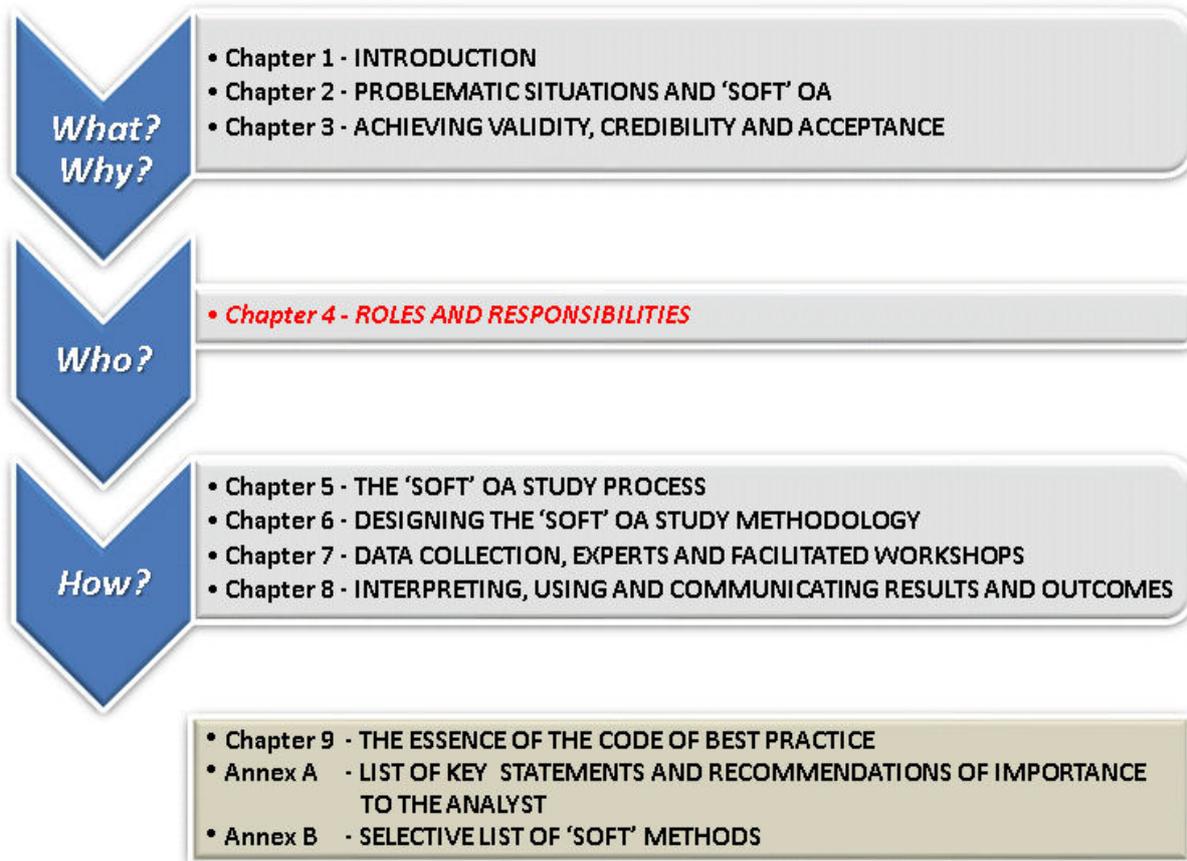


## Chapter 4 – ROLES AND RESPONSIBILITIES



- Many roles and responsibilities are undertaken during the conduct of a 'soft' OA study. Moreover, one individual may adopt different roles involving different responsibilities. Each individual involved in the study contributes to its quality and success.
- The analyst, through his design and conduct of the study and through his reporting and interpretation of the study's outcomes, plays a key role in contributing to the study's validity, credibility and acceptance.
- The facilitator too, through his management of study process (the way participants interact), plays a key role in contributing to the study's validity, credibility and acceptance.
- The (primary) client has a responsibility towards the analyst in supporting the execution of the study and should act as a partner to the analyst.
- Good stakeholder management is the responsibility of the analyst and is critical to study success.

## 4.1 INTRODUCTION

This chapter discusses the roles and responsibilities of the significant actors who are associated with studies that apply ‘soft’ OA. While acknowledging that each study is unique, it nevertheless provides some guidelines to analysts. The guidelines are offered as a means of assistance and are not necessarily prescriptive in nature. In general, this chapter deals with the people involved in a study that employs ‘soft’ OA and with what those people do, whereas *how* those activities are carried out is discussed in the subsequent chapters of this CoBP.

## 4.2 INDIVIDUALS INVOLVED IN A ‘SOFT’ OA STUDY

Individuals associated with a study that applies ‘soft’ OA may play the roles of:

- *Analyst*: An individual who conducts a study, and in this capacity designs the stages of the process and suggests ways to investigate and model problematic situations, the methodology(ies) and method(s) to be used based on his knowledge and expertise, the workshops to be held, and the ways to report and interpret the study’s outcomes.
- *Client*: This term denotes four specific types of stakeholders (who form a so-called ‘client system’): the *sponsor* who actually owns the study, the *customer* who pays the bill for the study, the *decision maker* who may make decisions regarding the problematic situation or concerning the recommendations of the study in preparation for decisions by a higher authority and the *end user* who is ultimately affected by the study outcomes and related decisions. It should be noted that:
  - The customer hires the analyst to conduct the study and has discretion over funds. Sometimes, however, the party paying the bill for the study has no stake in the study outcome.
  - The decision maker is not necessarily in command of, or part of, the sponsor’s organisation.
- *Expert* (also known as a Subject-Matter Expert (SME)): An individual who has considerable relevant knowledge in a particular area without necessarily owning or otherwise being part of the problematic situation. The SME may be considered to be a stakeholder since he affects the study through the provision of information. But, in general, in his role of SME, this individual does not necessarily own (part of) the problematic situation and need not otherwise be a part of the problematic situation.

Some SMEs may be part of the ‘client system’. End users may sometimes act as SMEs as well. In some security domains, the expertise is possessed by a limited number of individuals who will therefore find themselves in more than one of the sub-groupings of the stakeholders.

- *Facilitator*: An individual who helps (i.e. supports, enables and encourages) individuals or a group or groups of clients, subject matter experts, other stakeholders, and analysts to work together through the stages of a study by managing procedure (the way the problem is tackled) and process (the way participants interact) whilst adopting an impartial attitude.
- *Stakeholder*: An individual who can affect, or can be affected by the (resolution of the) problematic situation. The stakeholder system consists of individuals, groups and organisations that are affected by the problematic situation. In the military context, an enemy may also be a stakeholder. In such cases, the analyst should ensure that enemy perspectives and likely reactions are taken into account within the study context (e.g. through the use of Red Teaming). Even analysts and facilitators may, to some extent, be regarded as stakeholders as they too affect the study or are affected by it (e.g. due to their interest in the study’s perceived success).
- *Scrutineer* (reviewer, auditor): An individual who provides an independent review of the study. Although the scrutineer does not act as an analyst, he may choose to perform his own analysis as part of his scrutineer function. The use of professional scrutineers contributes to study credibility and acceptance (see Section 3.4.3).

