and competencies are positioned according to the above description, the framework structure table that refers to facilitator's goals in a meeting is formed. However, at this certain stage the framework appears to be too large and contains conceptual overlaps between the rows and columns of the structure table and therefore the framework needs to be refined in a way to minimize the number of overlaps. The framework structure was refined in three ways:

1: According to Dubbs and Hayne (1992) there are a number of tasks a facilitator does before, during and after the meeting. Competencies related to clients' negotiations and some others that are not mainly considered by the facilitator "during" the meeting. Therefore, participants cannot assess these, and they are removed. To assess these competencies, assessment by clients is required. Often there is only one client for a given facilitation service, thus leading to a limited assessment.

2: It is believed that the participants' perspective on facilitation provides a key insight into the success of a meeting (Vreede, 2000) and the participants' perception is used in this research to evaluate the facilitator's performance. The framework should only focus on tasks of the facilitator that can be evaluated from the "participants" point of view. "Self-assessment and self-awareness", has been removed from the framework because it cannot be assessed from the participants' point of view.

3: Some rows and columns of the table are conceptually overlapping, and therefore need to be removed. E.g. "Selecting clear methods" was removed because of the conceptual overlap with the role listed in column named "method".

The remaining relevant facilitation objectives (combinations of role and competency) are numbered from 1 to 35. The resulting framework is illustrated in Table 4. The combination of rows and columns, which are having conceptual overlaps, are removed and illustrated as empty cells.

Once the table is structured the facilitation goals (cells inside the table) are translated into measurements.

A variety of methods for translating goals into measurements have been described in the literature (i.e. "top-down" approaches (Steves and Scholtz 2005), The Quality Function Deployment (QFD) (Akao and Mazur 2003), Goal-Question-Metric (GQM) approach (Basili et al. 1994) and Software Quality Metrics (SQM) (Murine 1980).

In this research the GQM (Basili et al. 1994) approach is used. GQM can be used for process quality measurements and for the purpose of product quality assessment,

Table 3 IAF facilitator's performance objectives based on roles and competencies

What		Facilitator's roles (What to perform)		
How		Role (a)	Role (b)	Role (c)
Facilitator's competencies (How to Perform)	Competency (x)	Objective (i)	Objective (l)	Objective (o)
	Competency (y)	Objective (j)	Objective (m)	Objective (p)
	Competency (z)	Objective (k)	Objective (n)	Objective (q)

Table 4 Facilitation assessment framework structure table

Roles Competencies	Political	Social	Method	Personal	Activity	Technology	Environment
Effective multisession management	1	9	17	19		27	32
Preparing time and space to support group processes				20		28	
Effective participation and interpersonal communication skills	2	10		21			
Diversity recognition and ensuring inclusiveness	3	11		22			
Group conflict management	4	12		23			
Evoking group creativity				24		29	33
Facilitate group selfawareness about the task	5	13				30	34
Guide the group to consensus and desired outcome	6	14		25	26	31	35
Act with integrity	7	15					
Trust group potentials and model neutrality	8	16	13				

whereas SQM and QFD are limited to product quality (Steves and Scholtz 2005). As facilitation success is described in figure one as a combination of product and process, we consider GQM the most appropriate approach. GQM defines three levels: Conceptual (Goal), Operational (Questions) and Quantitative (Metric) level.

Using GQM at the *Conceptual Level* the facilitator's performance objective in a specific meeting is defined using the framework illustrated in Fig. 2. At the *Operational Level* a set of questions is used to characterize the way the achievement of a facilitation performance objective is going to be assessed by the participants. At the *Quantitative Level* metrics are associated with every question in order to collect data to quantitatively assess the facilitation performance objective. Using GQM we enforce an association between assessment data, performance characterization and objectives.

The example below describes the facilitator's objective (Cell-2 in Fig. 3) which is in normal font and the question to assess the objective which is in italic. The metric is on the scale of 1 to 5 where 5 is the highest score. The participants who attend the meeting use the scale to rate the facilitator's performance.

1. To take care of political aspects (i.e. dealing with internal power struggles, preventing group domination, etc.) to ensure participation and effective communication among participants.
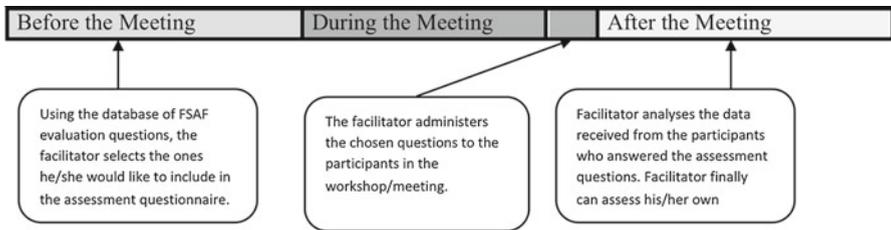
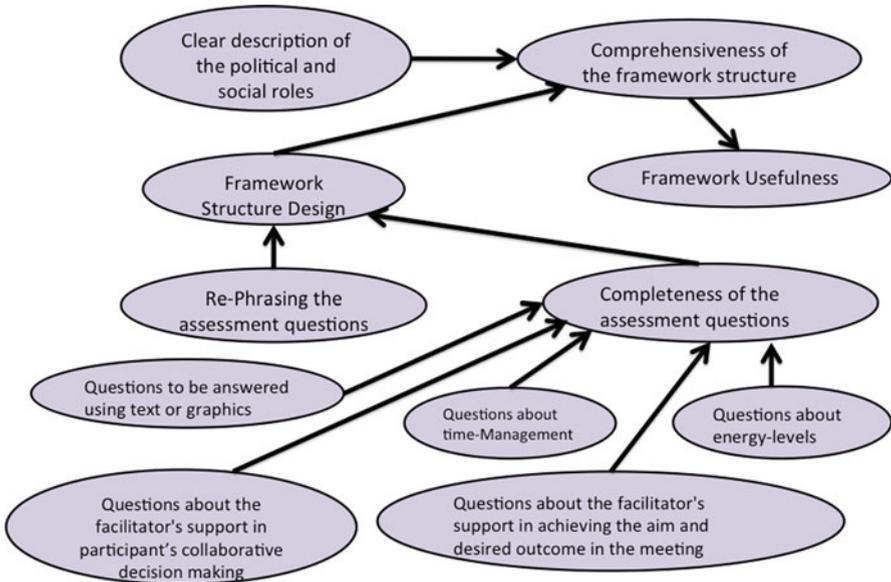**Fig. 2** Different phases of FSAF application process

Fig. 3 Integrated mapping supporting the survey result analysis

How would you rate facilitator's political skills to ensure participation and communication with participants?

3.2 FSAF Process for Application

The steps below should be followed by the facilitator to apply FSAF in a meeting or a workshop which he/she facilitates.

Before the meeting: Using the database of FSAF evaluation questions, the facilitator selects the ones he/she would like to include in the assessment questionnaire. At this stage the following steps should be followed by the facilitator:

Step (1) – Understanding the facilitation case scenario: understand the facilitation scenario and think about which roles are highlighted in the scenario and which competencies are crucial for achieving the roles.

Step (2) – Highlighting the Facilitation Roles: using the FSAF table, reflect on each role (the columns). Identify the ones that are most important to the case, and document the highlighted roles for further reference in the next steps. For example, if the case scenario requires the facilitator to intervene in a meeting of the top managers of a large multi-national organization, then issues such as politics, social aspects of team facilitation, or the method of facilitation might be more important than other roles as for instance technology, and therefore need to be highlighted.

