

## Chapter 9: Evaluation of cases against criteria

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This chapter evaluates the empirical evidence collected in the seven case studies presented in chapter 8, by comparing the outcome from each case with the execution criteria developed in chapter 3. The first section of this chapter reframes the execution criteria set up in chapter 3, to create a context in which the success of the execution could be determined. This was done by revising Kirkpatrick's (1994) well known model of training evaluation to suit the evaluation of a social inquiry method. The 13 design criteria are grouped into three stages, labelled implementation, influence, and action. The chapter concludes by reviewing the evidence relating to the overall argument: that SNM is a viable process for anticipating futures, as well as discussing limitations in that evidence.

### 9.1 Classification of assessment criteria

#### 9.1.1 Creating a model for effectiveness

Because the criteria found in chapter 3 covered such a wide range, it would increase the rigour of the evaluation by locating those criteria in a model clarifying their application to this Process. As some criteria did not fit well with the basic program logic model used to classify criteria in chapter 3 (Inputs → Activities → Outputs → Outcomes) a more relevant model was sought. The most suitable model found was Kirkpatrick's four-level sequential model of training evaluation, which has been widely applied to the evaluation of employee training (Kirkpatrick, 1994; Salas and Cannon-Bowers, 2001; Arthur et al, 2003). Kirkpatrick posits that, for training to be fully successful, the following sequence must occur:

1. Trainees must be satisfied with their training.
2. Trainees must absorb that training – learning and acquiring skills.
3. Their on-the-job behaviour must change in accordance with the training.
4. That changed behaviour must increase the effectiveness of the employing organization.

Though reviews by Baldwin and Ford (1988) and Arthur et al (2003) have not supported Kirkpatrick's hypothesis that each stage is a prerequisite for the next, the four stages (as Arthur et al note) remain useful as a conceptual ladder. However, Kirkpatrick's model was designed for evaluating training outcomes, not for social inquiry methods. Accordingly, it was modified in three ways:

**Modification 1. Inserting a preliminary level: Implementation.** This stage, analogous to the Activities stage in program logic modelling (Funnell, 1997) was added because it cannot be assumed that what is planned to occur will actually do so. Kirkpatrick implicitly assumed that training would be delivered as scheduled. However, successful implementation is not a guaranteed outcome, particularly when a wide range of actors is involved.

**Modification 2. Broadening the second level.** The Kirkpatrick model has been criticized for not taking into account all potential effects of training. Kirkhart (2000) offers a more comprehensive model of evaluation effects, reconceptualizing “use” as “influence.” In extending the model from training to social inquiry, the second (“learning”) level was therefore replaced by the broader concept of **influence**: not only “How much did they learn from the course?” but “In what ways did the Process influence them?” Participant satisfaction, as one form of influence, was included under this second level.

**Modification 3. Amalgamating the highest two levels.** With the Kirkpatrick model (as with any sequential evaluation model) the later the stage, the more difficult it becomes to evaluate the effectiveness of the intervention. This is due to several factors: the time delay involved, the multiplicity of other forces that can affect outcomes, the difficulty of measuring these, and the decreased sample (one organization, instead of many trainees). Applying Occam’s Razor, what cannot be separated is thus combined. Further, Kirkpatrick’s model was produced for the benefit of the employers of trainees, but in other social situations, the fulfilment of the entity’s needs is not the only consideration. It cannot be assumed that the entity’s goals are more important than its members’ goals. Though it would be tempting to describe the highest criterion as “action resulting from the Process,” such action may be deferred for years if no suitable situation arises. The final criterion group in this study was thus broadly labelled as **application**.

The modified version differs from Kirkpatrick’s model in that achievement of a lower level is not necessarily a prerequisite of a higher level. (For example, even if a planned Process is cancelled, participants in its planning may gain knowledge that they can use in later work.) The following table summarizes the revised model.

TABLE 9.1 AN EFFECTIVENESS MODEL FOR PARTICIPATIVE FUTURES WORK

Effectiveness		Description of effectiveness label	Kirkpatrick equivalent
level	label		
A	Implementation	The Process goes ahead as planned, without practical problems in its execution.	none
B	Influence	The Process influences participants to change their thinking or perceptions.	1, 2
C	Application	Participants are able to use the output of the Process, and such use contributes to their entity's achievement of its goals.	3, 4

Though this effectiveness model is applied here to participative futures work, the same model could be used to evaluate the development of almost any social inquiry method or OD (organizational development) intervention.

### 9.1.2 Classification of criteria on effectiveness model

The following tables list each of the execution criteria established in chapter 3 (using the same numbering as Table 3.4 in chapter 3), along with sources of evidence for their fulfilment. Table 9.2 lists the criteria that were best assessed during the casework, mainly at the completion of the scheduled workshops. Table 9.3 lists the remaining criteria, which could not be properly assessed until the follow-up, a year or so later.

TABLE 9.2 EXECUTION CRITERIA ASSESSED DURING CASEWORK

Criterion	Source	Supporting indicators	Contrary indicators
<b>Effectiveness level A: Implementation</b>			
E1. The purpose of the futures work is made explicit to all involved.	Agenda (etc), facilitator's notes, feedback from participants	Agenda (etc) states purpose, facilitator's notes record mentioning the purpose, and participants say purpose was clear.	Participants disagree with agenda or facilitator's notes.
E2. Participants' initial assumptions are challenged, focus broadened, and their perceptions reframed.	Feedback from participants	Participants report that their initial assumptions were challenged, focus broadened, and perceptions reframed.	Such reactions not reported by participants.
E5. Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.	Facilitator's notes and feedback from participants	Participants and facilitator do not detect that any possibility was favoured.	Participants and facilitator feel that some possibilities were not fully considered.

