

Chapter 1 – INTRODUCTION

1.1 BACKGROUND

The defence environment is complex and dynamic. This is a result of, the nature of modern conflict, rapid changes in technology, the need to deal with uncertainty in the face of limited resources, changed attitudes to risk, and the sheer diversity of actors from different cultural backgrounds. Defence decision makers are confronted with an increasing operational complexity which has strategic implications. Decisions on defence policy and strategy are characterised by uncertainty and risk. Planning, conducting and evaluating missions also include indirect and non-kinetic effects, dealing with other (non-military) actors, social effects on the local population, public sentiment and other human factors. In addition, defence decision makers may be involved at any stage of the defence material cycle ranging from conceptual development, through to acquisition to use in conflict. Similarly, decisions need to be made in personnel-based activities such as career structures and training regimes.

All these decisions are made at strategic, operational or tactical levels. They may be aimed at the present or the far future, and may involve choices among tangible (materiel) and/or intangible (organisational structure, strategies, etc.) alternatives. Critically, many decisions are required where judgement rather than known facts plays a key role.

NATO practitioners have determined (e.g. [1]) that approaches (i.e. theories, methods, techniques, models) within Operational Analysis (OA) that are predominantly based on human judgement, are an increasingly critical capability needed to support defence decision making. Judgement in different guises has been used by military staff whenever assessing problematic situations and making decisions. The field of judgement-based methodologies and methods within OA is usually known as ‘soft’ OA. It has a significantly more qualitative and subjective nature than the traditional, ‘hard’, OA methodologies which tend to be significantly more quantitative and objective.

In support of Australia’s deployment to East Timor, a study was made of the triggers and causes that have led to disruptive events in that country’s 400 year history. Importantly, the analyst was able to present the study in terms that could be readily used to forecast possible events that could occur as the population reacted to the changed socio-political environment. This enabled ‘what-if’ studies and campaign metrics to be devised. This type of study should be treated with confidence as in such cases the skill lies in the analysis not necessarily the domain area, as soft OA is applicable to many areas. The client should therefore exploit the fact that a military ‘soft’ operational analyst is able to provide useful insight into areas well outside of standard conflict analysis.

Military ‘hard’ OA has a long history. During World War I both the American and British governments established boards to support defence decision-making issues with mathematical methods [2]. (Military) OA as a formal discipline started to be recognised in the late 1930s and subsequent years by contributing to addressing, for example, air defence, bombing tactics, submarine/convoy war and logistic problems during World War II.

‘Hard’ OA predominantly relies on mathematically expressed relationships between variables derived from physical theory using quantitative data and seeks to identify quantitative (possibly optimal) solutions to problems, given a set of (well-defined) restrictions. ‘Hard’ OA consists of traditional OA approaches such as linear programming, queuing theory, computer simulation, etc., which are all characterised by their well-structured engineering-like nature and their reliance on mathematically expressed relationships between variables.

‘Soft’ OA started to be recognised in the early 1960s when the Rand Corporation first reported on the Delphi technique as an approach to achieving consensus among experts regarding bombing requirements [3]. In the late 1960s Churchman wrote an editorial [4] drawing attention to a type of (‘wicked’) problem

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that was different from the problems usually addressed by OA [5]. Since the 1970s the UK originated a number of OA methods specifically designed for dealing with this type of problems; they are still in use today [6].

The strength of ‘soft’ OA lies in its ability to address complex (i.e. confusingly unstructured) situations in which what needs to be done and how to do it are both problematic, and to deal with the critical human aspects of the situation (e.g. differences in stakeholder perspectives and agendas, organisational politics, disagreement on ways forward, etc.). It is characterised by its use of human judgement in the form of (informed) opinions from experts and other stakeholders, thereby allowing more degrees of freedom and relying less on mathematical modelling in comparison with ‘hard’ OA.

The discussion of the limits of a purely mathematical, formal approach to OA is not new. In fact, even from within the ‘hard’ Operational Research (OR) community there have been critiques and examples of dissenters (e.g. [7]): one is faced with ill-structured, ‘messy’ situations in which decisions have to be made; yet one does not completely comprehend the situation. Here, ‘soft’ OA claims to help the decision maker either as an individual or within a group.