Step (3) – Highlighting the Competencies within each Role and Defining the Goal: using the FSAF framework, for each chosen role identify the competencies (rows) of the facilitator that are most important in order to achieve that role. Keep track of each competency you choose as your assessment criteria and find the intersection of the competency in the table with the role you chose in the previous step. By doing this you automatically select a cell inside the FSAF table. This cell defines your facilitation goal. Document the cell number. Continue performing this step for all the roles selected in the previous step, and document the cell numbers.

Step (4) – Deriving the Questions from the List: using the list of objectives and questions, for each cell number you stored in the previous step find the same number of goal/question in the list. Document the question and the scale on a separate sheet.

Step (5) – Prepare the Final Assessment Sheet: prepare the final assessment sheet or the questionnaire to be handed to the participants in the meeting. The assessment can be made on paper or in a surveying system.

 – **During the meeting:** The facilitator administers the chosen questions to the participants in the meeting.
 – **After the meeting:** Facilitator analyses the data received from the participants to assess his/her performance in the meeting.

Figure 2 summarizes the process of FSAF application before, during and after the meeting.

4 FSAF Evaluation—Part One

To evaluate FSAF it was firstly decided to recruit evaluators. The target evaluators were mainly expert facilitators who were certified by International Association of Facilitators (IAF) in the UK and USA or they were experienced facilitators certified by International Cultural Affairs (ICA) in Canada.

The evaluators were expert with team facilitation both in theory and practice. All together a list of 150 certified expert facilitators was prepared and documented with their contact information and the organization where they belong. Table 5 summarizes the selection process of the evaluators.

The recruited evaluators were contacted through e-mail correspondence and were sent a survey which was previously designed and uploaded online. Three different surveys were developed each containing single facilitation scenario having either a low, medium or high level of complexity. We decided to categorize scenarios in different levels of complexity to have the framework applied to a range of alternative scenarios.

Table 5 Selected professional certified facilitators

Organization recognizing the facilitator	Number of selected facilitators	How the facilitator was accessed
IAF-UK	79	Via "IAF list of certified facilitators" website
IAF-USA	25	Via "IAF list of facilitators" website.
ICA-Canada	17	Through regular online facilitated meetings with ICA-Canada members and ICA website (The Institute of Cultural Affairs (ICA), 2010).
IAF conference-oxford	29	By using the IAF Oxford 2009 conference proceeding booklet.

We decided to have a generic evaluation of the framework by having the framework applied to different levels of complex scenarios and not exclusively focus on specific types or categories of scenarios.

The 150 evaluators were divided into three groups of 50 facilitators. Each group was sent a survey containing either the low, medium or high level complexity scenario of a group collaboration process. We decided to assess the framework using different scenarios covering different levels of complexity. This method would allow us to evaluate the framework at a generic level while not being focused on exclusive scenarios or cases of team facilitation.

The evaluators were asked to go through two survey stages and proceed with submission of their feedback and comments. Twenty-two out of 150 expert facilitators completed the survey stages and process. The stages are described below:

Stage-One: The evaluators were firstly asked to read the scenario. Next, they had to apply the framework to the scenario. They were given the list of all thirty-five evaluation questions derived from the framework and they had to choose which ones they would like to document as their chosen evaluation questions given the case scenario.

Stage-Two: The evaluators were asked to answer an open question. The evaluators could freely give their comments about FSAF and its usefulness and applicability. Further, we asked them about similar assessment frameworks in the field, and for their e-mail address to receive the results of the study.

The case scenario's which were sent to the evaluators are summarized below (Scenario 1 is the most complex scenario and Scenario 3 is the least complex one):

Scenario 1 Mental-care system development for a hospital
In this scenario a requirements elicitation workshop for stakeholders in a hospital in the UK needs to be facilitated. The stakeholders have different backgrounds. The requirements for the mental-care system should comply with organizational goals and

also satisfy the user needs. The facilitator should use an electronic meeting system, which will be located in the hospital. The objective of the system is to remind mental illness patients of their appointments which should increase hospital efficiency. There will be multiple sessions, and each session will contain several collaborative activities.

Scenario 2 Requirements for a university website development
This workshop has the objective to change the design and architecture of the university website. The stakeholders collaborate in a virtual worlds environment. The facilitator should make sure to have an avatar with an appropriate appearance and take control of the avatar. The facilitator should also transfer the instructions to the participants in the meeting while guiding them through collaboration tasks. The stakeholders use collaboration tools in the virtual environment such as whiteboards, flip charts, video screens, etc. The overall goal of the session is to generate and categorize a list of requirements for making changes to the website.

Scenario 3 Requirements for developing a student personal web page
As a part of an undergraduate course module lab exercise, students are asked to work as part of a team. The course leaders have organized students in multi-cultural groups which means team members have diverse backgrounds, ethnicity and nationalities. The team facilitator should guide the team through a simple brainstorming session. The facilitator uses a flip chart in one of the student meeting rooms in the university to document the brainstorming list. The aim of the collaboration session is that the team members produce a range of user requirements for developing an intelligent system that classifies the audio files in a website.

5 FSAF Evaluation Result—Part One

The overall evaluators' opinion about the framework structure and application in terms of its usefulness is described, analyzed and summarized below. In total 14 out of 22 evaluators believed that the framework is a useful tool to assess the facilitator in meetings. 4 out of 14 evaluators applied the framework to scenario-1, 6 evaluators to Scenario 2 and 4 evaluators to Scenario 3.

To analyze the evaluators' response to the survey questions we used the cognitive mapping process (Larsen et al. 2009). Similar comments with the common themes were grouped together which were assigned to the related theme in the form of a statement. The comments are presented in the tables with the statements accompanying. These statements are then presented in graphical form.

5.1 Political and Social Roles of The Facilitator Need to be Clearly Defined to Make the Framework Structure More Comprehensive and Therefore Increase the Framework Usefulness

The concepts of social and political roles of the facilitator need to be clearly described to make a consistent understanding in the mind of the facilitators and the participants as well. The above statement is supported by comments from the evaluators described in Table 6:

Table 6 Comments supporting the statement 5.1

Evaluator	Comment
E16	I don't like the idea of making political and social skills an issue
E4	I think the wording of the questions needs to be simpler and the difference between (e.g.) the social and political skills made clearer
E11	This part of an evaluation that refers to social and political skills of the facilitator can be difficult to interpret and therefore less useful if the assessment is confidential
E12	I would re-phrase them. First I would omit reference to the "facilitator's skills" and especially references to "political" and "social" as this may infer the facilitator's skills in manipulation
E7	If you are promoting the concept that the facilitator is inside the group. In which case the use of political skills would be important. However, there is another "branch" of facilitation that suggests that the facilitator is outside the group and the task
E18	Yes, I found several to be useful but the questions that led with "political skills" or "social skills" seemed to be double—or triple-barrelled questions–more than one question was being asked in the question
E16	Behavior is key—and covers all the social and political issues if a group member wanted to highlight anything

5.2 The Assessment Questions Need to be Rephrased to Make the Framework Structure More Comprehensive

The assessment questions are described at an abstract level. Re-wording and re-phrasing the questions will help in them to be better understood by both the facilitators and the participants as well. The above statement is supported by comments from the evaluators described (Tables 7, 8,9, 10 and 11):

5.3 Adding Different Types of Questions to the List of Current Assessment Questionnaire Such as Specific Question About Venue, Time Management, Energy Levels, or Questions About the Aim and Outcome of the Meeting as Well as Questions About Facilitator's Qualities to Help Participants Make Collaborative Decision-Making Would Improve the Completeness of the Framework Structure