Criterion	Source	Supporting indicators	Contrary indicators
DE1. Workshop participants include all major stakeholder groups, covering all likely impinging systems.	Attendance data, stakeholder map	Number and balance of main stakeholder groups included: compare attendance role breakdown with stakeholder map.	Some stakeholder groups mentioned in discussions are not represented at workshops.
DE3. Anticipations are expressed specifically enough that they can be tracked and confirmed.	Content analysis of output	Clear indicators for knowing whether a possible outcome occurs.	No clear indicators derived.
<b>Effectiveness level B: Influence</b>			
E4. Participants are satisfied with Process, feeling the activity was worthwhile.	1. Attendance data 2. Evaluation questionnaires	1. Participants keep turning up. 2. High satisfaction shown in evaluation questionnaires.	1. Many participants drop out. 2. Low satisfaction shown in evaluation questionnaires.
DE2. Participants gain more detailed perceptions of future possibilities. The Process creates “future memory” to help prepare for later action.	Feedback from participants	Participants say that futures were described in enough detail to enable them to know whether they were occurring.	Participants do not make such a statement.
E3. The boundaries of uncertainty and plausibility are clarified.	Feedback from participants	Participants report that they are now better aware of the more and less certain aspects of the future. Some futures that initially seemed inevitable now seem less so, and vice versa.	Such awareness not reported.
E7. Participants feel empowered and stimulated to act.	1. Feedback from participants	1. Participants report that they feel empowered and stimulated to act.	1. Participants do not report such feelings.
	2. Record of meeting	2. Follow-up plans are discussed at last meeting.	2. No follow-up plans discussed.
<b>Effectiveness level C: Application</b>			
E6. The output is directly usable by the entity.	Feedback from participants and entity managers	Report that at least some aspects of the output are directly applicable.	No such report.

As the project progressed, it became clear that many criteria that were originally designed to be assessed during initial fieldwork could not be fully evaluated until the follow-up stage, a year or so later. For example, sometimes it was not until well into the fieldwork for a case that it became evident that the scope of the study should be broadened. Therefore all the above criteria were reassessed at the follow-up stage, supplemented by criteria in the following table, which were assessable only at the follow-up stage.

TABLE 9.3 EXECUTION CRITERIA ASSESSED ON FOLLOW-UP

Criterion	Source	Supporting indicators	Contrary indicators
<b>Effectiveness level C: Application</b>			
E8. As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, and more adaptable to change.	Feedback from participants and entity managers*	Majority agreement, and details provided, e.g. evidence of extended time horizons.	No majority agreement, or unable to specify any details.
E9. The broad situation is successfully anticipated.	Ask participants: “Where are you now, on the scenario map?”	Success if the current position can be found on the original map.	Current position does not exist on the scenario map.
E10. The Process results in action for change: in the entity, or in participants’ behaviour.	Ask participants and entity managers*	Reports of some improvement due to the Process.	No reports of any improvement due to the Process.

\* Entity managers are people who at the time of follow-up were in a position to report on its outcome; they need not have participated in the original study.

Criteria in the Supporting Indicators and Contrary Indicators columns above are presented as binary variables, in order to keep the tables concise and clear. In practice, because this is a formative study, these items were not treated as if the only possible answers were Yes and No, but as topics for more detailed exploration, in the next three sections (9.2 to 9.4), which cover the fulfilment of the execution criteria at each level in turn, for each case. Because the Iraq case involved secondary research, and had no formal participants, many of the criteria are not relevant for that case. Occasional notes prefaced by “Transition” mark points of reflection in the action research cycles.

The following discussion and evaluation of each criterion is inevitably interpretive and subjective. Though it may have added some (spurious) sense of accuracy to have quantified the evaluation data, and compiled tables of numbers, such activity would be likely to have produced incomplete findings. It has fallen to me, as developer of the SNM Process, to formatively evaluate the process. Though charges of self-interest and bias might be levelled, I have taken much care (as the following sections might reveal) to review the findings dispassionately. Following the evaluation using each criterion, analytic induction (as noted in chapter 6, the end of section 6.2) was used to revise the criterion when necessary. These revised criteria, to emphasize their tentativeness, are expressed in the past tense, not implying any claim that they apply beyond the bounds of this study. That may be true, but further testing would be required.

The following table lists the 13 criteria in the original sequence, and shows where each is covered. Note that criteria beginning with E are applied at this execution level only, while criteria beginning with DE were applied at both the design level (evaluated in chapter 5) and the execution level.

TABLE 9.4 LOCATION OF EVALUATION OF EACH CRITERION

Criterion	Section	Page
E1. The purpose of the futures work is made explicit to all involved.	9.2.1	276
E2. Participants' initial assumptions are challenged, focus broadened, and their perceptions reframed.	9.2.2	278
E3. The boundaries of uncertainty and plausibility are clarified.	9.3.1	289
E4. Participants are satisfied with Process, feeling the activity was worthwhile.	9.3.2	292
E5. Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.	9.2.3	280
E6. The output is directly usable by the entity.	9.4.1	298
E7. Participants feel empowered and stimulated to act.	9.3.3	294
E8. As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, and more adaptable to change.	9.4.2	300
E9. The broad situation is successfully anticipated.	9.4.3	302
E10. The Process results in action for change: in the entity, or in participants' behaviour.	9.4.4	305
DE1. Workshop participants include all major stakeholder groups, covering all likely impinging systems.	9.2.4	283
DE2. The Process creates "future memory" to help prepare for later action, and participants gain more detailed perceptions of future possibilities and desired futures.	9.3.4	296
DE3. Anticipations are expressed specifically enough that they can be tracked and confirmed.	9.2.5	287