In designing and executing the study, the analyst should take into account the diverse nature of the client system. In particular, the analyst should appreciate that each client:

- Has a will, a purpose and resources, and may influence the study;
- Will perceive the problematic situation in a unique way, based on his own perspectives, commitments, objectives, interests, values, desires, and concerns;
- May have both a declared and an undeclared agenda; and
- May engage in organisational politics (which is not necessarily a bad thing, and not necessarily avoidable or to be avoided).

The analyst deals with members of the client system who may come from several different parts of an organisation or from several different (possibly external) organisations. Within each such organisation, the analyst's clients may hold different levels of responsibility within their respective organisations and belong to various levels within the organisational hierarchy. The analyst's clients may be staff at a high level (e.g. general/flag officers) or at a working level, and they may be military or civilian.

Each stakeholder will have different perceptions as to whether he and his organisation will benefit from study outcomes and hence will either be supportive, neutral or opposed to the study. Some stakeholders (even the clients among them) may actively attempt to subvert the study process and its outcomes (e.g. try to slow down or stop the study due to political issues, a power play, a hidden agenda, conflicting goals or an unwillingness to admit that there is a problem). Each client will have some degree of influence in determining whether the study succeeds, especially as it relates to whether the ideas or recommended changes emerging from the study will be accepted as being credible and hence whether they will be implemented.

The situation is further complicated by the reality that a particular role within the study may be undertaken by one or more individuals and may even be carried out by different individuals at different times. Additionally, an individual may take on one or more roles at any given time and his role(s) may change over time as the needs of the study change, as his perceptions of the problematic situation change, or as he moves out of his current position within the organisation (e.g. civilian promotion, military posting).

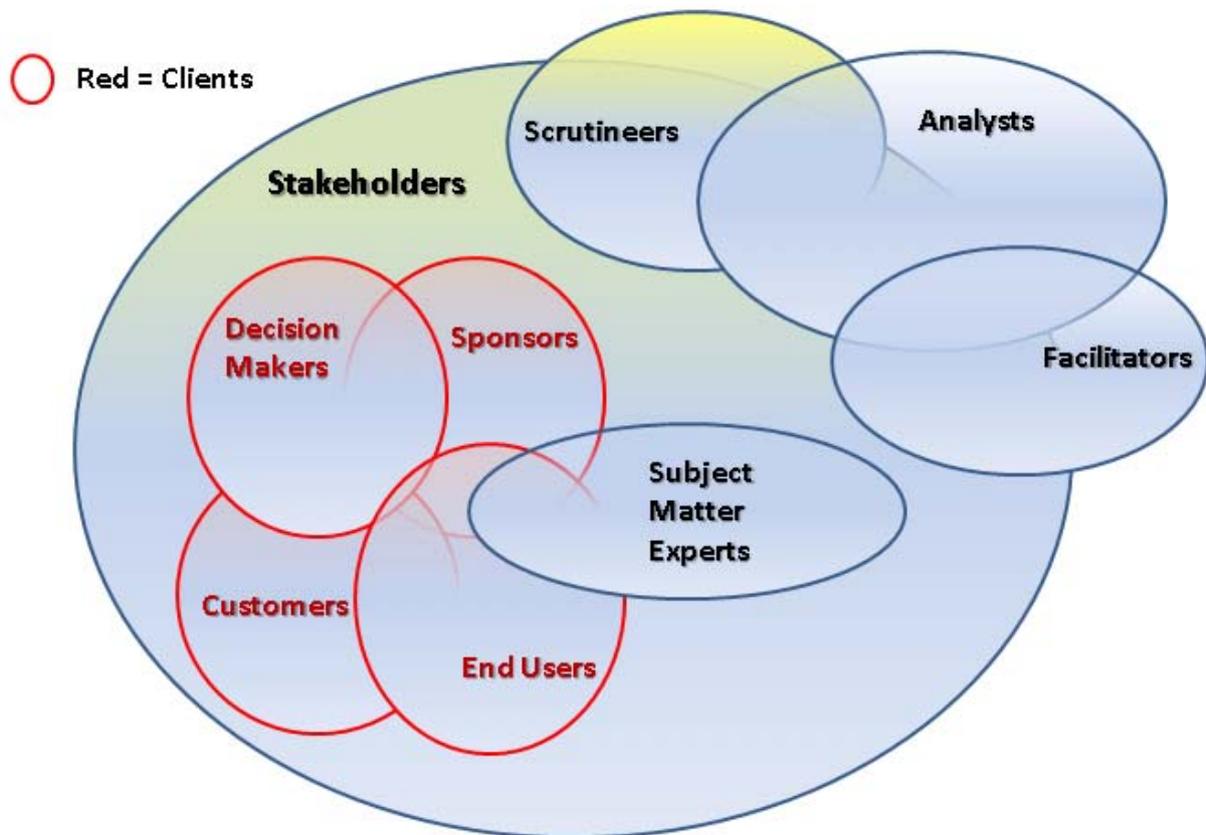
The analyst should try to understand the client system as it exists at the start of the study and as it evolves over time. He should try to deal appropriately with each of the individuals, groups and organisations involved directly in the study or having a significant stake in it. For example, in designing and conducting the study, the analyst should account for cases in which persons wear several 'hats' at the same time (e.g. a person who is the study sponsor but is also acting as a SME may be influenced by his interests as the study sponsor when providing his SME inputs during a workshop). As another example, in designing and conducting the study, the analyst should account for differences in culture (e.g. national, organisational, military/civilian) among the study participants. As well, he should be ready to deal with changes in the membership of the client system and with changes in the identity of the primary client<sup>1</sup>, both of which are not uncommon during the conduct of a study.

Figure 4-1 graphically depicts individuals' roles and some of the possible relationships between the roles<sup>2</sup>. The figure is not definitive in nature; as noted above, changes in roles may take place over time. This aspect of the study should be managed by the analyst through the study design and by the facilitator during workshop sessions (e.g. an individual may be asked to put on just one of his several 'hats' when he participates in a facilitated session).

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<sup>1</sup> The term 'primary client' refers to the single individual or (small) group of individuals who belong to the client system and who are acting as a partner to the analyst throughout the conduct of the study. The 'primary client' is the primary focus of attention for the analyst and is discussed in Section 4.3.2.

<sup>2</sup> The size of the oval areas within the figure and the size of their overlaps are purely illustrative.



**Figure 4-1: Roles of Individuals in a Study Employing ‘Soft’ OA and Their Relationships.**

In the remainder of this chapter, discussion is focused primarily on the roles and responsibilities of the analyst and the facilitator. The roles of the other actors within the study are discussed where appropriate, and primarily from the viewpoint of the analyst.

### **4.3 THE ANALYST<sup>3</sup>**

#### **4.3.1 Analyst Task**

The analyst [1] should take responsibility for the design, execution and scientific integrity of the study. In this capacity, he should:

- Help structure and define the nature of the problematic situation;
- Design the stages of the process used within the study;
- Suggest ways to investigate and model the problematic situation and suggest the methodology(ies) and method(s) to be used, the workshops (if any) to be held, and ways to report and interpret the study’s outcomes;
- Provide facilitated<sup>4</sup> modelling (generally through the use of workshops; including an integrated process of data gathering and model creation and analysis [2]);

<sup>3</sup> Most of this section is relevant to all OA studies.