Look at the following two problematic situations:

1. Minimise the fuel cost of a regular repair resupply activity.
→ ‘hard’ OA: use dynamic programming to solve it.
2. Advise on the balance of maritime, land and sea capabilities for 2030.
→ ‘soft’ OA: but how would you do it?

Moreover, a problem definition does not present itself automatically. Before any type of model can be developed, the characteristics and boundaries of a problem, the objective(s), the multiple factors and their (critical) relationships and dependencies that are of relevance need to be identified and structured.

Quote from report [2] of the Defence Science Board Advisory Group on Defence Intelligence:

“OR can significantly increase the decision-maker's insight and improve the quality of debate around key decision issues”

And, at the end of even a ‘hard’ analysis, issues related to the interpretation of results and feedback often still involve judgement. Operational analysts therefore need to be familiar with both ‘hard’ and ‘soft’ OA if they are to be successful in addressing the diversity of military client tasking. Practice has shown that ‘soft’ and ‘hard’ OA can usefully complement each other. They need not be competing approaches.

The application of ‘soft’ OA on defence problems is manifold and often successful, but success is not guaranteed. Although ‘soft’ OA has been accepted and successfully used by some analysts within NATO’s defence communities for structuring problems, option design, option evaluation and action planning, it is perceived that there is still reluctance in some quarters to employ such methods. This lack of acceptance and use may be attributed to several reasons, including: a lack of affinity to using such methods by analysts who have been trained in ‘hard’ disciplines such as engineering and mathematics; philosophical disputes as to whether ‘soft’ OA truly is OA given its predominantly qualitative or semi-quantitative nature; and questions about its scientific rigour and quality control measures.

Progress has been made in laying the theoretical foundations for the rigorous use of ‘soft’ OA both in isolation and as part of a multi-methodological systems-type OA approach. In particular, approaches have been identified for problem structuring which can be used for analysing and transforming complex (or even ‘chaotic’) situations into problem abstractions one can work with. These approaches have to a large extent been grounded in theory and become established in practice [8]. Wider acceptance and employment of ‘soft’ OA would enable the defence community to significantly enhance its capability to deal with complex, high priority problem issues.

The development of a Code of Best Practice (CoBP) for ‘soft’ OA is intended to increase ‘soft’ OA’s acceptance within the military and defence-oriented operational analyst communities. It will provide

pragmatic guidelines to enable this type of OA to be practised in a more rigorous and scientific manner, especially by those who are new to this type of approach.

Practice has shown that ‘soft’ OA adds value in problem structuring¹, option design and action planning. A CoBP should ensure that the value of ‘soft’ OA is maximised. On the one hand, a CoBP that addresses issues of validity will most likely increase credibility of study results which can therefore be trusted and accepted. On the other hand, a CoBP that also addresses what a client can and should expect from ‘soft’ OA, how to assess its results and how it leads to recommendable actions will also most likely increase understanding and appraisal of the relevance of such approaches. This will, in the end, be beneficial to the quality of defence decision making and the value and versatility of OA support, both in direct support of operations and in longer term support of (strategic) defence planning.

1.2 READERSHIP AND ORGANISATION OF THE GUIDE

The Guide is aimed at three different groups of *readers*:

- People who either own or are involved in the problematic situation or have stakes at or an interest in resolving the problematic situation and people who are otherwise involved in the process as providers of viewpoints, information, and other aspects of relevance, etc. (i.e. clients² and other stakeholders, subject-matter experts);
- People who conduct the study, suggest the methodologies and methods to be used, facilitate the study process or otherwise offer analytical support (i.e. operational analysts, facilitators) or scrutinise the study (i.e. scrutineers); and
- People who as executive or commanding officers have the burden of the final responsibility of having a problematic situation resolved, who have to agree on decision recommendations and actually take the final decision (i.e. executive decision makers).

Under the common header of “NATO Guide for Judgement-Based Operational Analysis in Defence Decision Making” the Guide has been organised in three separately published volumes in conformity with the three types of readers listed above.

1.2.1 An Analyst-Oriented Document

This document carries the sub-title “Code of Best Practice for ‘Soft’ Operational Analysis” and is in fact the Code proper and the most extensive volume of the three. It addresses the issues that the NATO Task Group felt would be important for analysts to know when new to the field of ‘soft’ OA; it sets the ‘rules of the road’ for analysts. Later sections of this chapter will introduce this document in more detail.