### 9.1.3 The follow-up procedure

Approximately one year after the completion of the first set of workshops, a follow-up workshop was held. The agenda for this session, which typically lasted for one to two hours, involved working through the above criteria. Specifically it covered the following issues:

**1. Review of scenario map.** The key question is "Is there a box on this year-old map which shows accurately where your organization is now?" To the extent to which the year-old map represents current reality (and new views of the preceding year) the mapping exercise has been successful. A further stage is to review the map to reflect the current position, asking:

- Are there any aspects of the map that need to be removed?

- Are there any new aspects to be added? If so, could these have been anticipated last year? And in how much detail? Who could have anticipated them, last year?

**2. Review of the Process.** Following the review of the map was a review of the SNM Process, considering each element separately:

- the participants
- the processes used to elicit the map
- the facilitation
- a comparison between this and other planning techniques used by the entity.

This involved asking (and explaining) the questions listed in Tables 9.2 and 9.3 above.

**3. Consequences.** The final component of the follow-up workshop is an investigation of the consequences that may have resulted from it, whether directly or indirectly.

In practice, it turned out to be not possible to organize full workshops for follow-up. Participants were less willing to meet for this purpose than they had been to study their own entity's future. Some had changed industries, retired, moved interstate, or were otherwise not available. Therefore the follow-up sessions were conducted by interviewing key informants, supplemented by email contact with other participants.

## **9.2 Execution criteria assessed at implementation level**

This section covers five execution criteria, the fulfilment of which was explored during and at the end of the casework. These criteria were all at the level of implementation: verifying whether things that were supposed to happen actually did so.

- E1. The purpose of the futures work was made explicit to all involved.
- E2. Participants' initial assumptions are challenged, focus broadened, and their perceptions reframed.
- E5. Each possibility is dealt with even-handedly, not neglecting any that seem awkward or inconvenient.
- DE1. Workshop participants include all major stakeholder groups, covering all likely impinging systems.
- DE3. Anticipations are expressed specifically enough that they can be tracked and confirmed

### 9.2.1 Criterion E1: Was the purpose of the futures work made explicit?

Full wording	The purpose of the futures work is made explicit to all involved.
Data sources	Agenda (etc), facilitator's notes, feedback from participants.
Supporting evidence	Documents state purpose, and participants acknowledge that purpose was clear.
Contrary evidence	Documents do not state purpose; participants are unclear about it.

This issue, seemingly obvious and trivial, must be regarded as important, because it occurred so often in the literature review in chapter 3. On follow-up, for most cases, an unexpected answer was offered to me: "Yes, very clear: to provide information for your thesis." As this was an artefact of the Process, it was ignored for the purpose of evaluating this criterion.

**Radio network:** Yes, in the introduction to the course. Participants were informed that this was an exploratory study, and were given the option not to attend, but all chosen for the course did so – as did some applicants who were not chosen.

**Engineering manufacturer:** Because this case study used repeated interviews rather than workshops, and because this was the first case study, the purpose of the work was discussed frequently in the interviews. On follow-up, it was agreed that the purpose was always clear.

**Iraq:** Not applicable, because this was secondary research.

**Legal service:** All participants were sent an agenda, setting out the purpose of the project, but some apparently did not receive it in time for the first workshop. The facilitation was done by others, who were not as familiar as I was with the SNM process, and their introduction tended to downplay the futures aspect. As far as LS was concerned, this was consultancy for change management, and its primary purpose was to change the LS constitution. Some participants at the initial workshop were unsure about its purpose, having been asked at very short notice, and not having seen the agenda. One man repeatedly asked "Why are we here?" Others later suggested that his question was rhetorical: he was a former CEO of LS, who was not happy with what he apparently perceived as its recent decline. Following the difficulties with the SC case, in which some participants persisted in expecting the workshops to conclude with an action plan, this follow-up question was modified to be "Was the purpose of the workshops made clear – that it would result in a set of possibilities, not an action plan?" In response, one participant pointed out that "action plans imply there is an effective and

empowered and capable planner” – and thus would be controlled by the board and management, not by this diverse group of stakeholders.

**Credit union:** The purpose was made clear both by myself in agendas distributed to all participants at the first workshop, and in an invitation letter sent to participants by the CEO of the credit union. There was no suggestion during workshops that anybody was unclear about the purpose – though it seemed that for some senior managers the main purpose was “Here’s another new management tool: let’s try it out.”

**Service club:** I tried to state clearly at the beginning of the first workshop that the purpose of this project was to draw out possible futures, not to create any sort of action plan – though that could be a useful follow-up activity. Despite that statement (reinforced in the original agenda distributed to participants, and to a lesser degree at most other workshops), some participants in the fourth workshop wanted to end with an action plan. For these people, evidently the purpose of the activity had not been stated clearly or often enough. One participant later pointed out that there is a distinction between making a process clear (which she considered to have been accomplished) and that clarity “sinking in” to participants, particularly those who wanted urgent action.

**Barossa:** The purpose of the work was stated in the detailed agenda sent out to participants in advance. There was no suggestion during the workshop or from later feedback that the purpose was unclear, though as one participant commented “A good effort was made, but I was not certain what the outcome would be as it as a new ‘process’.” Because of its specificity (to discover to what extent different stakeholder groups agreed on their visions for the future Barossa landscape) this purpose was easily communicated.