<sup>4</sup> This is a process where the analyst actively engages the client (group) to participate in all stages of a ‘soft’ OA study and thus acts as a facilitating analyst (often with the help of a supporting facilitator).

- Help develop agreed outputs (e.g. better understanding of the problematic situation, identification of desirable and politically feasible options for improving the problematic situation);
- Report and interpret the study process (including participants), results and outcomes;
- Provide a rational and logical analysis that aids in managing the complexity of the problematic situation, aids in recognising and managing uncertainty and risk, and adequately meets the overall study goals; and
- Remain devoted to providing a credible, rigorous analysis and to ethical principles (as discussed in Chapter 3).

This section addresses analyst tasks, namely:

- Initial exploration and planning;
- Stakeholder analysis;
- The choice of an OA approach;
- The choice of study participants; and
- The general conduct of the OA study.

It also discusses:

- Dealing with uncooperative clients;
- Dealing with clients' participation requests;
- Building the analyst team;
- Balancing analyst responsibilities; and
- Analyst skills and training.

The information is provided from the analyst's perspective, concentrating on the activities that need to be carried out. Other chapters in this CoBP (and the literature) discuss *how* the activities should be carried out.

#### **4.3.2 Initial Explorations in Cooperation with the (Primary) Client**

When the analyst is called in for support, one of the first matters that he should consider is the nature of the task and the type of analysis that would be appropriate. Initially, he should gather some basic information on the problematic situation through consultations with some of the members of the client system. He should identify the primary client and should start to determine whether he is dealing with a puzzle, a problem (proper) or a *mess* (defined in Chapter 2) with the intent of using this characterisation to determine whether the task should be addressed through the use of 'hard' OA, 'soft' OA or a mixed approach (further discussed in Chapters 2 and 6). The analyst should recognise that, in the case of a *mess*, the initial characterisation will naturally be very limited in nature. In such a case, structuring and defining the problematic situation will become one of the key challenges in the study.

The analyst should also recognise that, in addressing a *messy* situation, there may be uncertainty over who the clients are and who should be chosen as the primary client. When identifying the clients of the study, the analyst should consider who would benefit from the study, who is seeking solutions to the same or similar problems, and who will be affected by possible study outcomes. The analyst may expect some members of the client system to self-identify to the analyst when they become aware of the study. However, others who will be affected by the study will be unaware of it and may not come forward on their own. Some may even actively seek to avoid it.

## ROLES AND RESPONSIBILITIES

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The analyst may identify clients by identifying the people involved in the area under investigation and approaching them to determine whether they are potential clients and whether they know of others who may be. The analyst should also ask the sponsor to help identify potential clients. He can then ask those who have been identified for additional leads. Through this type of procedure, the analyst should eventually identify the primary client and/or the initial client(s) he may work with. As more information is gathered, new members of the client system may be identified and their participation in the study negotiated. The analyst should conduct stakeholder analysis (discussed later in this section and in Chapter 6) in order to better understand the client system and to develop a plan for its management (e.g. whom to involve in the study and in which capacities, for example: problem scoping; analysing and designing options for addressing the problematic situation; workshop participant, data provider, contributor to the study's budget).

The analyst should try to communicate directly with potential clients as opposed to relying wholly on assumptions that are based on information gleaned from second-hand sources, when developing his understanding of the client system and his client management plan. It should be noted that the analyst may be subject to practical restrictions in his choice of whom to involve in the study, and how study participants may be dealt with. For example, the primary client may request that the analyst not contact other clients directly, but rather work through the chain of command when approaching others.

The analyst should focus on the primary client and should ultimately aim to satisfy the primary client's needs in terms of the study. He should also consider the welfare of all the members of the client system and should attempt to meet their collective needs in a fair and rigorous manner to the extent that it is reasonable and possible to do so.

Identifying the primary client may be a challenging task. The sponsor may be the primary client, but this is not always the case. For example, it may be difficult to select the primary client from within a client system that includes individuals with very different perspectives and agendas. As another example, the real primary client may be too senior to have the time to participate in the study, and an individual who can act as a surrogate for the real client may need to be found. Further, the real primary client may remain invisible to those directly involved in the study. Additional complications in terms of ensuring that the study meets its goals may arise when the person acting as the primary client is not the most senior person in his organisation and hence needs to 'sell' the study process and its outcomes to his seniors as well as to convince them that study resources are being well allocated. Despite these challenges, the analyst should identify the primary client early on in the study, possibly through use of the approach outlined in the preceding section. It is preferable that the primary client be an individual. If the choice of the primary client must consist of a group of individuals, then their number should be limited to a few. In this case, it is preferable that the analyst meet with the group members jointly, rather than individually, whenever decisions need to be made. This helps avoid placing the analyst in the position of trying to accommodate different, and possibly conflicting, interests while in the receipt of inconsistent guidance.

Once he has identified the primary client, the analyst should ensure that the primary client that has been identified actually understands and actually accepts the responsibilities that come with the primary client role.

In particular, the individual(s) chosen to act as the primary client should accept his obligation to act as a partner to the analyst. He should understand that it is crucial for him to fulfil his duties towards the analyst in order for the study to succeed. The analyst may ask the *primary client* to:

- Adopt ownership of the study and its results;
- Provide his insights on the problematic situation (e.g. his current perception of the issues, of key actors, of the sources of expertise that the study could draw on);
- Assist the analyst in developing and evolving the study design as the study progresses;

- Approve<sup>5</sup> the study design and changes to it;
- Provide, or help ensure access to, SMEs and some of the information, data, and documents needed during the course of the study;
- Participate in the study and encourage other, possibly busy, individuals to participate in the study (e.g. by issuing invitations to participate in workshop sessions, by providing an introduction for the analyst to other stakeholders, by building a high level of visibility and support for the study within the client community); and
- Provide the analyst with adequate access to stakeholders and an adequate pool of study participants (both in quantity and quality) is critical for study success.

The first meeting with the primary client is important as it sets the tone for the primary client-analyst relationship. The analyst should build a relationship with the primary client that is based on mutual respect and trust. He should ensure that there is open communication and that the primary client feels free to ask questions, challenge assumptions, provide input and discuss contentious issues. The analyst should cooperate with the primary client and adopt a helpful attitude. He should use that initial meeting to develop a shared understanding of the primary client's current expectations with regard to the study (e.g. why the primary client wants the study initiated, what the primary client intends to do with the study outputs, what types of assessments decision makers would like the study to support, and what types of end products are desired). The analyst should also discuss what resources are available (e.g. personnel) and should ask about some of the study constraints (e.g. time, organisational culture, organisational politics, legal issues, physical issues, ethical issues). In designing the study, the analyst should consider the types of assessments the decision maker expects the study to help support and should also consult with end users to the extent possible and practical.

The analyst should recognise that, in the early stages of the study, the primary client's expectations may not yet be well formulated. The initial meeting will likely yield only partial answers to some of the analyst's questions. The analyst should put the client at ease by making it clear that he is not expected to have all the answers. The analyst should recognise that the primary client's expectations will likely mature and crystallise over time as the study progresses and new insights are developed.