The evaluators mentioned a number of different areas that need to be considered and added to the current list of assessment questions provided using the framework. A number of specific questions related to venue, refreshments, time management or energy levels. Three facilitators evaluating the framework mentioned that there is a need to add questions related to the qualities of the facilitator that could help achieving the outcome of the meeting. Some generic questions about how well the facilitator could meet the purpose or the aim of the session should be considered too. Asking participants open questions that would also allow them to draw something was also recommended. Moreover, the evaluators suggested adding questions to evaluate the facilitator in terms of his/her qualities to help the group make collaborative decision-making. Following evaluators comments support the above statement:

The three elemental statements described above are presented graphically in the Fig. 3:

Table 7 Comments supporting the statement 5.2

Evaluator	Comment
E2	A bit too repetitious. Could cover multiple issues in one question. May be too procedural. Would require more background information and explanation of key terms for inexperienced facilitators
E3	Yes. However, some adjustments are recommended. Phrasing of questions could introduce personal bias in response provided and ask participants to assess facilitator on issues outside of facilitator's control
E6	I chose against several questions, as the word choice did not seem exactly right to my ear. The layout of your questions with a line in between the question and answer was annoying
E7	The structure of the questions would force the participants to think through the question instead of providing feedback on the facilitated event
E8	Most of the questions are too complex, and use jargon – participants won't know what to do with such questions
E9	I think about how many questions participants will be willing to answer in a thoughtful and full way, and try not to ask more than six questions maximum on an evaluation form
E10	Yes but too much overlap in these questions might cause conflict in understanding them
E11	However, the repetitiveness of the questions in the categories of "political" and "social" skills is confusing, as I would see it being asked only in one or another category
E12	Overall I would phrase all other questions to focus on the meeting directly
E13	The words used for evaluating facilitation services need to be much more down to earth
E20	I would use more appreciative language
E15	I have found difficulty answering the assessment questions as the words meanings haven't been stated at the beginning (e.g. in a glossary)

Table 8 Comments supporting the statement 5.3

Evaluator	Comment
E4	I also think that people's assessment of the facilitation needs to be part of a wider assessment of the meeting as a whole, so there need to be questions about the venue, refreshments, time management, energy levels, etc
E8	Yes. Still need to add some questions focused on outcome
E9	So typically I'll ask: - Overall how valuable was this meeting in meeting its stated aims? (Scale 1 - 10). - What helped us to meet the aims? - What got in the way of us meeting the aims? - What could the facilitator have done to make your score one point higher? - Any other comments on how the meeting was run? So I use very open questions, which allow the participants to draw attention to the aspects of the meeting, which seem most significant to them, rather than aspects I pre-determine in advance
E12	So, secondly, I would ask questions like "How well did the choice/use of technology help the meeting succeed?" "How well did the group work together?" "Did the group reach a decision?" "How well did the design of the meeting help achieve the desired outcome?" "Did the meeting achieve the stated outcome?"
E21	I prefer evaluation questions to focus on the group outcomes: Did the group meet the agreed purpose? Did the group meet the agreed outcomes? or on the group culture (norms): Did you feel included and your perspective heard? Was a respectful culture maintained?

Some further comments were also addressed by the evaluators, which are mentioned below:

Table 9 The Final Facilitation Assessment Framework Structure Table

Roles

Competencies	Political	Social	Method	Personal	Activity	Technology	Environment
Effective multisession management			13	15			26
Preparing time and space to support group processes				16		23	
Effective participation and interpersonal communication skills	1	6		17			
Diversity recognition and ensuring inclusiveness	2	7		13			
Group conflict management	3	3		19			
Evoking group creativity				20			27
Facilitate group selfawareness about the task		9				24	23
Guide the group to consensus and desired outcome	4	10		21	22	25	29
Act with integrity		11					
Trust group potentials and model neutrality	5	12	14				

- To facilitate more complex workshops, the facilitator needs to take more care of his/her personal role during the meeting. Being comfortable, compassionate, neutral, positive and centred even difficult and potential conflicting situations are all what an expert facilitator should take into consideration. These points are described in the framework under the described roles of the facilitator.
- It is important for a facilitator to make a safe space - and an appropriate learning environment - for the group process to unfold during the workshop. This fact should be taken into consideration by the facilitator during transformational processes from a change management, psychological and a metaphysical point of view. The assessment framework provides opportunity for the facilitator to address this issue.

According to the result, we concluded that the framework structure should be improved to increase usefulness. This can be achieved by mainly re-phrasing the assessment questions in the list and also by adding a number of assessment questions to the list of questions. We could recognize that the political and social roles of the

Table 10 Interviewees background and experience

Evaluator's identification	Evaluator's job title	Evaluator's experience
A	Academic staff member in a higher education institution	More than 10 years experience in facilitation workshops
B	Founder and the director of a business consulting company	Certified ICA-USA ToP® Facilitator, with more than 20 years of experience as a facilitator and has facilitated group using the technology of participation® throughout Asia, Latin America, Europe, and North America. Experienced in working with international businesses and facilitating a verity of cross-functional and multilingual teams
C	Associate with a business consulting firm	IAF and ICA certified facilitator. ICA: UK Chief Executive, IAF Chair and Certified Professional Facilitator who was also a lead Technology of Participation (ToP) Trainer. More than 25 years experience in workshop facilitation
D	Academic staff member in a higher education institution	More than 10 years experience in facilitation workshops

Table 11 Interviewee comments supporting the statement 6.1

Respondent	Comment
A	When I was applying the framework to the creativity workshop I chose, activity method and the environment and since my focus was on creativity I chose the competency of evoking group creativity
C	I understand that some competencies are more relevant to some workshops than others and you might apply particular competencies to particular roles within the workshop and you can come up with goals like that and the framework provides the opportunity to make such decisions
D	Yes, sure. Some workshops are focused more on divergence, like brainstorming, that you get everything out and open. In modelling workshops you want to know how different things are linked to each other and towards the end you would like to go to the statement of commitment and action planning, so what you aim for is different in different sessions and the evaluation could be therefore different. The framework can address this issue

facilitator need to be clearly described more in detail. This would bring consistent understanding of such roles of the facilitator in the mind of the framework users.

The evaluators referred to the points describing the framework strength. Most of the evaluators agreed that the framework is useful in assessing the facilitator. The evaluators believed that the framework is based on a strong theoretical background and important competencies of facilitators that are crucial to successful collaborations. Also the framework has the potential to contribute to the evaluation of the facilitator's effectiveness in meetings. The framework is appropriate to evaluate novice facilitators because it does focus on the right method, activities or technologies, which are important in the beginning stage of being a facilitator. It is also appropriate for evaluating experienced facilitators since it focuses on some political awareness and rule setting

in order to invoke effective participation which is important for more experienced facilitators.

The evaluators described framework weaknesses as well. According to the evaluators, the assessment questions derived from the framework are repetitious and procedural. The framework lacks appropriate phrasing and language in terms of describing assessment questions for evaluating the facilitator and this can be a conflicting issue for the participants. Another point is that the phrasing of questions is more complex when it gets to the questions related to social and political aspects of facilitation.