### **Analytic induction**

The statement “The purpose of the futures work is made explicit to all involved” implies that there is a single purpose, and that it is fixed. Examining the statement in the light of the Leaf of Goals suggests that there will always be multiple purposes – and some of these may change during the workshops. One constant purpose was my own goal to develop SNM; though this was made clear to all participants, it is not an inherent part of the final process.

As with all communication, the sender of information (in this case, myself and/or the organizing committees) may have been quite clear about the purpose of the intervention. This was communicated to participants through their acceptance forms and the introduction to the first

workshop in each series – but that does not necessarily mean they all understood (let alone accepted) that purpose: in particular, the statement that the scenarios were not designed to result in specific action plans. Thus the statement derived from analytic induction is that

**E1a:** For each entity involved, the purpose of the futures work was made explicit to all participants – but some were not satisfied with that purpose, and wanted to finish with an action plan.

### 9.2.2 Criterion E2: Were assumptions challenged, focus broadened, and perceptions reframed?

Full wording	Participants’ initial assumptions about their entity’s future are challenged, their focus broadened, and their perceptions reframed.
Data sources	Feedback from participants
Supporting evidence	Participants report that the workshops caused them to re-examine their initial assumptions, broaden their focus as to the nature of the study, and reframe their perceptions in that broader light.
Contrary evidence	Such reactions not reported by participants.

Ideally, initial assumptions about the entity’s future would have been measured, and on follow-up compared with later assumptions. However, because assumptions are often unconscious and thus not directly accessible, these issues were posed following the fieldwork. This question turned out to be difficult for participants to answer. Many had trouble understanding it, and most others had very little to say, apart from a simple “yes” or “no.”

**Radio network:** This criterion had not been formulated at that pilot stage, and due to the inability to follow up this case, its fulfilment could not be assessed with feedback from participants.

**Engineering manufacturer:** EM managers initially reacted negatively to some of the potential surprises raised in the Process, noting that some surprises were obvious, and others would never happen. They were thus resisting challenges to their assumptions, focus, and perceptions. However, on follow-up two years later, the attitudes had changed. The CEO noted that “The advantage of your process was raising new questions.” Explaining further, he added “If

we did our normal [management discussion] we would have come up with 80% of what you came up with but because you came up with another 20% it made us ask questions of that 100% again.” When he later mentioned some of the decisions EM had taken using the SNM report (selling one of its businesses, and moving its factory), it became clear that with a change for the worse in its situation, EM managers had begun to take the result of the Process more seriously. Thus this criterion was, in the end, fulfilled.

**Iraq:** This criterion is not applicable, as there were no participants. However the development of the method in this case certainly challenged my own assumptions and perceptions.

**Legal service:** Responses tended to be fairly negative, or equivocal; the most plausible interpretation was that participants did not *want* their assumptions to be challenged, but simply wanted to preserve the status quo – despite the workshop findings that the last few years had not been a good period in the history of LS. However, it is likely that the negative reaction on this item occurred because this criterion was not (on reflection) actively pursued during the workshops.

**Credit union:** There was little evidence of this during the workshops, except some moments in the plenary discussion - as for example when some financiers realized that it would not be difficult to implement Islamic banking, though they had never considered this before.

**Service club:** During the workshops, there was no doubt about this. On follow-up, this was confirmed; thus when asked this question directly, one district governor replied, “I think yes, yes - absolutely yes to both of them.”

**Barossa:** With only a single workshop, this criterion was not expected to be achieved strongly, and this was borne out by follow-up comments such as “Not particularly, as I have always had a reasonably clear picture of the way I feel about the Barossa.” With some answering No and others Yes without qualification, it may have been that the direct question had different meanings to different people.

### **Analytic induction**

The evidence collected does not in general support achievement of this criterion, which turned out much too general to be useful. On reflection, the varying responses from different cases related to differences in the work done. In the LS case, participants were not expecting to have their assumptions challenged, focus broadened, and perceptions reframed: their focus

was on enabling LS to survive with its founding values as intact as possible; their focus was conservation rather than change. At the other extreme, the SC case (which matched LS in terms of participants’ desire to regain the organization’s former strength), this criterion was a major purpose of the exercise, as far as the two district governors were concerned. Though the workshop tasks in the two case studies were near-identical, the difference in emphasis must have been subtly evident from the workshops. This was because in the SC case, the participants themselves held the power, and had to be convinced of the need for change. In the LS case, the commonwealth government held the power, and the participants wanted to find the easiest acceptable change. In the EM case, the criterion was supported, but only a year or so later, after a change in the company’s fortunes. Bearing this in mind, the analytic induction statement would be

**E2a:** Participants’ initial assumptions can be challenged, their focus broadened, and their perceptions reframed – provided that they are ready for this, either initially or through changed circumstances.

### 9.2.3 Criterion E5: Were all possibilities explored with equal attention?

Full wording	Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.
Data sources	Facilitator’s notes and feedback from participants.
Supporting evidence	Participants and facilitator do not detect that any possibility was favoured.
Contrary evidence	Participants and facilitator feel that some possibilities were not fully considered.

For this criterion to be fulfilled, each possible future must be considered even-handedly; it is vital not to neglect any paths that may seem awkward or inconvenient. Approximately the same amount of attention must be devoted to each scenario path. The word “attention” is used here rather than “effort” or “detail” because in some cases, paths can be so final (such as a path to the entity’s non-existence) that they need little further exploration, either because there is only one possible outcome, or because there are so many potential outcomes that almost anything is possible.