After some investigation, the analyst should formulate a study plan (e.g. goals, scope, products, schedule, and resources), albeit with the caveat that the plan will need to be regularly revisited, and perhaps changed, as the study evolves (as discussed in Chapters 5 and 6). In the case of a *mess*, the analyst should ensure that clients appreciate and accept that a dynamic approach and study plan (further discussed in Chapters 5 and 6) may be needed. In order to help ensure that the study plan does not become a point of contention between the primary client and the analyst, the analyst should explain the necessity for flexibility and should negotiate expectations about what is to be done, why it is appropriate and what content and process milestones will be met [3].

The analyst should consult regularly with the primary client and should design the study so that it regularly delivers useful outputs to the client. These mechanisms should help minimise client concern about the need for study flexibility and the lack of a completely predetermined study plan. 'Soft' OA presents many opportunities for regular output delivery. Its involvement of the client community in the study process allows regular communication of study progress and results, unlike studies which release their recommendations only at the study's conclusion and the issue of the final report.

In developing the plan and in conducting the study, the analyst should also ensure that the primary client and other members of the client system appreciate the importance and value of both the *tangible* (e.g. set of recommendations) and the *intangible* (e.g. greater understanding and changed appreciation of key

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<sup>5</sup> Note that others, for examples scrutineers, may be involved in approving the study design.

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problematic issues gained through participation in the study) outputs that a study employing ‘soft’ OA may produce. Key actors who act as study participants should realise that the knowledge they gain as participants helps them not only deal better with the present, but also positions them to deal better with new related issues that will arise in the future.

From the initial meeting with the primary client and other stakeholders, the analyst should manage expectations. The expectation levels should correspond to what is actually attainable and agreed upon.

The analyst should be frank and open in his dealings. He should advise the primary client of the possible advantages that can arise from a chosen process and also of the possible disadvantages (e.g. an issue that the primary client wishes to keep dormant may be made public at a workshop by one of the participants, the primary client may not like some of the recommendations that are generated during a workshop).<sup>6</sup>

The analyst should also provide an opportunity for the primary client to air any fears or concerns that he may have about the study. For example, the primary client may:

- Be unsure about his ability to provide the types of inputs and judgements being sought from him;
- Be uncomfortable over the freedoms that may be granted to the analyst within his home organisation (and needed in order to enable the analyst to conduct the study);
- Question how the perspectives of those who have conflicting agendas will be incorporated into the study;
- Be afraid of losing control or power;
- Be concerned that hidden agendas will be uncovered; or
- Be concerned over budget reductions that may result from the study.

The analyst should address issues proactively and directly in order to ensure that client concerns do not adversely affect the study.

As stated earlier, the analyst should recognise that defining the problematic situation itself will be a challenge. The primary client may just have a vague sense that the problematic situation needs improvement but may not be aware of his objectives and/or priorities, and he may be hoping that the analyst will provide help in developing them. Or, the primary client may confuse a symptom that he is observing as being his real problem and may need the analyst to help uncover what the real issues are. Alternately, it may not be clear who the key actors are and who the analyst should involve in the problem structuring and definition. As well, the client system itself may be comprised of powerful individuals with conflicting interests and perspectives, presenting difficulties in client management and in meeting client needs. To address these issues, the analyst should consider the use of Problem Structuring Methods (PSMs) and stakeholder analysis (discussed in the following section).

### 4.3.3 Stakeholder Analysis

To apply ‘soft’ OA successfully, the analyst should develop a good understanding of the social system (i.e. roles, norms and values of the key actors) and the political system (i.e. how power is expressed, obtained, protected, preserved, passed on and relinquished; who holds power; explicit and hidden agendas) in which he is operating [4]. Finding out about the social aspects of the situation may be difficult as participants may not want to admit what their real norms and values are or they may not want the culture to change and so will not be willing to help with the analysis. Direct questions may result in participants providing politically correct answers or official myths rather than a true depiction of what is really

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<sup>6</sup> A ‘hard’ OA study may have similar issues.

happening. Carrying out these activities constitutes stakeholder analysis and decisions on what to do with the stakeholders constitute the management plan.

The analyst should conduct the stakeholder analysis as discussed in Chapter 6 as part of the problem framing process. He should regularly update it during the study [3], preferably on a proactive basis. The need to regularly revisit and revise the stakeholder analysis, and hence also the stakeholder management plan (which is a product of the stakeholder analysis), stems from the stakeholder community not being static. As the study progresses through its lifecycle the members within the stakeholder community may change and/or the perceptions of individuals may change.

The analyst addresses the purpose, resources, intent, power and will of the stakeholders in order to make decisions on how to address the stakeholders within the study context. The analyst should use the stakeholder analysis to:

- Identify stakeholders;
- Gain an understanding of each stakeholder's motivations and how each stakeholder fits into the overall study context;
- Develop a plan as to how stakeholders should be engaged and managed during the study (e.g. how much attention to devote to each stakeholder, which stakeholders to invite to workshops, which stakeholders to include in formal communications regarding study outputs, how to manage pluralistic competing stakeholder demands); and
- Identify potential risks to the study (e.g. uncooperative stakeholders and their possible adverse effects on the study) and ways to address those risks.

Examples of management strategies that the analyst may choose to employ include, but are not limited to keeping a stakeholder informed, having a stakeholder actively participate in the study, trying to influence a stakeholder, and monitoring a stakeholder. When deciding which stakeholders to include as participants in workshops and/or other study aspects, the analyst should consider ethical, practical, legal, security and policy issues. For example, the analyst may decide to exclude adversarial stakeholders from participating in the study. However, the analyst should consider including some of the stakeholders with divergent interests as this may be useful in ensuring that the problematic situation is viewed holistically from multiple perspectives, that key issues are not missed and that study outputs are credible. The analyst may need to keep the stakeholder analysis private as the primary client may be uncomfortable with an explicit record. As well, the stakeholder plan may not be universally distributed as some stakeholders may not accept that they should be 'managed'. In conducting the stakeholder analysis, the analyst should identify stakeholders at a level of granularity (e.g. individual, organisation) at which they can be influenced and managed. The analyst should exercise good stakeholder management throughout the life of the study.

#### **4.3.4 Choice of the OA Approach**

The analyst should recognise that the choice of the OA approach may also present challenges. The analyst should accept that the final responsibility for that choice rests with him.

The analyst should make the choice of the OA approach based on the characteristics of the problematic situation and the study outputs that are to be produced. He should consider the pragmatic aspects of the situation such as whether the client culture supports the use of the proposed methods, the cognitive feasibility of the proposed methods (e.g. can study participants reasonably be expected to meet the cognitive task demands associated with the implementation of the proposed methods). He should also take into account analyst skills, analyst preferences, analyst experience, and analyst competencies [5]. The analyst should make the choice in consultation with the primary client and possibly other members of the client system, using the constructs described in Chapter 6. When dealing with a *mess*, the analyst may

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sometimes organise a group discussion with select stakeholders regarding the choice of methodology and methods, and the pros and cons of the alternatives.

If a client suggests that a particular method be used, then the analyst should exercise caution. He should determine why this suggestion is being made and assess its merits. Is the method one which the person making the recommendation has used successfully in the past and trusts, or is there some reason for the suggestion other than the appropriateness of the method?