Although the framework was evaluated to be appropriate for novice facilitators it still requires more background information and explanation of key terms for inexperienced or novice facilitators. It is recommended that the facilitator's behavior is the key which covers all social and political issues of facilitation and that the social and political skills of the facilitator should not be directly referred to as criteria for evaluation. One overall question about the facilitator's behavior can be asked instead of asking the questions referring to social and political aspects of facilitation. A large number of evaluators believed that the framework needs to be improved and simplified in terms of phrasing and structuring the evaluation questions. Another option is to provide a glossary of terms. A further comment was to remove additional overlap in the framework; for example references to facilitator's skills might overlap with social and political aspects of facilitation. Some evaluators believed that a number of questions should be added to the list of assessment questions. For example, questions focusing on psychological and metaphysical aspects of facilitation should be considered; and it should be questioned whether or not the facilitator has been successful in making a safe space for collaboration or how well the facilitator could manage to make the group process unfold. It is important that the focus is on the meeting outcome since in business a focus on outcomes is essential and also achieving the meeting's aims means that the facilitator has performed his/her job appropriately. It was also recommended to add some open questions at the end of the questionnaire, such as: "What could the facilitator have done to make the overall meeting more successful?" and "How well has the facilitator performed to meet the meeting aims?"

According to the result, the amount of questions was still considered to be rather extensive, and some questions were considered more relevant in general than others. We therefore compared the percentage of experts that choose questions over the 3 scenario's to see which questions were overall less relevant, and could be removed. Diagrams below illustrate how often each question was selected for each scenario in percentage (Figs. 4, 5 and 6).

According to the results received from the evaluators, a number of questions were removed from the list. The questions were removed from the list since the evaluators tend to consider them less frequently compared to others across the 3 scenarios.

Questions 1, 5 and 7 were removed. Obviously political issues do not have a major impact in raising group self-awareness about the task or facilitator's skills to demonstrate positive attitude and belief in the group. Question 9 was removed as a result of the evaluators' belief in the fact that social aspects of team facilitation have no direct impact in managing the group. Question 27 also was removed since facilitator's activities do not demonstrate the quality of his/her performance in helping the group in decision making and reaching agreement (Table 8).
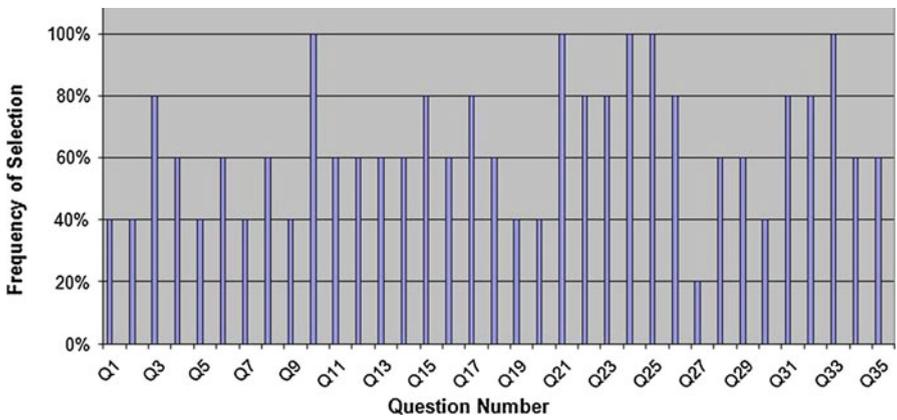
Fig. 4 Frequency of each question answered by the evaluators for Scenario 1
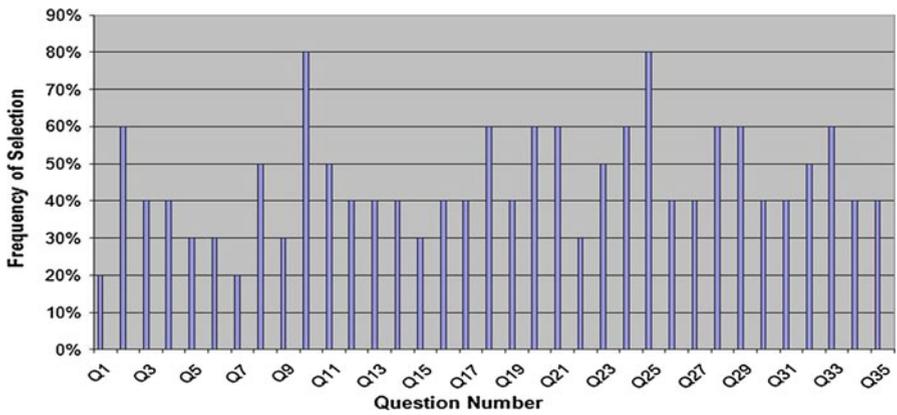

Fig. 5 Frequency of each question answered by the evaluators for Scenario 2
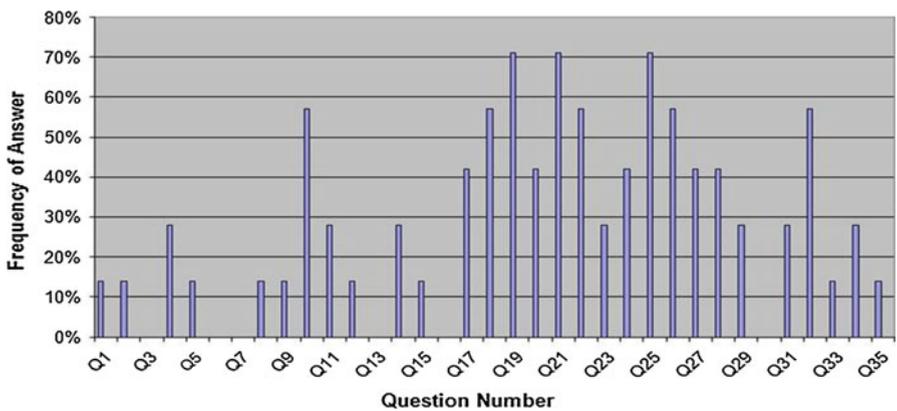

Fig. 6 Frequency of each question answered by the evaluators for Scenario 3

Fig. 7 Graphical representation supporting the statement 6.1

Table 12 Interviewee comments supporting the statement 6.2

Respondent	Comment
B	It is much better to let people to write and elaborate on questions qualitatively as well along side quantitative feedback because this way you would be able to get more information back from them
A	Allowing the facilitator to add some open questions so that himself, as a facilitator, could have the freedom to focus on certain questions that he would like to add and to be assessed upon
C	It is a good idea to sit and talk with the client and have their ideas rather than asking them quantitative questions only.
C	If you need to focus on a particular event and assess the facilitator's performance only in that certain event I would choose a more qualitative approach
B	Having each question accompanies by an opportunity for the participant to elaborate using text would help the facilitator to get much more insight into his/her performance
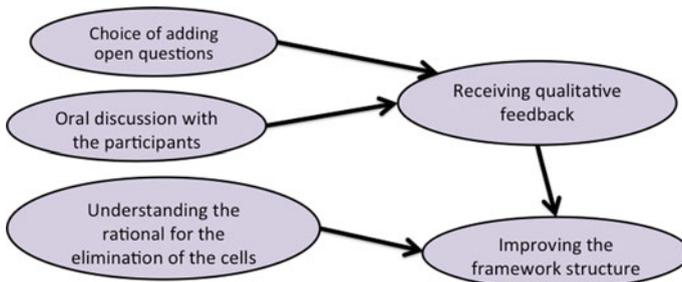
Fig. 8 Graphical representation supporting the statements 6.2 and 6.3

The framework structure table is demonstrated in Table 9.

The set of questions which are derived from the above table and which define criteria for facilitation performance assessment in meetings can be found in the appendix of this paper. This set can be considered according to the experts, as a set of relevant questions across different facilitation scenario's and forms a basis for facilitators to develop a focused assessment, using the approach described in Sect. 3.2.