1.2.2 A Client-Oriented Document

This is a document which explains what ‘soft’ OA is in terms of judgement-based analysis and what one can expect from it. It is based on those elements of the first, analyst-oriented document that are relevant to clients. The document’s chapters address the following questions:

¹ Although a large body of literature exists about what is known as ‘Problem Structuring Methods’ (which encompass some specific methods/methodologies), this CoBP has adopted the view that:

- a) Problem Structuring Methods can do more than merely structure problems; and
- b) There are quite a few other methods/methodologies (e.g. Multi-Criteria Analysis) that also enable problem structuring.

This CoBP will therefore not treat Problem Structuring Methods as a methodology of its own but as part of the broader family of modelling approaches that ‘soft’ OA comprises.

² Different types of people, their roles and responsibilities will be summarised in Section 1.6 and discussed further in Chapter 4.

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- What is judgement-based OA?
- Which problematic situations require judgement-based OA?
- How does judgement-based OA add value?
- What does a judgement-based OA study look like?
- What is expected of me, the client?
- What does the analyst bring to achieve validity, credibility and acceptance?
- How can a CoBP protect the client from threats to the study?

1.2.3 A Document for the High-Level, ‘Executive’ Decision Maker

This document is a concise brochure carrying the sub-title “Judgement-Based Operational Analysis for Improved Defence Decisions”. It summarises the client-oriented document and is written for executive decision makers, including high-ranked officers, and addresses the following issues:

- What is judgement-based OA?
- How can defence decision makers be supported?
- When should judgement-based OA be used?
- What can you do with facilitated workshops?
- What are the value and the benefits of judgement-based OA?

It also mentions the other volumes of the Guide and points out where more information can be found.

1.3 PURPOSE OF THE CODE OF BEST PRACTICE

A code of best practice captures and presents the peer consensus of the practitioners in a specific field of the behaviours, processes, information, and standards which constitute the current recommendable mode of action in that field. It aims to inform and guide practitioners in its field, both established and new, on the considered best ways of proceeding so as to complement and extend the existing knowledge base. It also defines the boundaries of accepted best practice, indicating where knowledge becomes weak or non-existent, and where further research may be required to extend the code.

A code of best practice may be derived from a consensus, formal or informal, or could be the product of a committee or a single mind. It gains its authority from peer review and the success of its application. The CoBP for ‘soft’ OA aims to inform, guide, validate, make credible and/or indoctrinate current practices for readers working to solve problems that require using ‘soft’ OA methods and techniques.

The CoBP for ‘soft’ OA aims to provide practical advice, and to set a benchmark for best practice to both clients and analysts in order to get the best out of the resources available. There should be some expectation that the analyst community uses this Code as guidance for best practice use of ‘soft’ OA methods (this volume). A client should use the Code to enable a better understanding of how ‘soft’ OA methods can help the client to make effective decisions (client-oriented volume, printed under separate cover). The Code aims to help an analyst and client cope with the issues of subjectivity that come with using ‘soft’ OA methods, and to cope with any analyst/client bias in the analysis process. It aims to provide guide to practitioners concerning the quality of subjective information and analysis, the transparency of the methods used and the credibility of the outputs.

The purpose of the CoBP is:

- **To create an understanding of what ‘soft’ OA is;**

- **To clarify what ‘soft’ OA can do to help address problematic situations, and what people can expect from it in that respect; and**
- **To provide guidance on how a ‘soft’ OA study should be carried out in order to maximise the validity, credibility and acceptance of the study and its outcomes.**

The CoBP is designed to be educational in the sense that it aims to clarify what ‘soft’ OA is, and when and how it can or should be used. The analyst-oriented volume, the actual Code, sets the rules of the road for analysts who are relatively new to this field of OA. It is however expected that more experienced ‘soft’ OA analysts will also find it of value for educational or reference purposes whilst having developed their own views on how this type of analysis should be carried out and perhaps their own methods or methodologies. The guidelines are offered as a means of assistance to analysts and are not meant to be too prescriptive in nature.