The analyst should make choices regarding the analytical approach at the study's outset, but should not consider them as fixed. Interventions change client perceptions and hence change the nature of the problem being addressed and the nature of the analysis required. The application of 'soft' OA tackles problems in a dynamic way in which the development of understanding and learning is episodic. As well, as methods are applied, new issues may arise that were not anticipated earlier.

The analyst should continually reflect on the different dimensions of the problem space (e.g. physical, social, individual), on the intellectual resources available, on the process (e.g. legitimacy, potential sources of error and bias) and on the outcomes in order to ensure that an appropriate combination of methodologies, methods and processes are being applied to address the situation at hand. He should evolve his choices (e.g. research design, data collection, data representation and process) based on critical reflection on what is happening during the course of the study and what remains to be accomplished in order to produce the types of outputs agreed to with the primary client and needed by the client system [6].

### 4.3.5 Choice of Study Participants

The analyst should recognise that decisions regarding study participants shape the study and the acceptance, credibility and validity of its outputs. The analyst should make decisions regarding the choice of study participants based on the topic being addressed and on participant knowledge, expertise, experience, availability and willingness to contribute. He should try to ensure that all key viewpoints are adequately represented within the study process. Overlooking and/or excluding key clients from the study risks study failure. Clients who are not properly engaged within the study context may not feel ownership (e.g. 'buy-in') towards study outcomes and may act against the implementation of any resultant recommendations. The analyst should try to ensure that client involvement is such that the mechanisms of interaction encourage adequate ownership of the study at the required levels of the client system hierarchy. As such, the analyst should carefully manage the type and extent of participation by each individual. He should consider regularly communicating study outputs to select individuals who choose not to participate more fully in the study process but whose relationship with the study is considered important.

The analyst should carefully consider:

- The number of SME participants that are required during each stage of the study;
- Which individual SMEs are best suited to act as study participants;
- The means to be used to elicit information from the SMEs; and
- How the SME-generated information is to be validated and used (further discussed in Chapter 7). For example, the analyst may ask a SME to participate in one or more of the following activities: gathering information, structuring issues, designing options, evaluating options and external review of the study as a whole or select aspects of it.

More specifically, the analyst may ask a SME to participate in one or more of the following activities:

- Provide his personal judgement;
- Act as a representative of his organisational group and hence provide judgements in terms of the group's official stance;

- Attempt to simulate the viewpoints of a select adversarial stakeholder (e.g. Red Teaming);
- Provide judgements based on the current state of affairs;
- Make predictions concerning the future;
- Act as a free thinker without considering policy or other constraints; and
- Provide judgements within the context of being bound by current policy or other select constraints.

For example, the analyst may ask a SME to contribute assumptions regarding future doctrine, performance data, force mixes, organisational structures, or force employment scenarios. A SME may be unwilling, or even unable, to perform some or all of the activities that the analyst asks him to engage in. Furthermore, a SME may sometimes believe that some of the activities that he is being asked to perform are in conflict. He may for these, or other reasons (e.g. lack of time to devote to the study), refuse to perform some or all of the roles that he is being asked to carry out.

In choosing SME participants, the analyst should recognise that while a SME does have detailed knowledge, it is not likely to be complete and could be biased, whether intentional or not (as discussed in Chapters 3 and 7).

Circumstances may dictate whether one or more SMEs should be employed in a study that uses 'soft' OA. In some cases, SMEs may be very busy and it may be a challenge to find SMEs to participate in a study (for example, due to the paucity of SME in some security domains). As such, analysts may sometimes be disappointed to find that the persons assigned to act as SMEs do not have the required knowledge, experience or expertise to carry out their designated task. They may also find it challenging if there is a need for continuity in the involvement of SMEs within the study context but different SMEs show up at each meeting. Sometimes, the analyst may find it necessary to bring in additional SMEs from the end user, customer or even analyst communities. The analyst should try to employ a mix of SMEs who together adequately represent the key viewpoints from which the topic under discussion may be considered and who are accepted by their peers as being experts in the field under consideration. Employing such a mix of SMEs may help alleviate some of the concerns regarding SME bias and impartiality by way of triangulation.

In general, the analyst's design choices should encourage client ownership of the study. The analyst should attempt to build a good relationship with study participants and the members of the client system in general that is based on the clients' confidence in the analyst's integrity, honesty, skills, judgement and fairness. He should recognise that his study design choices, such as the choice of study participants and the manner in which judgements are elicited (discussed in Chapter 7), directly affect the quality of the study's outputs [7].

#### **4.3.6 Conducting the Study**

The quality of a study relies, to a large extent, on the analyst's qualifications, experience, perspective, training, track record, status, and presentation of self [8]. A skilled, experienced and mature analyst is more likely to make good choices of methodologies and methods for use in the study.

In designing and executing a study, the analyst should carry out the whole of the study jointly with the primary client. The analyst should meet regularly with the primary client. He should ensure that the primary client is kept satisfied in terms of the study's progress, as well as the relevance and credibility of its outputs.

In conducting the study, the analyst should rely on the primary client's problem domain knowledge and understanding of the context and on his own professional OA expertise and skills. He should use a process that is iterative in nature with repeated reformulation of the problematic situation and study approach as new

insights are gained. The analyst should typically employ the phased approach discussed in Chapter 5 (i.e. appreciation, analysis, assessment and action). He should orchestrate the elicitation and use of information and data from select stakeholders (discussed in Chapter 7) for the framing of the problematic situation and for the development of options for addressing the problematic situation, as well as for their communication and interpretation (discussed in Chapter 8).

A seminar war game (SWG) on the ‘Army of Tomorrow’ examined military operations of the future by incorporating both military and civilian (e.g. police, diplomats, aid agencies, scientists, and others) judgements and perspectives. It provided a means to ‘meld’ these diverse judgements together in order to produce insights into future operational challenges and opportunities. The ‘soft’ OA approach provided a means to engage stakeholders who came from different cultures and had very different points of view.

The analyst should recognise that there may be no one right solution to the complex issues being addressed by the study. He should recognise that the use of subjectivity in generating recommendations is unavoidable [2]. Furthermore, in the case of a *mess*, the best one may hope for may be to better manage (rather than to solve) the *mess* that is being addressed.

The analyst should recognise that he plays a critical role in the study’s credibility, validity and acceptance. He should accept his responsibility to provide a rational and logical analysis that aids in managing the complexity of the problematic situation and aids in recognising and managing uncertainty and risk. He should conduct the study in a way that accords to the best practices in the field (e.g. standards of practice set out by relevant scientific societies, professional bodies, his own organisation) and to ethical principles (further discussed in Chapters 3, 5 and 6). Many organisations have ethics boards to ensure that the research being undertaken conforms to standards and have documents to guide their researchers. Common quality issues that the analyst should address (discussed in Chapter 3) concern, but are not necessarily limited to ([9], [10]):

- Choice of participants;
- Handling of bias;
- Clear account of criteria used to select cases and data collection and analysis;
- Clear theoretical assumptions;
- Systematic data collection and record keeping;
- Documentation of the rationale behind the research design and data analysis;
- Clear discussion of models employed;
- Reference to accepted procedures for analysis;
- Detailed list of evaluative criteria (methods appropriate to question asked, connection to existing body of knowledge);
- Use of reliable data;
- Findings supported by data;
- Clear links between data interpretations and conclusions; and
- Clear distinction between data and its interpretation.