6 FSAF Evaluation—Part Two

In this part of the research, data is collected through semi- structured interviews with expert facilitators.

To obtain multiple perspectives on the assessment framework, we conducted in-depth interviews with four expert practicing facilitators, three males and one female. Two facilitators were active in higher education lecturing modules related to facilitated

Table 13 Interviewee comments supporting the statement 6.3

Respondents	Comment
D	You took off some cells so I would need to go over those and understand if I come with the same conclusion. This would help me to better understand the structure of the framework
A	I was very much interested in creativity so I wanted to choose the competency that refers to preparing time and space to support group processes, I came across a grey fields when I wanted to choose my objective with respect to a certain role. It is needed to have better understanding why some cells are eliminated

Table 14 Interviewee comments supporting the statement 6.4

Respondent	Comment
B	It would be a good idea to have the questionnaire uploaded online and then handed in to the participants rather than a paper-based questionnaire. Then it helps you to transfer and reflect on the results and analyse them easier
B	Also asking participants to fill out repetitive survey is not very engaging and fun for the participants, so it would be better to ask questions from the participants by summarizing the questions in the form of graphics in the paper and hand them in to participants, if not done online
A	Also it is important to have a strategy to display the results of evaluation to the participants, preferably online, so they can reflect on it and monitor the progress themselves as well, all through on-going meetings with the client

Table 15 Interviewee comments supporting the statement 6.5

Respondent	Comment
B	I like the fact that you used the five point based Likert scale I think it is great and very useful
A	I think the idea of the framework refers to a very powerful tool to make an evaluation sheet that the participants can focus on to evaluate the facilitator in the workshop and that is what we are very much interested in to know
C	This approach is good if you want to do rigorous research over a period of time and assess the performance of a number of facilitators in a number of meetings over the certain duration of time, and if it is used this way it is very valuable
D	I think this is a suitable instrument that I could apply for the session I facilitated
C	You have added the roles to the concept of facilitator's competencies in meeting, which is a really good idea
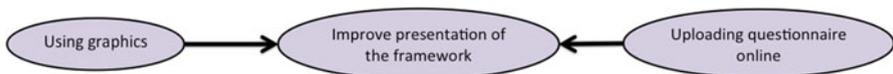
Fig. 9 Graphical representation supporting the statement 6.4

collaborations and decision-making processes and were engaged in industrial facilitation practices as well. Two other facilitators were IAF and ICA certified practicing facilitators. Table 10 below summarizes details about the evaluators:

The facilitators were given a booklet that introduced the framework structure and the process of application. The content of the booklet was revised and reviewed after

Fig. 10 Graphical representation supporting the statement 6.5

**Table 16** Interviewee comments supporting the statement 6.6

Respondent	Comment
C	I think how easy it is to apply the framework really depends on the particular meaning you give to the roles
C	Obviously if the roles are clear then the application process will be clear as well
A	The questions provided using the framework can be understood in different ways by different facilitators so by providing more information about the roles in the framework would become a more useful tool
D	I still need to have more information especially about the description of the roles in order to be able to say the instrument can help me to achieve my objectives in a meeting. You really have to agree on what you are looking for like with respect to roles such as political role of the facilitator
B	One way to make the framework more useful is that to use it in meetings while you have on-going relationship with the client and after each meeting get feedback about your assessment framework from the client. This would really help to improve the framework application and use by the participants

**Table 17** Interviewee comments supporting the statement 6.7

Respondents	Comment
A	Generally I think you should provide more information to competencies. At this stage, when different people read the competencies, they might think different about what each competency is referring to when they need to choose the objectives
A	I needed more clarity about the difference between roles such as technology and environment. Couldn't be described that technology is actually a kind of environment?
B	For an average person there are incomprehensive points that would act as barrier for them to really distinguish roles focusing on political skills or methods or other ones
D	I can think of certain roles and the competencies for keeping the right pace but I still need to have more information especially about the description of the roles in order to be able to say the instrument can help me to achieve my objectives in a meeting

receiving feedback from the academics and researchers who focus on the area of facilitated collaborations. The booklet described the rational behind developing such a framework and briefly reflected on the stages of framework development that were achieved before presenting the final version. The facilitators were asked to read the booklet carefully and apply the framework to a session that they have recently facilitated or to sessions that they would facilitate in the near future. They were provided with the booklet weeks in advance before the start date of the interview.

The semi-structured interviews fell in the range of 20–30 min each and all interviews were recorded and transcribed. We designed interview questions to direct the facilitators' attention towards different aspects related to the framework structure and application process as well as ease of use and usefulness of the framework once applied to a range of different workshops.
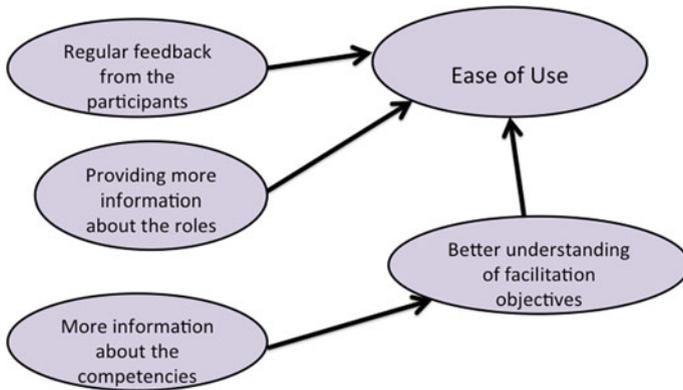
Fig. 11 Graphical representation supporting the statements 6.6 and 6.7
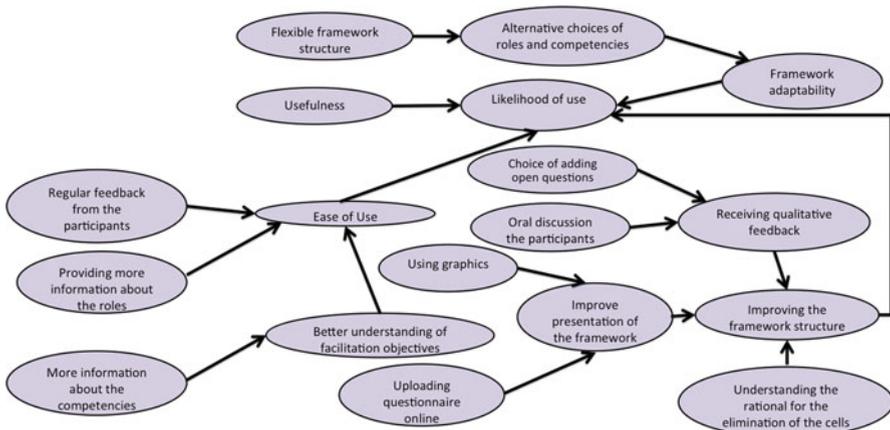
Fig. 12 Graphical representation supporting the result received from the interviews

The approach taken in this study to analyze the data from the interviews is a fairly standard cognitive mapping process (Larsen et al. 2009). Cognitive mapping technique has been seen as aiding the interview process. Maps have been used for strategy development (Eden and Ackermann 1992) and individual problem solving (Eden and Ackermann 1992). Both these benefit from being able to structure the data, analyse the maps and provide potential action plans.

Comments of a similar nature were grouped together (see tables 6.1–6.7 below) with the common themes of these comments leading to a set of observations formulated as statements. The comments are presented in the tables with the statements accompanying. These statements are then presented in graphical form. When all statements have been produced in graphical form, they are aggregated and reformatted into a single graphical representation that shows all of the interconnections among precursor and effect variables. This graphic representation is presented in Fig. 11. The reader can see directly the progression from interviewee comments to integrated representation.