**Radio network:** Due to pressure of time, only one set of paths was chosen by participants for further analysis. This was related to the future ownership of the RN organization. The two

attractions of this topic were that (a) as most participants were journalists or ex-journalists, this “big-picture” topic was of professional interest, and (b) that it had a fairly direct bearing on their future as employees of the organization. However, as there was no attempt to avoid the awkward or inconvenient, this criterion can be regarded as partly fulfilled.

**Engineering manufacturer:** Generally this occurred, because I was leading the discussions, and kept returning to paths I had not fully understood. There was one exception, which I did not realize till later. One key question had been unanswered: “What happens if the chairman dies or is incapacitated?” I once brought up this topic in an interview with him, but as he seemed to be embarrassed, I did not pursue it, intending to return to it in a later interview (but not doing so). As neither his son nor the CEO evinced much interest in the metal-processing industry, the company’s focus may not long survive the chairman’s death or retirement.

**Iraq:** Paths were explored equally until the war began. Other paths then became irrelevant, and were not explored further. This project was different from all others, because of the rapid pace of change during the study.

**Legal service:** By the facilitators: yes. By leading participants: definitely not. The senior staff of LS were actively supporting scenario 5, and as a fallback alternative, scenario 2. However, more time was spent discussing the negative implications of some of the other paths: the preferred paths represented a continuation of the *statu quo ante*, so there was less to discuss in that regard.

**Credit union:** For myself as facilitator: yes. However, the staff discussed the more expansionist outcomes with more interest than outcomes that would have reduced the size or scope of the organization. Therefore, the latter paths were not explored fully in the small-group work. This applied to both exercises with CU.

**Service club:** Of the four scenario paths covered in the final session, three gathered approximately equal attention, but the “Stability” (status quo) path had trouble gaining any supporters at all, and was considered only perfunctorily. The discussion for each path occupied the following times, and received the following number of preferences in the dotmocracy voting.

TABLE 9.5 RELATIONSHIP BETWEEN DISCUSSION TIME AND PATH PREFERENCE

Path	Minutes	Votes
Path 1 (stability)	5.6	3
Path 2 (adaptation)	11.3	11
Path 2.75	11.2	28
Path 3 (transformation)	14.0	48
Total	41.1	90*
* Each of the 15 participants was given 6 voting dots.		

This demonstrates a clear relationship between interest level (as evidenced in the number of votes) and discussion time. This telling comparison could be applied only in this instance, because other cases and other workshops did not devote blocks of time to each path in turn. However, one district governor considered that the paths had been presented even-handedly, and the fact that participants chose to spend more time discussing some paths than others was their own preference, not a deficiency of the Process.

**Barossa:** Not applicable. This study, because it only compared visions, did not develop scenario paths. (That is planned for the forthcoming follow-up workshops.) In the follow-up, several participants commented on the incompleteness of the coverage, particularly in relation to sustainability.

### Analytic induction

Evaluating this criterion made it clear that even if the facilitator intends paths to be covered equally, participants may not co-operate, particularly in the small-group work. A solution to this problem is that used with the service club: to assign a small group to develop one path. Even if other participants turn out to be uninterested (as in Table 9.5 above), each path will have been considered in detail by one group.

A potential objection to this criterion is that because paths are holonic, they can be subdivided endlessly, and it is thus impossible to address each path even-handedly. In practice, this was not an issue, because of the number of constraints on the scenario paths: in the sense of Waddington (1977), the paths appeared to be *chreods*.

The statement derived from analytic induction was that

**E5a:** Facilitators attempted to ensure that each possibility was explored with equal attention, not neglecting any that seem awkward or inconvenient. However many participants had

a clear preference for one particular path, and focused much more on that than on the other paths.

#### 9.2.4 Criterion DEI: Were all stakeholder groups included?

Full wording	All major stakeholder groups, covering all likely impinging systems, are represented by participants at the workshops.
Data sources	Compare attendance data with stakeholder map.
Supporting evidence	Number and balance of main stakeholder groups included: compare attendance role breakdown with stakeholder map.
Contrary evidence	Some stakeholder groups mentioned in discussions are not represented at workshops.

The purpose of this criterion was to ensure that the scope of the study was broad enough. This was to be achieved indirectly, by including representatives of stakeholder groups that covered all likely impinging systems. Their presence, it was expected, would ensure that their voices were heard.

**Radio network:** Though the participants made a very comprehensive list of systems, they did not consider potential new systems. (As they could not have been expected to think of that, I should have pointed out the possibility.) Also, though other radio networks were listed in the situation assessment, they were not included on the diagram of impinging systems in Figure A4.1.1. This decision was made by the participants, but I am not certain that it was wise.

**Engineering manufacturer:** Mostly, because the scope was defined as the future of EM and everything that might affect it. However, the fact that a scope is declared does not mean it is thoroughly investigated. In particular, the denials of EM managers that they had competitors appeared to me to be almost a psychological defence mechanism; it was as if the more strongly they denied the existence of competitors, the fewer competitors there might be. When the chairman told me about a contract that EM lost to an Italian company, his reaction was that this was not really a competitor, because it was a foreign company and this had happened only once. I suspect the study would have been more useful to EM if the scope had been industry-wide – though reaching an agreed definition of the industry would have been problematic.