1.4 SCOPE OF THE CODE OF BEST PRACTICE

The purpose of decision support by ‘soft’ OA remains the primary scope of the CoBP. Within that context, the CoBP will look at ‘soft’ OA across the whole spectrum of applications. The CoBP will therefore deal with problem types that require a decision at some point, be it by an individual or by a group of people, be it a final decision or perhaps rather a recommendation for a decision, be it a short-term decision on, for example, operational contingencies or a long-term impact decision regarding some strategic issue. Typically, a great many workshop sessions are held and facilitated where a group of people meet to identify relevant knowledge or discuss some other issue of interest without identifying options that have to be decided upon. However, the CoBP will not address single session studies for, for example, mere knowledge elicitation. Facilitation methods exist which could be regarded as ‘soft’ and may be helpful for this type of limited-scope workshops, but these are not the types of studies or workshops that the CoBP addresses. The CoBP is not meant to be a guide to facilitation techniques or the organisation of workshops.

The CoBP does not describe, compare or assess individual ‘soft’ methods and techniques. There are textbooks and articles that do that. The CoBP is rather focused on issues of their usage and contribution to rigorous and auditable quality of both process and content. It does not recommend any of the existing formal methodologies or methods other than in a general sense. However, ideas of how to approach specific aspects have been adopted from existing (refereed) literature. Chapters 6 and 7 will mention some methods, by way of examples, to address specific issues.

Further, as stated previously, studies that require ‘hard’ OA usually have aspects that require human judgement and thus may benefit from ‘soft’ OA methods. The CoBP does not address ‘soft’ aspects of ‘hard’ studies (e.g. interpreting ‘hard’, numerical model results) as a particular phenomenon in itself. If those ‘soft’ aspects are substantial and are perhaps even supported by a method, then one is dealing with a mixed (‘multi-methodology’) approach (where ‘soft’ and ‘hard’ methods are combined) which will be discussed in Chapter 6.

The use of OA in an operational setting is explored by the NATO Technical Team SAS-089 “Operational Analysis Support to NATO Operations”. Its aim is to elaborate a recommendation of an organisational structure, common procedures, technical training, and tools that improve effectiveness, interoperability, and sustainability of OA in support to operations in both NATO and national static and deployed HQs. The focus of the work of the team is on the provision of direct – especially deployed – OA support to NATO Operations. The purpose of such support is to improve the quality and pace in the decision-making process during all phases of operations. This subject will therefore not be addressed in this CoBP.

For pragmatic reasons the CoBP has adopted the term ‘soft’ even though it may be argued that this incorrectly suggests that a clear distinction between ‘soft’ and ‘hard’ exists. It has already been argued, and to be elaborated in Chapter 2, that even a ‘hard’ study has ‘soft’ elements. Similarly, such terms as

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‘qualitative’ and ‘quantitative’, ‘objective’ and ‘subjective’ suggest distinctions that are not always warranted in practice. Initially, the authors of the CoBP attempted to introduce the term ‘judgement-based’ OA, since what the CoBP is about to describe is a type of analysis that is predominantly based on human judgement. Judgement-based OA applies the methods of ‘Soft Operational Research’ developed in academia. It has appeared, however, that the analytic community has become used to the term ‘soft’ OA to such a degree that the formal use of the term ‘judgement-based’ OA would have created unnecessary confusion. The CoBP uses ‘judgement-based’ where a special emphasis on the use of judgement is needed.

1.5 OVERVIEW OF THE CODE OF BEST PRACTICE

The chapters of the CoBP are organised according to four main themes put forward in the form of the following questions (ref. Figure 1-1):

- *What* is the CoBP about?
- *Why* was it written?
- *Who* is involved in a ‘soft’ OA study and what is expected of them?
- *How* should a ‘soft’ OA study be conducted?