6.1 It is Needed to Choose Different Roles and Competencies When Facilitating Different Workshops and the Framework is Structured in a Way that Provides Opportunity to Reflect on Those Alternatives for Evaluation

Depending on the type of the workshop, facilitators would need to choose different roles or competencies to evaluate their performance in meetings and the assessment framework supports such a requirement. Comments from the evaluators are described in Table 11.

This is represented graphically Fig. 7:

6.2 A Positive Change in the Structure of the Framework Would be to Add Some Questions to the Questionnaire to be Answered by Participants Using Text or to Have Oral Discussions with the Participants After the Session to Let Participants Elaborate on Their Opinion

Providing opportunity for the participants to elaborate more on their opinion would give the facilitator a better idea of his/her performance in meetings. This idea could be incorporated into the framework structure. Comments from the evaluators are described in Table 12:

6.3 It is Required to Review the Exclusion of the Cells in the Table to Improve the Framework Structure

Having an idea about the rational behind elimination of the cells in the framework structure table would help facilitators to understand the framework structure better.

Statements 2 and 3 are represented graphically in Fig. 8:

6.4 The Presentation of the Framework Could be Improved by Using Graphics, or Uploading Questionnaire Online Which Would Make the Framework Easier to be Used by the Participants

To improve the framework presentation and make it easier to be used by the participants it is suggested to use more graphics once the evaluation questionnaire is delivered to the participants. Also uploading the questionnaire online and using interactive methods would make it much easier and more engaging for the participants to fill in the questionnaire (Tables 13, 14 and 15).

This is represented graphically in Fig. 9:

6.5 The Framework is a Useful Tool for Evaluating a Facilitator in Meetings

All facilitators who were interviewed agreed that the assessment framework is useful tool to evaluate the facilitation performance in meetings. This statement is graphically represented in Fig. 10:

This is represented graphically below:

6.6 Receiving Regular Feedback from The Clients Who are Engaged in an On Going Relationship with The Facilitator and Also Providing More Information About the Facilitator's Roles in the Framework, Can Increase the Framework Ease of Use

It is suggested that if the facilitator is engaged in an on-going series of meetings with the client, then he/she should ask for regular feedback from them to understand how to improve the areas of focus within the structure of the framework. Also it was suggested by the majority of the interviewees that a better description of the roles of the facilitator is needed to make the tool easier to be used by the facilitators. Comments from the evaluators are described in Table 16:

6.7 Providing More Information About the Roles and The Competencies that Can Help in Better Comprehension of the Facilitator's Objectives Can Make the Framework Easier to be Applied in Meetings

For the facilitators to identify their objective of facilitation in meetings, they require to have an in-depth understanding about the roles and competencies described within the structure of the framework. According to the interviewees, it is required that both competencies and roles are described more in detail with respect to the facilitation objectives. This idea helps facilitators to be able to apply the framework easier once facilitating meetings. Comments from the interviewees are described in Table 17:

Statements 6.6 and 6.7 are represented graphically in Fig. 11:

According to the interview result, all four evaluators could understand the application process of the framework as well as the framework structure. Among all evaluators, one facilitator could not clearly understand the roles and one other facilitator had problems fully understanding the competencies.

Our analysis has led to five elemental statements. In each statement we see that respondents view a number of precursors leading to particular kinds of outcomes. Notably the assessment framework is viewed as influencing tool and useful for evaluating facilitators in meetings. We could identify that some results of each elemental statement could be related to each other, which are linked using arrows. We are suggesting that improving the framework quality will lead to an increase in framework adaptability as well as an increase in the likelihood of use of the framework. We also claimed that the usefulness of the framework and the ease of use would both lead to framework likeliness of use. This idea is inline with what Davis (1989) explained. According to Davis (1989) usefulness and ease of use both together affect the user's behavior towards the intention of use. We concluded similar results by analyzing the data we received from the interviews (see Fig. 12).

Additionally, by analysing the data from the interviews, we also find five suggestions that lead to improve the framework structure and the application process. These suggestions are described below:

First, we understand that in order to improve the questionnaire to the next level, it would be a good idea that each marked or numbered objective in the table, which currently described at an abstract level, generates a number of questions that focus on

the combination of the competency and the selected role of the facilitator. This would help the facilitator to adapt the generated questions to the specific session that he/she is facilitating according to his/her desire. It is suggested that each combination should provide five or six questions.

Second, we realize that there is a need for a number of competencies to be added to the framework such as competencies for collaboration, engineering competencies, analytical competencies or mathematical competencies (Fig. 12).

Third, we find that questions should be added to the framework that would focus on three main areas: preserve, improve and eliminate. Under preserve participants should elaborate on a number of ideas that they would think they would like to save and face next time again when evaluating the facilitator's performance in the meeting. Under improve participants elaborate on those qualities that they think they need to be better delivered next time and finally under eliminate participants refer to those qualities of the facilitator that they are reluctant to see next time.

Forth, we find that there are a number of common objectives in all workshops that the facilitators normally consider as their objective for evaluation. For example choosing the right method for taking care of the pace of the session, having a good group memory as a personal skill, understanding the status of the process with respect to the agenda, making sure that participants are on track during the meeting, neither left out nor idle during the process. The framework supports such common objectives of evaluation.

Fifth, we realize that there is a need for consistency regarding the meaning of the roles of the facilitator described in the framework. For example, we have to agree on what we are looking for especially with respect to the political role of the facilitator. We should understand if certain political behavior of facilitator is considered as positive or negative based on the description of the role.

7 Conclusions and Future Work

This systematic research study is designed to examine aspects of facilitator evaluation with respect to certain evaluation criteria derived from two main frameworks, the IAF Facilitation Competencies, and the Seven Layer Model of the Role of the Facilitator in meetings. This study focuses on the characteristics and competencies of the facilitator to provide the basis for introducing a new framework that helps facilitators evaluate their performance in meetings.

This paper presented a number of facilitation goals and evaluation objectives. The framework developed to assess the quality of facilitation services and was refined in three stages based on the expert feedback received in certain phases of the research.

All evaluation criteria presented and discussed in this paper are to be analysed from the meeting participants point of view. Further research is required to investigate whether or not participants are the best and that only evaluators can judge facilitators performance in meetings. Another approach, although costly, would be to use peer-assessment.

In order to use the framework, facilitators need to understand, depending on the case, what aspects of team facilitation are of higher priority and importance and

consequently choose criteria for evaluation. Further Research is suggested to help understanding and investigating possibilities for developing an intelligent tool that can automatically produce certain assessment criteria and evaluation questions for facilitators depending on their needs and requirements. Data mining techniques and machine learning approaches can be used to help and facilitate research towards this direction.

The framework presented in this paper focuses on aspects of facilitators' performance during the meeting. However, there are tasks that facilitators manipulate before and after the meeting. More research needs to be done to deliver criteria for facilitators' assessment before and after the meeting. This would help to satisfy requirements for accessing a complete framework that covers facilitators' assessment during all phases of their performance, mainly referring to tasks done before, during and after meetings.