**Iraq:** It was difficult to know this at the time, during which more and more systems became involved, and new information was revealed (e.g. differences of opinion within the US military). Even now, more than two years after war preparations began, it is still unclear whether the scope was broad enough – that is, broad enough for a purpose which may still change. On the other hand, this case showed that there could be dangers in making the scope too wide: reducing focus on the key important aspects. Perhaps such tension is resolvable only in hindsight.

**Legal service:** The major funding conduit for LS was a commonwealth government agency, and therefore any change in that agency could have a major effect on LS. The study initially tried to involve the agency's staff, but they withdrew after several meetings because they perceived a conflict of interest (or perhaps, as some LS staff suspected, the agency's local staff were ordered to withdraw by their head office). The study therefore did not take into account any possible changes in that agency, apart from the change already flagged by the commonwealth government: that the legal aid contract which in previous years had gone automatically to LS would in future be contestable. By not looking at the future of that agency (regardless of co-operation by its staff) we overlooked an important source of change. I realized this only several months after completing the work with LS, when the government announced that the agency would be abolished, and services to indigenous people would be handled through "mainstream" government agencies.

*Transition: The above realization came too late to affect the planning for the CU case. However, because (unlike the LS project) the time pressure of the LS study did not apply to the CU case, I was more able to negotiate a broad scope for the CU study.*

**Credit union:** While the case covered retail financial institutions comprehensively, and even possible changes in these (such as the possible growth of international banks in Australia) it did not look outside the area of finance, to examine the other needs that members of CU might have expected it to fulfil.

**Service club:** The original scope of the study covered competitors to SC, and several of those were represented at the workshops. In retrospect, however, we did not cast the net widely enough. The workshops were held on Saturday mornings, and it was only when one workshop was scheduled early due to a major football game that afternoon that I realized that even attending a football match was a competitor to SC – in terms of time available.

*Transition: Having experienced the overlooking of competitors in the EM and SC cases, this should have been an obvious point to monitor in the Barossa case.*

**Barossa:** The Barossa study was organized for a somewhat different purpose than the others. and impinging systems did not need to be identified in advance, except generically.

To enable the following table to be absorbed more readily, symbols have been used to show the degree of inclusion: \*\* = fully included, \* = partly included, . = not included, - = not applicable. The Iraq case is excluded; it did not use workshops.

TABLE 9.6 STAKEHOLDER GROUPS INCLUDED IN WORKSHOPS FOR EACH CASE

Case...	RN	EM	LS	CU	SC	Barossa
Management	**	**	**	**	**	**
Staff	**	*	**	*	**	*
Customers, audiences, beneficiaries	* <i>a</i>	.	.	.	**	*
Suppliers, sponsors	.	.	*	**	**	-
Competitors, peers	.	.	*	.	.	.
Regulators	.	.	.	.	-	**
Media, communication channels	= peers	.	.	.	.	.
Other relevant groups included						Visitors Owners Residents
Totals:						
Groups applicable	7	7	7	7	6	9
Groups included (fully or partly)	3	2	4	3	4	7
Groups not included	3	5	2	4	2	2

*a.* Only during the associated co-discovery conference.

To summarize the above table: of a total of 42 types of stakeholder group that could have been included in the six primary case studies, only 23 were included: little more than half. Of those included, many were not fully represented. Note that as the cases progressed, more groups were included - due to emphasizing this need much more strongly in initial stages.

### **Which stakeholder groups were not represented at the workshops?**

**Radio Network:** Only three of the radio network's six relevant groups were not represented. The workshop included only staff of RN in Riau, and few at a junior level. This was part of a training course, and it was not possible to include stakeholders from the other impinging systems. However, the co-discovery conference carried out during the same course, including the same participants and about 20 RN listeners, informed the participants about the preferences of the RN audience.

**Engineering manufacturer:** Most stakeholder groups were not represented. Almost the only participants were staff members of the engineering manufacturer. With the company's agreement, I interviewed a product development specialist, with whom I had worked previously, and was related by marriage to the CEO. He provided useful information from an independent viewpoint, focusing on the new electric motor.

**Iraq:** Because there were no workshops, this question does not fully apply. However, despite an attempt to include data from countries neighbouring Iraq by accessing their English-language newspapers and news services online, far less information was available in English from those sources than from English-speaking countries or European sources. To that (unknown) extent, the Arabic-speaking and Islamic worlds were under-represented.

**Legal service:** As noted above, one serious omission was the staff of the commonwealth funding agency. However, that agency's board members were not subject to the same restrictions as the staff, and several did attend the workshops. Another omission was clients of LS, though since most were teenage offenders with little education, they probably would not have been able to provide useful information on the specific issue of governance.

**Credit union:** Two clear omissions were the credit union's customers and its more junior staff. Participants were mostly senior managers of the CU, with a few managers of other related financial institutions.

**Service club:** Participants were selected based on their level of interest in the future of that service club. The fact that they would be giving up four successive Saturday mornings for this project would certainly have served to discourage all but the keenest. In the final workshop, when participants voted on their preferred vision, very few votes were for the status quo – but as several participants remarked, in their opinions most ordinary club members would have supported that option. More specifically, the two SC districts for which the study was done included 106 clubs, but the participants who were SC members came from only 12 clubs.

**Barossa:** There were two main omissions: (a) ordinary residents, and (b) owners of businesses other than wineries. ("Ordinary residents" means people who were neither government officials nor winery owners.) In demographic terms, young people (under 30) were greatly under-represented, and wealthy people were over-represented.