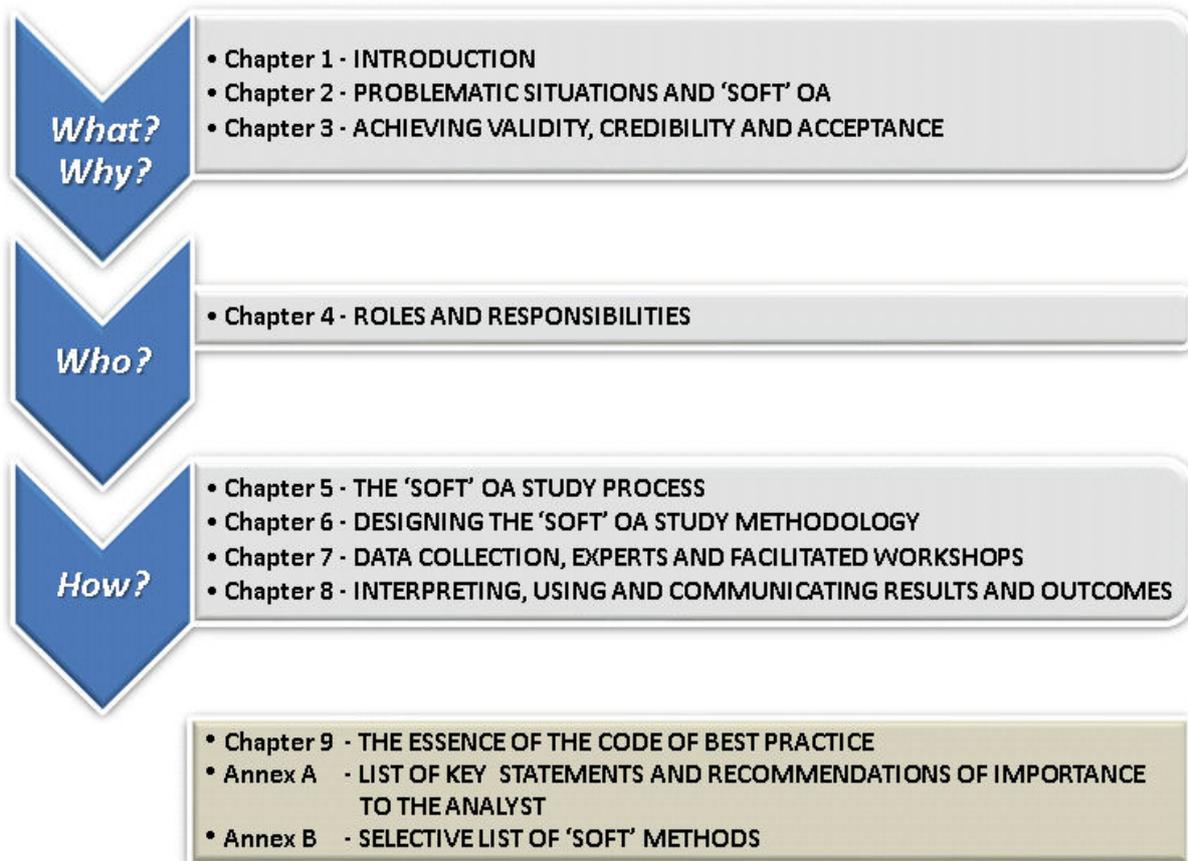


Figure 1-1: Line of Reasoning Concerning the Flow of the Chapters.

Below follows an overview of the content of each chapter and the annexes of the CoBP:

- Chapter 1 presents an introduction to the subject, including scope, purpose, and meaning of the CoBP as well as some information on the working procedure. It also provides an overview of some key concepts that are used throughout the CoBP; many of these will be elaborated in specific subsequent chapters.
- Chapter 2 provides a general introduction to issues that are pertinent to the nature of ‘soft’ and ‘hard’ OA, including the phenomenon of uncertainty. It attempts to characterise ‘soft’ and ‘hard’ OA rather than provide a formal definition for each term. This chapter also addresses why one would do ‘soft’ OA in the first place.
- Chapter 3 discusses how a ‘soft’ study contributes to addressing a problematic situation as intended by the CoBP. It shows the line of reasoning of the CoBP and the philosophy of the use of methods, with a particular emphasis on aspects related to the purpose of writing the CoBP (e.g. validity, credibility and acceptance). This will be addressed again in later chapters, but more specifically in Chapter 8 where issues of interpretation and the use of study outcomes are discussed.
- Chapter 4 presents a discussion of the roles and responsibilities of the various actors involved in a ‘soft’ OA study, with a particular emphasis on the analyst and the facilitator. The use of subject-matter experts will be discussed in Chapter 7. Study success and acceptance largely depend on the quality of the process wherein the various actors interplay, and depends to a large degree on procedural rationality (i.e. the quality of how things are done and organised) in conjunction with substantive rationality (i.e. the quality of what is done).
- Chapter 5 presents an overview of the stages of the study process when conducting a ‘soft’ OA. It is an iterative cycle where products or findings of previous stages are reviewed based on new insights gained during later stages. The way in which the process is set up and actually conducted does in itself contribute to the validity, credibility and acceptance of a study. The chapter also addresses issues of parallel and sequential modelling activities, and divergent and convergent process stages.
- Chapter 6 addresses the modelling process in general and ‘multi-methodology’ in particular, which is the approach where various, possibly very different, methods are combined in one study. It provides guidelines as to the suitability of a combined approach and when to apply it. Many of the guidelines are also relevant to a single-methodology approach. The chapter also discusses the initial stages of a study where the nature of the problematic situation has to be assessed and upon which the design of the study methodology must be based.
- Chapter 7 presents an overview of the ways in which data can be collected, including elicitation of information from individual experts, sensitivity analysis, coping with data uncertainty, and dealing with subject-matter experts who are asked to provide information in a facilitated workshop setting. This chapter draws heavily from Chapter 4, as people (even experts) are often subject to biases when answering questions. It stands in its own right as far as facilitation of groups of people is concerned, how data is gathered and interpreted using subject-matter experts, and how people work together to produce outcomes.
- Chapter 8 addresses how to communicate and report on the outcomes of a ‘soft’ OA study. This chapter draws on Chapter 7 about framing and biases, but also on Chapter 3 as far as validity, credibility and acceptance are concerned. Triangulation, sensitivity analysis and coping with bias all contribute to the validity of the results and are discussed in this chapter from a somewhat different perspective than previous chapters.
- Chapter 9 concludes with a summary of the essence of the CoBP and some final remarks.
- Annex A contains a list of key statements and recommendations that are taken from the initial summarising text boxes of each chapter and are especially important to the analyst (the ‘rules of the road’).

- Annex B contains a selective list of ‘soft’ OA methods and methodologies, quoted from [9].

1.6 KEY CONCEPTS

It is useful to discuss some key concepts that permeate throughout the CoBP. The definitions are based on [10], and more specifically [11], but have been adapted for the purpose of the CoBP:

- ‘*Methodology*’ – Although the general philosophical meaning is that of ‘the study of methods’, the CoBP will regard ‘methodology’ as ‘*a particular combination of methods that possess a common set of characteristics and assumptions and are used in a study to achieve a purpose*’. That purpose may be the overall aim of the OA study or a part of it.
- ‘*Method*’ – This term will be regarded as ‘*a structured set of guidelines or rules to achieve some clear well-defined purpose*’ which may or may not involve mathematical calculations. Here, ‘purpose’ is meant to be a part of the aim of the study and its achievement will contribute to the overall study aim. The rules may be algorithmic in the mathematical sense, but could also be behaviour- or procedure-oriented, or a combination of both.
- ‘*Technique*’ or ‘*Tool*’ – These terms denote each of the specific algorithms or interviewing modes (etc.) which are part of a method. A difference could be made between the two where ‘tool’ would be regarded as the agent of a technique, e.g. a software program.
- ‘*Model*’ – A model will be regarded as ‘*a representation of (a part of) reality (i.e. a problematic situation) as seen by a number of people who wish to use the model to understand, manage, or improve that reality*’. The model may include the beliefs, insights and expectations of people who wish to use the model as a means of communication and stimulus of debate and reflection (i.e. support their thinking) to create or improve a mutual understanding of each other’s viewpoints and positions. Both setting up a model and using it (or, in ‘hard’ OA terms, even solving it) usually requires a method.

The definitions above suggest a clear difference between ‘method’ and ‘methodology’. In practice, that difference is blurred and the two are used inter-changeably in the literature; there is no clear agreement in the literature about these terms. In the CoBP ‘method’ will be used to denote specific methods and ‘methodology’ will be used to denote a combination of methods or a general study approach where one or more methods are used.

In the light of the definitions above, ‘soft’ OA may be regarded as a ‘*meta-methodology*’: a higher level of methodology, encompassing all ‘soft’ methods and methodologies. Note the distinction from the term ‘*multi-methodology*’ which is a specific combination of different methodologies used in a study. A multi-methodology approach, based on a mix of appropriate (‘hard’ and/or ‘soft’) methods, has appeared to be very common and successful in practice and will be addressed in Chapter 6.