8 Appendix

1. To take care of **political** aspects of facilitation (i.e. dealing with internal power struggles, preventing group domination, etc.) to ensure participation and effective communication with participants.
   How would you rate the facilitator in applying appropriate political skills to ensure effective participation and communication with participants?
2. To take care of **political** aspects of facilitation (i.e. dealing with internal power struggles, preventing group domination, etc.) in order to recognize diversity and ensure inclusiveness.
   How would you rate facilitator's use of political skills to manage recognizing diversity and ensuring inclusiveness and psychological safety of participants?
3. To take care of **political** aspects of facilitation (i.e. dealing with internal power struggles, preventing group domination, etc.) in order to manage group conflicts.
   How would you rate facilitator's use of political skills in order to manage group conflicts?
4. To take care of **political** aspects of facilitation (i.e. dealing with internal power struggles, preventing group domination, etc.) in order to guide the group to reach agreement
   How would you rate facilitator's use of political skills in order for the group to make decisions and reach agreement and consensus?
5. To take care of political aspects of **facilitation** (i.e. dealing with internal power struggles, preventing group domination, etc.) in order to demonstrate neutrality and trust on group potentials
   How would you rate facilitator's use of political skills in demonstrating neutrality and objectivity based on trust in group's potentials?
6. To take care of **social** aspects of meeting facilitation (managing cultural, learning or individual differences, etc.) to ensure effective participation and communication with participants.
   How would you rate the facilitator in applying appropriate social to ensure effective participation and constructive communication among participants?

7. To take care of **social** aspects of meeting facilitation (managing cultural, learning or individual differences, etc.) in order to recognize diversity and ensure inclusiveness.
   How would you rate facilitator's use of social skills to manage diversity and to ensure inclusiveness of the stakeholders offering them a safe environment?

8. To take care of **social** aspects of meeting facilitation (managing cultural, learning or individual differences, etc.) in order to manage group conflicts.
   How would you rate facilitator's use of social skills in order to manage group conflicts?

9. To take care of **social** aspects of meeting facilitation (managing cultural, learning or individual differences, etc.) in order to facilitate group self-awareness about the task.
   How would you rate facilitator's use of social skills in order to facilitate group ownership and self-awareness about the task?

10. To take care of **social** aspects of meeting facilitation (cultural, learning or individual differences, etc.) in order to guide the group to reach agreement
    How would you rate facilitator's use of social skills in order to guide the group to make decisions and reach agreement and consensus?

11. To take care of **social** aspects of meeting facilitation managing (cultural, learning or individual differences, etc.) in order to show positive attitude and demonstrate belief in group.
    How would you rate facilitator's use of social skills in order to motivate group by showing positive attitude and demonstrating belief in group?

12. To take care of **social** aspects of meeting facilitation (managing cultural, learning or individual differences, etc.) in order to demonstrate neutrality and trust on group potentials
    How would you rate facilitator's use of social skills in demonstrating neutrality and objectivity based on trust in group's potentials?

13. To use appropriate **personal** behaviour to manage the sessions.
    How would you rate facilitator's personal behaviour in managing the sessions in the meeting?

14. To use appropriate **personal** behaviour in order to demonstrate neutrality and trust on group potentials
    How would you rate facilitator's personal behaviour in demonstrating neutrality and objectivity based on trust in group's potentials?

15. To select and apply the right **method** to manage all the sessions.
    How would you rate the facilitator in applying the right method to facilitate all the session?

16. To use the most appropriate **method** for preparing time and space and supporting group processes.
    How would you rate the facilitator in using the right facilitation method for preparing time and space to support the group processes?

17. To ensure using and applying the right **method** to demonstrate proper participation and communication skills.
    How would you rate the facilitator in using the right method to ensure best participation and communication with participants?

18. To apply the right **method** in order to recognize diversity and ensure inclusiveness.
    How would you rate facilitator's skills in applying the right method to recognize diversity and ensure inclusiveness?

19. To apply the right **method** in order to manage group conflicts.
    How would you rate facilitator's skills in applying the right method to manage group conflicts?

20. To use the most appropriate **method** in order to evoke group creativity.
    How would you rate the facilitator in using the appropriate method to evoke group creativity?

21. To apply the right **method** in order to guide the group to reach agreement
    How would you rate the facilitator in using the appropriate method to guide the group make decision and reach agreement and consensus?

22. To use the best **activities** (i.e. taking care of the agenda, keeping record of the meeting and documentation) in order to guide the group to reach agreement
    How would you rate the facilitator in using the right activities in order to guide to guide the group make decision and reach agreement and consensus?

23. To take the best advantage of **technology** in order to prepare time and space to support group processes.
    How would you rate facilitator's ability in appropriate use of the technology in order to prepare time and space for supporting group processes?

24. To take the best advantage of **technology** in order to facilitate group self-awareness about the task.
    How would you rate the facilitator in using the right technology to facilitate group self-awareness about the task?

25. To take the best advantage of **technology** in order to guide the group to reach agreement
    How would you rate the facilitator in using the right technology to guide *guide the group make decision and reach agreement and consensus?*

26. To create a conductive **environment** and taking advantage of the learning facilities to effectively manage multisession meetings.
    How would you rate facilitator's knowledge and ability in using the right facilities and learning environment in order to manage the multi-session meeting?

27. To create a conductive **environment** and taking advantage of the learning facilities to evoke group creativity.
    How would you rate facilitator's skills in terms of taking advantage of the environment and learning facilities to evoke group creativity?

28. To create a conductive **environment** and taking advantage of the learning facilities to facilitate group self-awareness about the task.
    How would you rate facilitator's skills in terms of taking advantage of the learning environment to facilitate group ownership and self-awareness about the task?

29. To create a conductive **environment** and taking advantage of the learning facilities to guide the group to reach agreement
    How would you rate facilitator's skills in terms of taking advantage of the learning environment to manage diversity and to ensure inclusiveness of the stakeholders offering them a safe environment?

References

Adla A, Zarate P, Soubie J-L (2011) A proposal of toolkit for GDSS facilitators. Group Decis Negot J 20(1):57–77

Agres A, de Vreede GJ , Briggs RO (2004) A tale of two cities: case studies of GSS transition in two organizations. In: Proceedings of the 37th annual Hawaii international conference on system sciences

Akao Y, Mazur GH (2003) The leading edge in QFD: past, present and future. Int J Qual Reliab Manag 20(1):20–35

Alabdulkarim AA, Macaulay LA (2007) 'Facilitation patterns and citizen engagement". Int J Technol Policy Manag (IJTPM) 7(2):122–133

Azadegan A, Macaulay L (2011) 'Assessing the performance of e-facilitators'. In: Proceedings of the 7th international conference on collaboration technologies and systems (CTS). Philadelphia, Pennsylvania, USA

Basili V, Caldiera G, Rombach H (1994) The goal question metric approach. Encycl Softw Eng 2:528–532

Bentley T (1994) Facilitation: providing opportunities for learning. J Eur Ind Train 18(5):8–22

Bragge J, Merisalo-Rantanen H, Nurmi A, Tanner L (2007) A repeatable E-collaboration process based on think lets for multi-organization strategy development. Group Decis Negot 16(4):363–379

Clawson V, Bostrom R (1996) Research-driven facilitation training for computer-supported environments. Group Decis Negot J 5(1):7–29

Davenport T, Pearlson K (1998) Two cheers for the virtual office. Sloan Manag Rev 39(3):51–65

Davis FD (1989) Perceived usefulness, perceived ease of use, and user acceptance of information technology. MIS Q 13(3):319–340

De Vreede GJ, Vogel DR, Kolfschoten GL, Wien JS (2003) Fifteen years of in-situ GSS use: a comparison across time and national boundaries. Hawaii international conference on system science, Los Alamitos