### **Analytic induction**

In none of the six primary case studies were all major stakeholder groups included as participants in the research. In aggregate, little more than half the distinct categories were included. The only cases to include more than half the actor groups were the legal service organization, the service club, and the Barossa Valley group: the least competitively oriented of the primary case studies. In each of these latter cases, the need to include all groups was very strongly emphasized. Thus the statement derived from analytic induction was:

**DE1a:** Workshop participants included all major stakeholder groups only when very strong steps were taken to include them, and when no direct competitors were involved.

A possible solution, for highly competitive industries, is to study the future of the whole industry in that area, not the future of the particular business.

### **9.2.5 Criterion DE3: Were the anticipations trackable and confirmable?**

Full wording	Anticipations are expressed specifically enough that their progress can be tracked and their occurrence or non-occurrence confirmed.
Data sources	Content analysis of output.
Supporting evidence	Clear indicators for knowing whether a possible outcome occurs.
Contrary evidence	No clear indicators derived.

**Radio network:** Yes, all of those reported above were highly specific and clear. There would be no doubt that any of these had occurred. On follow-up, three years later, the anticipations were still relevant, though I was told (by staff of a different Indonesian radio network, with whom I was working on another project) that no change had occurred in the situation of RN, except for a slow erosion of its budget and loss of some well-known presenters to private networks.

**Engineering manufacturer:** On follow-up two years later, all the anticipations were reported by EM to be very clear, and some had already occurred - notably, a sustained rise in the value of the Australian dollar against the US dollar.

**Iraq:** Yes, but perhaps because they were so general. For example, in the scenario map created before the war, one holon was "Iraq becomes a troublesome US colony." This became the

case in May 2003, and has remained so until the present. A more foresightful anticipation might have further divided this holon, perhaps related to the de facto division of Iraq into three fairly self-contained regions, with most of the violence confined to the central region.

**Legal service:** Yes: the five scenario paths were so distinct that there would be no problem a year later deciding which future/s the organization was in. This was clearly confirmed on follow-up.

**Credit union:** Yes, very clearly, in most of the scenarios. Examples include *Flight from cities*, *Credit union franchising*, *CU becomes biggest RFS west of Great Dividing Range*, *Establishment of Asian Economic Community*, *Millions of private banks via the Net*, *Rise in Islamic banking*, and *CU demutualized*. None of these has occurred, except (to a small extent) the first. A few scenarios were less trackable, such as *Growth of micro-businesses* (massive growth was meant, but no threshold was discussed), and *Varying economies of scale* (it could take years to recognize this was occurring).

**Service club:** Many of the 28 indicators set out for each of the four main paths were quite specific, so their achievement would be readily confirmable. For example, the first of the 28 was membership criteria; for the four paths, these criteria were set out as:

*Continuation* Criteria as at present, perhaps relaxed slightly – loosen meaning of “leader in their profession” to include “potential leader”

*Adaptation:* Corporate membership becomes widespread, with focus on Triple Bottom Line, Balanced Scorecard, Natural Step, etc.

*Model 2.75:* Anyone interested in furthering SC’s goals would be admitted to membership.

*Transformation:* Many different classes of membership, to accommodate anybody interested in furthering SC’s goals.

Confirmation of these changes would be a simple matter of examining the rules of each club, grouping clubs according to which of the four paths they had chosen.

**Barossa:** Since this study’s focus was on landscape values, images (both photographic and narrative) were the main outputs; for examples, see figures A4.7.2 and A4.7.3 in Appendix 4. Landscapes in these images could be regarded as scenarios, and outcomes tracked, by comparing later images of the same landscapes and comparing these with the environmental values articulated in the Barossa workshop. As one participant commented, anticipations “would need to be expressed more specifically if you were to evaluate whether they were achieved.

But the selection of photos gave a useful expression of what aspects of the future could mean.”

### Analytic induction

This criterion was confirmed in all cases, with no change its wording from analytic induction.

## 9.3 Execution criteria assessed at influence level

This section includes four execution criteria at the level of influence, implying changes in the outlooks of participants. The last (DE2) was also a design criterion, and was assessed on that basis in chapter 5.

- E3. The boundaries of uncertainty and plausibility are clarified.
- E4. Participants are satisfied with Process, feeling the activity was worthwhile.
- E7. Participants feel empowered and stimulated to act.
- DE2. The Process creates “future memory” to help prepare for later action, and participants gain more detailed perceptions of future possibilities and desired futures.

### 9.3.1 Criterion E3: Were the boundaries of uncertainty clarified?

Full wording	The boundaries of uncertainty and plausibility are clarified. Perceptions of extreme plausibility and implausibility have converged somewhat.
Data sources	Feedback from participants.
Supporting evidence	Participants report that, following discussions in the workshops, they are now more aware which aspects of the relevant future are more certain and which are less certain. Some futures that initially seemed implausible now seem more likely, and the seemingly inevitable now seems less likely.
Contrary evidence	Such awareness is not reported.

**Radio network:** This criterion had not been fully developed at that pilot stage, so was not an objective for the pilot case study. For RN, it cannot be claimed that this initial version of the Process was successful in this regard; if anything, participants seemed to come away from the workshops more confused than before about what they viewed as certain and uncertain. However, in terms of plausibility convergence, the Process was successful to some extent, particularly the discussion about Singapore buying part of Riau. None had heard of this idea,

and nearly all were highly skeptical at first, but they soon realized its plausibility, even though they did not like the idea of the consequential loss of their radio station at Tanjung Pinang.