In conducting the study, the analyst should try to ensure procedural justice (i.e. agreement on the fairness of the rules followed during collaboration) and procedural rationality (i.e. the rationality of the means followed to achieve set goals) during the conduct of the study [3]. Generally the analyst should try to keep all the members of the client system satisfied, within reason. However in practice it may prove impossible, given differences in interests and values and conflicting personal agendas, to develop outputs from the study that satisfy everyone or it may even be undesirable to do so in the context of the adversarial positions of some of

the stakeholders. The analyst should, as a minimum, try to keep the primary client satisfied in terms of the execution of the study.

In conducting the study, the analyst should also aim for transparency. For example, he should ensure that the study process is well documented and auditable. The analyst should attempt, to the best of his ability, to act in an unbiased manner when addressing the differing perspectives and interests related to the problematic situation. Readers are referred to Chapters 3 and 8 for a discussion of analyst bias, study participant bias and study validity, credibility and acceptance. It is preferable for the analyst to be independent and to have no personal interest in the ultimate outcome of the study, but this is not always possible in practice. In the end, the study's credibility needs to be established among all stakeholders, with decision makers having enough confidence in the study's outputs to use them to inform the decisions that they make. The integrity of the analyst and his actions during the study directly affect the quality of the study.

During the planning and conduct of a seminar war game (SWG) concerning the 'Army of Tomorrow', the clients were intimately involved in all phases related to the operational employment of the SWG. The analysts acted as advisors. This approach resulted in the clients developing a feeling of ownership towards the SWG which, in turn, helped avoid many potential hazards. For example, this approach helped ensure that participants were well prepared to assume their assigned roles on the day of the SWG and made it more likely that the outputs of the SWG were viewed as being credible. The analysts were responsible for the rigour of the process. Analyst guidance was normally well accepted by the clients due to the need to ensure the credibility and acceptance of the SWG outputs in the eyes of outsiders. The application of 'soft' OA was based on the mutual respect and trust between the clients and the analysts, and on the analysts striving to have the clients take as much ownership of the SWG process as possible.

As part of the conduct of the study, the analyst is also responsible for reporting and interpreting study results and outcomes. This activity is discussed in Chapter 8.

#### **4.3.7 Dealing with an Uncooperative Client**

On occasion, the analyst may need to deal with an uncooperative client. Several approaches are possible. In some cases, the analyst may decide to exclude the client from the study but to attempt to take his perspectives and possible actions into consideration, and to mitigate the damage that such an individual could do to the study. This may be done, for example, by having another knowledgeable client provide input on what the likely perspectives and reactions of the uncooperative client are. Alternately, the analyst may try to turn an uncooperative client into a neutral or supportive client through frank discussion, lobbying or negotiation.

The analyst should, however, be aware that some uncooperative clients may not be readily apparent. Analysts should be careful of clients who attempt to 'game' study activities in an attempt to force outputs to conform to their perspective of the problem (e.g. manipulation of weights when voting on options in a multiple criteria decision analysis context). When manipulations in voting are suspected, the analyst should document the study process to provide an audit trail and should consider conducting an analysis of the voting of sub-groups.

Analysts should also be careful of stakeholders who act as workshop participants in order to gather evidence that they intend to use to torpedo the study if their favourite issues show poorly. The analyst should also be careful of situations in which the primary client wants advocacy, especially since some clients with such intent may not make it explicit; the analyst needs to be firm with such clients. Negative stakeholders should be consciously addressed, even if the ultimate decision is to ignore them. Readers may wish to consult [11] for a further discussion about working with (difficult) groups (see also the discussion in Section 7.3 and its Table 7-1).

### **4.3.8 Dealing with Clients' Participation Requests**

Occasionally, the analyst may encounter higher level clients (e.g. general/flag officers) who wish to participate on a part-time basis in a workshop. This allows these clients to gain, and contribute to, a much richer appreciation of the problematic situation without needing to make significant time commitments. It also provides them with an opportunity to confirm that the study is on time and on budget and to develop confidence in the study outputs. Furthermore, such limited participation may lead to the identification of others who may gainfully be brought into the study (e.g. a former commander, a representative from an Allied Service, an academic who has also been studying the problem).

Despite its advantages, the analyst should be aware that such participation may also negatively affect workshop dynamics (e.g. due to differences in rank among participants; further discussed in Chapter 7) if not handled properly. Normally, the analyst should encourage such participation but should manage it so that it benefits both the individual and the study. The facilitation style may need to be amended to mitigate some of the potential negative effects of such participation.

Occasionally the analyst may encounter a stakeholder who requests to attend a session purely as an observer. The analyst may discourage this practice as it can negatively affect the energy of the workshop and its ultimate success. Alternatively, the analyst may allow this practice but may carefully manage it in order to minimise its potentially adverse effects. For example, the analyst may manage such requests by scheduling all observers to attend only on a select day of a multi-day session.

### **4.3.9 Analysis Teams**

The analyst may work alone or as a member of a team<sup>7</sup>, on a full or part-time basis. He may provide both analytical and facilitation services, or may concentrate on the analysis (e.g. model creation and analysis) while working closely with one or more facilitators and/or other analysts. If the study calls for the use of specialised skills that the analyst does not have (e.g. specialised 'soft' OA methods expert), he should use the expertise of other analysts or step aside to be replaced by another analyst who has the required specialised skills. The size and nature of the task, and whether a mixed OA approach is required, should be used to determine whether the use of an analytical team, headed by a team leader, is appropriate. If external facilitators are to be used, then the analyst should consider bringing them into the study early on as this provides facilitators a better opportunity to provide direct and valuable input into the study design and execution.

### **4.3.10 Balancing Responsibilities**

The analyst may find it challenging to transition between and balance his responsibilities as the analyst for the study, a researcher in the OA domain, a mentor of junior OA practitioners and, in some instances, as facilitator for the study's workshops. He should address this challenge by being a reflective practitioner and should act with pragmatism. He should continually review his own range of OA knowledge and skills and further his own methodological competence. He should dedicate himself to professional development, keeping abreast of new developments in his field and ameliorating his analytical 'toolbox' from the learning opportunities that arise. He should actively mentor and nurture the development of OA skills among more junior practitioners with the understanding that it is his professional responsibility to do so. His research should inform his practice, and his practice should inform his research. In this way, work undertaken in a study not only benefits the study's clients, but also supports the advancement of the OA profession including its theoretical underpinnings. Naturally, the analyst should always respect the client's privacy needs when determining how insights gleaned from real-world applications of 'soft' OA are published in scientific journals.

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<sup>7</sup> The analyst team works in conjunction with the larger study team whose composition varies by study (and over time) according to the study's needs.