There are a number of additional key concepts that need to be discussed at the outset:

- ‘*Intervention*’³ – This term denotes the process of challenging and changing people’s thinking or an organisation’s activities in order to achieve understanding and improvement and often, along the way, resolving problematic situations. The CoBP will avoid using intervention but rather use ‘study’ instead.
- ‘*Study*’ – This term denotes a set of activities that is part of an intervention and usually refers to more specific actions of investigation and research, problem analysis and resolution.

³ ‘Intervention’ will not be regarded as a military operation like in ‘the intervention in Afghanistan’ unless specifically indicated as such.

- ‘*Analysis*’ – This term denotes a set of activities aimed at decomposing (physical, organisational, social) systems, problems, problematic situations, operations, etc., into their constituent parts, and at investigating their relationships and their meaning.
- ‘*Operational Analysis*’ (term mostly used in the defence community, but equivalent to the term ‘operational research’ used in academia) is the interdisciplinary science that focuses on how appropriate actions can be designed to change (i.e. towards improvement) or even (re)solve problematic situations. The CoBP addresses ‘soft’ OA, an approach that uses methodologies and methods predominantly based on the rational (i.e. not intuitive) use of human judgement.
- ‘*Result*’ – This term denotes what has been produced by using a model and applying a method, or merely following a process. It is rather more specific than ‘outcome’. ‘Results’ constitute the ingredients for an ‘outcome’ (to be analytically interpreted), although in practice the distinction is not always crisp.
- ‘*Outcome*’ – This term denotes what has been achieved with the study (‘effect’ or ‘impact’), based on specific results and their analytic interpretation. It refers to what one can do with the results and what the meaning of the results is.
- ‘*Decision*’ – This term refers to the result of making up one’s mind regarding a choice between alternatives. The kinds of decisions that will be taken on the basis of a ‘soft’ OA study pertains to a choice between alternatives: ways forward (‘actions’), (organisational) strategies, policy options, and the like.
- ‘*Alternative*’ or ‘*Option*’ – This term denotes one of two or more possibilities to be chosen for addressing, improving or (re)solving a problematic situation.
- ‘*Stakeholder*’⁴ – This term denotes the person who affects or is affected by the (resolution of the) problematic situation. It encompasses rather different types of people who are, or have to be, involved in a study. Even ‘analysts’ and ‘facilitators’ (see below) may to some extent be regarded as ‘stakeholders’ as they, too, affect the study or are affected by it, e.g. their interest in its perceived success. The CoBP will address the way in which stakeholders should be involved in a study, and what roles they play.
- ‘*Client*’ – This term denotes four specific types of stakeholders: 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 and the *end user* who is ultimately affected (either positively or negatively) by the study outcomes and related decisions. All four together own in some way the problematic situation. The real client could, however, remain invisible, and could indeed be unknown. Note that situations can exist where there is not one single client but rather a group of clients (‘client system’) who may have (very) different interests in or views of the problematic situation, even if formally they adopt the same role. The ‘primary client’ is the first point of contact of the analyst; primary client and analyst are partners throughout the study.
- ‘*Subject-Matter Expert*’ – This term denotes an individual who has considerable relevant knowledge without necessarily owning or otherwise being part of the problematic situation. He⁵ is the expert in a particular area or topic and provides information; in doing so, he affects the study. The CoBP will specifically address issues concerning the elicitation of information from experts.
- ‘*Analyst*’ – This term denotes a person who conducts a study, and in this capacity designs the stages of the process, suggests the methodology(ies) and method(s) to be used, the workshops to be held, ways to analyse and model the problematic situation and to report and interpret the study’s outcomes. The analyst should work in cooperation with the client(s) and with a fundamentally helpful attitude, but at the same time he should be devoted to rigorous and ethical principles.

⁴ The types of people that follow, including their roles and responsibilities, will be discussed further in Chapter 4.

⁵ Throughout the CoBP the male form is used for simplicity’s sake. This does, of course, in no way rule out any female actors.

- ‘Facilitator’ – This term denotes a person who helps (i.e. supports, enables and encourages) individuals or a group or groups of stakeholders, clients, subject-matter experts, and analysts 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. Facilitation is, similar to analysis, fundamental to the CoBP as the quality of a ‘soft’ OA study depends on it.

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1.8 RECOMMENDED ADDITIONAL READING

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