Den Hengst M, Adkins M (2005) The demand rate of facilitation functions. In: Proceedings of the 38th Hawaii international conference on system sciences

Den Hengst M, Dean DL, Kolfschoten G, Chakrapani A (2006) Assessing the quality of collaborative processes. In: Proceedings of the 39th annual Hawaii international conference on system sciences (HICSS'06)

Dubbs S, Hayne S (1992) Distributed facilitation: a concept whose time has come?. Proceedings of CSCW92, pp 314–321

Duggan EW (2003) Generating systems requirements with facilitated group techniques. Hum-Comput Interact 18(4):373–394

Eden C, Ackermann F (1992) Strategy development and implementation—the role of a group decision support system. In: Kinney S, Bostrom B, Watson R (eds) Computer augmented teamwork: a guided tour. Van Nostrand, New York

"Find a Facilitator" Becoming a certified facilitator [Website] Jan13, (2011), available:http://www.iafworld. org/i4a/pages/index.cfm?pageid=3328

Garavan TN, Morley M, Gunnigle P, McGuire D (2002) Human resource development and workplace learning: emerging theoretical perspectives and organizational practices. J Eur Ind Train 26 (2,3,4): 60–71

Griffith TL, Fuller MA, Northcraft GB (1998) Facilitator influence in group support systems: intended and unintended effects. Inf Syst Res 9(1):20–36

Hertel G, Geister TS, Konradt U (2005) Managing virtual teams: a review of current empirical research. Hum Resour Manag Rev 15(1):69–95

"ICA Certified ToP Facilitators" Top facilitation [Website], Jan,13, (2011), Available:http://topfacilitation. net/Learning/CertifiedToPFacilitators.cfm

Jenkins JC, Jenkins RJ (2006) The 9 disciplines of a facilitator: leading groups by transforming yourself. Jossey-Bass, San Francisco

Kirk P, Broussine M (2000) The politics of facilitation. J Workplace Learn Empl Couns Today 12(2):13–22

Kolfschoten GL, Briggs RO, De Vreede GJ (2006a) Understanding the job requirements for collaboration technology support through a hybrid IT-end user job classification model: the case of collaboration engineering and facilitation. In: Proceedings of the 2006 ACM SIGMIS CPR conference on computer personnel research; Kennesaw, Georgia, USA 150–157

Kolfschoten GL, Duivenvoorde GPJ, Briggs RO, de Vreede G-J (2009) Towards an instrument to measure successfulness of collaborative effort from a participant perspective. In: Proceedings of the 42nd Hawaii international conference on systems sciences (HICSS-42 '09) big Island, HI: IEEE Comput Soc

Kolfschoten GL, Briggs RO, Vreede GJ De, Jacobs Peter HM, Appelman JH (2006b) A conceptual foundation of the thinkLet concept for collaboration engineering. Int. J. Hum-Comput Stud 64(7):611–621

Kolfschoten G, Lukosch S, Verbraeck A, Valentin E, De Vreede GJ (2010) Cognitive learning efficiency through the use of design patterns in teaching. Comput Educ 54(3):652–660

Kostner J (1996) Virtual leadership: secrets from the round table for multisite managers. Warner Books, New York

Larsen T, Niederman F, Limayem M, Chan J (2009) The role of modelling in achieving information systems success: UML to the rescue? Inf Syst J 19(1):83–117

Macaulay LA (1999) Seven-layer model of the role of the facilitator in requirements engineering. Requir Eng J 4(1):38–59

Mann T (2007) Facilitation: an art, science, skill - or all three? Build your expertise in facilitateon. Resource Productions, Bradford

McFadzean ES, Nelson T (1998) Facilitating problem solving groups: a conceptual model. Leadersh Organ Dev J 19(1):6–13

McFadzean E (2002) Developing and supporting creative problem solving teams: part 2 - facilitator competencies. J Manag Decis 40(6):537–551

Murine GE (1980) Applying software quality metrics in the requirements analysis phase of a distributive system. In: Proceedings of the minnowbrook workshop, Blue Mountain Lake, New York

Paul S, Seetharaman P, Samarah I, Mykytyn PP (2004) Impact of heterogeneity and collaborative conflict management style on the performance of synchronous global virtual teams. Inf Manag J 41(3): 303–321

Pauleen DJ, Yoong P (2004) Studying human-centred IT innovation using a grounded action learning approach. Qual Rep 9(1):137–160

Paulsen D (2004) Leadership essentials: facilitation skills for improving group effectiveness. In: Proceedings of the 32nd annual ACM SIGUCCS conference on User services, pp 153–160

Pierce V, Cheesebrow D, Braun LM (2000) Facilitator competencies. Group Facil Res Appl J 2(2):24–31

Powell A, Piccoli G, Ives B (2004) Virtual teams: a review of current literature and directions for future research. ACM Sigmis Database 35(1):6–36

Rombach HD (1991) Practical benefits of goal-oriented measurement. In: Fenton N, Littlewood B (eds) Software reliability and metrics. Elsevier Science Publishing Co, London, pp 217–235

Sarker S, Sahay S (2004) Implications of space and time for distributed work: an interpretive study of US-Norwegian systems development teams. Eur J Inf Syst 13(1):3–20

Sarker S, Sarker S, Nicholson DB, Joshi KD (2005) Knowledge transfer in virtual systems development teams: an exploratory study of four key enablers. IEEE Trans Prof Commun 48(2):201–218

Schuman S (2005) The IAF handbook of group facilitation, best practices from the leading organization in facilitation. Jossey-Bass, a Wiley Imprint

Schwarz RM, Davidson A, Carlson P, McKinney S (2005) The skilled facilitator fieldbook: tips, tools, and tested methods for consultants, facilitators, managers, trainers, and coaches. Jossey-Bass, San Francisco

Sole D, Edmondson A (2002) Bridging knowledge gaps: learning in geographically dispersed cross-functional development teams. In: The strategic management of intellectual capital and organizational knowledge. Oxford University Press, Oxford, pp 587–604

Steves MP, Scholtz J (2005) A framework for evaluating collaborative systems in the real world. In: Proceedings of the 38th Hawaii international conference on system sciences

Tarmizi H, De Vreede GJ, Zigurs I (2006) Identifying challenges for facilitation in communities of practice. In: Proceedings of the 39th Hawaii international conference on system sciences

Thomas GJ (2005) Dimensions of facilitator education. Schuman S (ed), The IAF handbook of group facilitation: best practices from the leading organisation in facilitation. Jossey Bass, San Francisco, pp 525–541

Vivacqua AS, Marques LC, Ferreira MS, Jano MS (2009) Information needs for meeting facilitation. In: Groupware: design, implementation, and use lecture notes in computer science 5411:57–64

Vreede GJ, De Briggs RO, Van Duin R, Enserink B (2000) Athletics in electronic brainstorming: asynchronous brainstorming in very large groups. In: Proceedings of the 33rd Hawaii international conference on system sciences, Maui, HI. Los Alamitos, CA: IEEE Computer Society Press

Vreede GJ, De Niederman F, Paarlberg I (2001) Measuring participants' perception on facilitation in group support systems meetings. In; Proceedings of the SIGCPR conference on Computer personnel research (CPR '01) San Diego, California, United States; ACM Press, New York, pp 73–181

Vreede GJ, De Niederman F, Paarlberg I (2002) Towards an instrument to measure participants' perceptions n facilitation in group support systems meetings. Group Decis Negot 11(1):127–144

Zhao L, Macaulay L, Adams J, Verschueren P (2008) A pattern language for designing e-business architecture. J Syst Softw 81(8):1272–1287