#### **4.3.11 Analyst's Skills and Training**

In common with many professions, there are no prescribed criteria stating the set of competencies that an analyst employing 'soft' OA should possess. However, general experience has provided insights on the skills that are required. The analyst employing 'soft' OA typically needs to have the skills of both analyst (modeller) and facilitator (although sometimes a study using 'soft' OA employs individuals purely in an analytical, or purely in a facilitative, role). Individuals who are good at 'applied scientific common sense' and in handling group dynamics will likely be good at 'soft' OA.

In terms of training, knowledge and skills, it is generally desirable that the analyst employing 'soft' OA ([1], [12]):

- Has training in some scientific discipline (though not necessarily in the exact sciences) and has a well-rounded scientific background (as 'soft' OA is based on the use of a scientific (and possibly a multi-disciplinary) approach);
- Has knowledge of some 'soft' methods and active experience with their application;
- Has the ability to use effectively a wide range of techniques to understand and support the social and cognitive needs of participants in a group situation in which a problem is being explored and solutions are being developed (e.g. active listening, chart-writing, managing group dynamics and power shifts, reaching closure);
- Has the ability to use software appropriate to the field of application;
- Can deal tactfully with the concerns of others; and
- Has strong oral and written communications skills.

In terms of interest, personality and conduct, it is generally desirable that the analyst employing 'soft' OA [1], [12]]):

- Is interested in practical solutions;
- Can take a broad holistic view of the issue under study;
- Possesses a high degree of initiative, energy, and maturity;
- Is a 'self-starter' who can work well individually and in a team;
- Has a high degree of general intelligence and enthusiasm for the work;
- Enjoys drawing knowledge from other disciplines (as OA is interdisciplinary and may draw solutions from engineering, psychology, and other social and political sciences);
- Has the right personality so as to be able to gain client confidence and effectively communicate study results to senior decision makers;
- Is devoted to scientific rigour and ethical principles; and
- Has adopted and shows a fundamentally helpful attitude.

It may also be useful if an analyst employing 'soft' OA has additional specialist training and knowledge appropriate to the field of application (e.g. advanced analytical methods such as mathematical modelling). However, this type of expertise may also be made available to a study through the involvement of an additional analyst who specialises in the required skill set.

Although much can be learned from books, 'soft' OA skills are best developed through practice and much is learned 'on the job'. Apprenticeship under a seasoned practitioner can be most beneficial to those new to the subject. Some well-founded 'soft' OA methodology schools exist, usually based at universities,

where training courses are offered. Many are found in the United Kingdom where aspects of ‘soft’ OA may form part of an OA university degree. An analyst, who starts out by conducting studies that employ ‘hard’ OA and who then acquires ‘soft’ OA skills may be well suited to conducting studies that use mixed methods and to leading a multi-disciplinary analysis team.

Different ‘soft’ methods have different approaches and styles of modelling. Practitioners tend to prefer certain types of OA approaches over others based on their background disciplines, personalities, skills and personal preferences. In practice, there are limitations in every OA practitioner’s analytical ‘toolbox’ and there is a trade-off between breadth and depth of knowledge. Some practitioners are more able to be fluent in multiple genres of analysis than others. Particularly challenging is the ability to be adept at employing a mixed approach that combines the use of ‘soft’ and ‘hard’ OA.

### 4.4 THE FACILITATOR

#### 4.4.1 Facilitator Task

Within ‘soft’ OA, it is accepted that problematic situations are socially constructed [2] though this may not be the perspective of the problem owners. That is, key actors negotiate about ‘facts’, social relationships and viable and acceptable means of addressing the problematic situation ([13], [14]). A study employing ‘soft’ OA typically uses a highly participative mode of engagement and typically, but not always, involves the use of facilitated sessions. Such sessions may use formal models to handle communication about content and to work with that content [2]. Workshops within the context of a study employing ‘soft’ OA may be used to help stakeholders reach agreement on what the problem is and on what the viable (satisfactory vice optimal) options for addressing it are. The facilitator, depending on the choice of methods, may work at the individual (e.g. interviews) or group (e.g. workshops) level.

The facilitator should serve as a catalyst who helps the study’s (workshop) participants manage their tasks and achieve their objectives. In particular, over the conduct of a study the facilitator should manage process and procedure in a way that better enables participants to use their own competencies to:

- Develop a better understanding of the problematic situation;
- Generate options;
- Assess the options; and
- Formulate a set of recommendations or a strategy for the way ahead.

A study conducted for the Navy on ‘New Operational Concepts for Maritime Mine Counter Measures’ involved addressing a multitude of aspects and drawing on many different areas of expertise. The study was conducted through the use of a series of project stages. Facilitation played a key role in helping study participants stay focused while addressing the complexity of the problem. Facilitation also helped ensure that participants were aware of the particular perspective by which the current project stage was to be looked upon. The facilitator explained current discussion issue(s), repeated crucial current assumptions, clarified the current activity’s position in the chain of activities being undertaken, ensured that conclusions were not adopted without analysing their rationale, managed expectations and managed the changing views regarding ways of structuring and using the base material. The facilitator worked closely with the analyst to progress the study.

A study may involve several workshops, with each specific ‘soft’ OA workshop having a limited aim.

The facilitator should also help participants develop commitment and ownership of the group’s outputs. He should help them avoid reaching premature closure (e.g. ‘groupthink’) that may lead to unstable solutions. The facilitator should attend to content (the subject matter under discussion) only to the extent that process management needs to be informed by content. He should also manage the practicalities that are related to organising and running a group session.

The facilitator should attend to the personality, power and political issues that emerge during a facilitated session. For example, he should manage participation problems and protect individuals, such as in cases

when the group is attempting to suppress unpopular or minority views. Issues may arise, for example, if workshop participants are military officers of different ranks or if workshop participants belong to different levels of the organisation's hierarchy (e.g. one individual has direct power over the other). The facilitator may offer protection in the form of an intervention during a workshop setting or in the form of the workshop design (e.g. running separate workshops for higher and lower ranking individuals, using computers when gathering information and when carrying out voting over options in order to assure some degree of anonymity).

The facilitator should ask clarifying questions and address miscommunication within the group [15]. He should monitor both verbal and non-verbal cues and try to be sensitive to unexpressed feelings in order to determine where significant tension exists. He should help the group manage anxiety, frustration and tension in a constructive way.

It should be noted that the study outcome is affected not only by the amount of conflict present but also by the type of conflict present and by how the conflict is handled. Conflict may be the reason for starting a study and may be present throughout its conduct. The type of conflict present may be *affective conflict* (i.e. socio-emotional conflict, personal conflict) that is rooted in interpersonal relations within the group and/or it may be substantive or *cognitive conflict* that is related to the group task and generally involves differences of opinion or viewpoint [15]. The former may be more difficult to handle (e.g. individuals refuse to talk about issues or refuse to work together). The facilitator and analyst need to recognise that conflict is not always dysfunctional if it is handled properly. Further, they should recognise that sometimes positive change can only occur through conflict. In general, the facilitator should aim to do a good job in managing the emotional life of the group [16].

The remainder of this section addresses facilitator style and the facilitator's contribution to study credibility, validity and acceptance. It also discusses the building of the facilitator team and the requirements that the facilitator needs to meet in terms of content-related knowledge (i.e. knowledge about the subject matter under discussion). The discussion is provided from the analyst and facilitator perspectives, concentrating on the activities that need to be carried out and referring to other chapters in this CoBP for a discussion on *how* the activities may be carried out.

#### **4.4.2 Facilitator Style**

There is no one correct way to facilitate. There are many facilitative styles. The facilitator should adopt a situational approach: one which accommodates the task, the time available, the facilitator's own personality, the nature of the group, and the dynamics of the particular combination of participants. The facilitator should be flexible given the unpredictability of how a group session will evolve. He should act as a role model for group behaviour as his behaviour has a strong impact on how participants act individually and on the group dynamics. For a discussion on common workshop designs and facilitation techniques that may be used to address challenges in group dynamics, readers are referred to the vast literature on facilitation, including for example some of the references consulted in the writing of this section, namely ([10], [15], [16], [17], [18], [19]).

#### **4.4.3 Facilitator's Contribution to Study Credibility, Validity and Acceptance**

The facilitator's job is a challenging one. The facilitator may need to deal with heated debates between powerful personalities who have strongly divergent viewpoints and interests regarding the issues under discussion and who are blatantly resisting the facilitator's attempts to maintain control of the session. A badly facilitated session in which the facilitator loses credibility and the trust of the participants may not only fail to produce the required workshop output but may also destroy the primary client's confidence in the study. The facilitator's conduct has a direct impact on the success of a workshop and the study as a whole.

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Whatever facilitative style is used, the facilitator should try to ensure that none of the participants have concerns over his impartiality. Hence, to the extent possible, the facilitator should:

- Perform his role in an unbiased fashion;
- Remain emotionally uninvolved;
- Keep an open mind;
- Not favour any participant;
- Encourage equal participation; and
- Refrain from contributing content, substantive knowledge or an opinion on the subject under discussion; this includes refraining from making verbal and non-verbal evaluations regarding content.

It is preferable that the facilitator have no stake in the ultimate outcome of the process (other than maintaining his professional credibility throughout that process).

The facilitator should regularly engage in critical reflection on the process and outcomes in order to adapt his approach to best suit the dynamically changing nature and needs of the group and better enable participants to manage their tasks and achieve their objectives.

### 4.4.4 Facilitator Team

Although the analyst (modeller) may typically act as facilitator during a study that employs ‘soft’ OA, this need not be the case. Sometimes, it is useful to split the analysis and facilitation tasks. This may be due to workload issues or a desire to address the semblance of impartiality in cases where the analyst belongs to one of the clients<sup>8</sup>. In such cases, it may be desirable to bring in one or more outside consultants to act as facilitators.

The facilitator may work alone or as part of a team of facilitators. He may be external or internal to the organisation to which the analytical team belongs. He may be supported during a workshop session by specially designated recorders. When the analysis and facilitation tasks are separated, the facilitator should cooperate closely with the analyst in the context of a facilitated modelling approach. It is not wise for the facilitator to be part of the client system due to possible concerns about the semblance of impartiality that may arise.

### 4.4.5 Facilitator’s Content-Related Knowledge

The facilitator should ensure that he has enough knowledge about the subject matter being discussed and the acronyms to be used during a workshop so that he knows enough to keep track of the flow of the discussions, to ask the right questions and to effectively guide group processes and procedures. It generally helps, but is not absolutely necessary, for the facilitator to have significant content-related knowledge (provided that the knowledge does not compromise his impartiality as a facilitator). The facilitator should ensure that he has an adequate knowledge of modelling in order to be able to properly support the particular facilitated modelling approach that is being used during the workshop. The level of training needed, and knowledge of the subject matter being discussed, that is required for proper facilitation in support of the study should be considered by the analyst when he chooses the facilitator(s) to be employed by the study. Sometimes, there is a need for both a *technical facilitator* (i.e. knowledgeable about the subject matter (content) under discussion; or able to operate supporting software) and a *process facilitator* (i.e. knowledgeable in the application of a specialised OA method) in a group setting. The role of technical facilitator is often discharged by an expert who is

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<sup>8</sup> Sometimes, if an analyst belonging to a client system is also chosen to act as facilitator, concerns over facilitator impartiality may be addressed by ensuring that workshop participants are chosen such that they adequately represent the diverse stakeholder views and interests.

imported to act as a technical guru and point of reference if technical uncertainties arise. This also allows the process facilitator to detach from the client in those cases where there are limited specialist personnel resources for the study.

## **4.5 SUMMARY OF THE ANALYST'S AND FACILITATOR'S RESPONSIBILITIES**

The following sections provide a summary of the analyst and facilitator responsibilities that are discussed in this chapter.

### **4.5.1 Analyst Responsibilities**

- Take responsibility for the design, conduct and scientific integrity of a study involving the use of 'soft' OA.
- Provide a rational and logical analysis that aids in managing the complexity of the problematic situation, aids in recognising and managing uncertainty and risk, and adequately meets the overall study goals.
- Continually reflect on the different dimensions of the problem space (e.g. physical, social, individual), on the intellectual resources available, on the process (e.g. legitimacy, potential sources of error and bias) and on the outcomes in order to ensure that an appropriate combination of methodologies, methods and processes are being applied to address the situation at hand.
- Identify one individual, or at most a small number of individuals, within the client system as the analyst's primary client.
- Encourage client ownership of the study.
- Build a relationship with the primary client that is based on respect, trust and open communication. Adopt a helpful attitude.
- Regularly update the stakeholder analysis and exercise good stakeholder management throughout the conduct of the study.
- Ensure that all key viewpoints are adequately represented within the study process.
- Ensure procedural justice (i.e. agreement on the fairness of the rules followed during collaboration) and procedural rationality (i.e. the rationality of the means followed to achieve set goals) during the study's conduct.
- Ensure transparency of the process and the analysis and ensure that the study process is well documented and auditable.
- Carefully consider which Subject-Matter Experts (SMEs) to involve as study participants, the means employed to elicit information from the SMEs, and how the SME-generated information is to be validated and used.
- Continually review own range of OA knowledge and skills and further own methodological competence.
- Use the expertise of other analysts if the study calls for the use of specialised, unfamiliar skills.
- Actively nurture the development of OA skills among more junior practitioners.

### 4.5.2 Facilitator Responsibilities

- Help (i.e. support, enable, encourage) study participants to work together through the stages of a study by managing procedure (the way the problem is tackled) and by managing process (the way participants interact).
- Perform this role in an unbiased fashion, remain emotionally uninvolved and refrain from contributing content or substantive knowledge on the subject under discussion. (It is recognised that every individual has biases. The guidance in this chapter refers to ultimate goals that an individual may aspire to achieve to the extent that the best of his abilities allows him to do so.)
- Act impartially and, preferably, have no stake in the ultimate outcome of the process.
- Prior to conducting a workshop, ensure having adequate knowledge about the subject matter being discussed, the acronyms that are likely to be used and the results that the analyst wishes to generate through the workshop.
- Use the expertise of other facilitators, if necessary. For example, a study may employ a team of two facilitators, one with extensive content-related knowledge (i.e. knowledge of the subject under discussion) and another who has specialised OA process skills.
- Address the personality, power and political issues that emerge during a workshop. Protect individual participants being singled out, for example in cases when the group is attempting to suppress unpopular or minority views.

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