**Engineering manufacturer:** This criterion was a primary focus during the main series of interviews, but as with the previous criterion, EM managers initially seemed to dismiss the concept of uncertainty, regarding future possibilities as either highly likely or highly unlikely. However, on follow-up I found that (as the study had foreshadowed), a major client, following a change of management, had decided to put out to tender the work that EM had been doing for many years. EM's managers had regarded this possibility as likely. The CEO commented "No, I think there was a degree of cockiness in there." In that sense, the issue was a boundary of uncertainty that had been explored, though not at first accepted as such.

**Iraq:** Not applicable, because there were no participants.

**Legal service:** This criterion was addressed in detail, in all workshops but the first. One of the main thrusts of this case study was to anticipate the commonwealth government's demands in relation to LS and its counterparts in other states, and much discussion was devoted to clarification of uncertainties. Because this was primarily consultancy work, with a clear objective, this case study focused more on such issues than did any other. On follow-up, a senior manager commented "Yes, it did that, it had the desired effect of legitimating change that was required and a direction that was satisfactory" - which was not quite relevant. The follow-up discussions provided no evidence that plausibility convergence had occurred. As with other organizations studied, participants had difficulty understanding this concept when asked about it as a direct question.

**Credit union:** One interviewee commented "No, but I don't think that's related to the methodology" - and later - "They are comfortable with not wanting to know what they don't know because they don't think it's important." However, I overheard several of the breakout groups discussing such issues intensively, with arguments over issues such as the likelihood of Islamic banking being offered in Australia. Going back to the original workshop data, some indirect evidence of uncertainty clarification was found: for example, executives who initially dismissed the concept of CU introducing Islamic banking ("We'd never do that") in a later session acknowledged that it would not be difficult to implement and may even have some advantages over the *crédit foncier* principle used by Australian lending institutions.

**Service club:** A representative comment on follow-up was that “Yes, I think people were clearer. I think a lot of it was thought-provoking and for each participant to hear what each other had to say, I think we achieved that – and we also found more uncertainty.” This must have referred mainly to the earlier workshops; during the construction of the four broad scenario paths, no time was spent actively exploring uncertainty. Plausibility convergence applied to the extent that “that some futures that initially seemed implausible now seem more so” – but the opposite did not apply. In particular, the possibility of the “Transformation model” which had seemed very implausible at first, now seemed within reach, and as discussed under criterion E10 below, implementation was under way.

**Barossa:** No, because this was only a partial case study. Its emphasis was on teasing out visions of the future rather than exploring the boundaries of certainty. Only in the last session (on sectoral preferences) was this issue touched on, and then only in passing.

### **Analytic induction**

In general, this criterion was not fulfilled. In fact, it was only for the two organizations with a clear need (EM and its uncertainties about the future of manufacturing in Australia, and LS and its uncertainties about how it would have to change to be eligible for commonwealth funding) that the issue was explored in detail. Reviewing the possible reasons for the failure of this criterion, the comments from a district governor in the SC case were relevant: that some participants did not want to clarify boundaries of uncertainty, preferring a pleasant fuzz to unpleasant knowledge. Reflecting on this comment, I realized that the standard design of SNM did not explicitly cover this issue. Though there was nothing to prevent such exploration in breakout groups, SNM, by avoiding the issue of probabilities, sidestepped this issue. Thus it was only in the two cases of specific need (EM and LS) that the issue was explored in detail. The other part of this criterion concerned plausibility convergence. It turned out to be not possible to assess whether perceptions of extreme plausibility and implausibility had converged – largely because most participants had difficulty understanding this concept, even after it was explained several times.

Thus the analytic induction statement from this criterion is

**E3a:** Because the SNM process was not designed to include explicit discovery of certainties and uncertainties, the boundaries of uncertainty and plausibility were generally not clarified.

### 9.3.2 Criterion E4: Did participants find the activity worthwhile?

Full wording	Participants are satisfied with Process, feeling the activity was worthwhile.
Data sources	Attendance data, evaluation questionnaires.
Supporting evidence	Participants keep turning up. Positive spontaneous comments in evaluation questionnaires.
Contrary evidence	Many participants drop out.. Negative comments in evaluation questionnaires.

**Radio network:** Because this was only one session in a two-week series in media research, there was no specific session evaluation (though ratings of the entire series were high, averaging 8.3 on a 10-point scale). Also because there was only one session, continuing attendance data was not relevant. However, in the evaluation for the course itself, some participants mentioned this session as one of the highlights of the whole course.

**Engineering manufacturer:** During the initial round of interviews, most participants seemed to be satisfied, but some (the middle managers) seemed to consider it a mild waste of their time. They tolerated the first few interviews, but did not encourage an extended discussion. The exception – who made up for the rest – was the chairman, who was highly interested in the futures of EM, and despite the demands on management time, encouraged me to return for a final total of 11 interviews (though only five were originally scheduled). However, in a follow-up interview, the CEO (who had initially been very skeptical about the value of the process) thought aloud: “Would we want to do it [the Process] again? Do I want to? No. Should I? Probably yes.”

**Iraq:** Not applicable, because there were no participants as such, only a handful of people who offered occasional advice.

**Legal service:** A typical comment on follow-up was “Mostly, but the re-examination of the past was redundant, as T— said.” In fact, it was not only T— (a former Board chair) who made that comment, but several others as well. In retrospect, I and the facilitators probably misjudged the mood of the group: it seemed that in this first-ever study of LS’s future they had hoped to set past problems behind them, and not rake over old problems yet again. Beginning with the past may have been partly responsible for the comparative failure of the

first workshop. Apart from that problem, the answer to this criterion was a clear Yes, simply because most kept turning up to the later workshops.

**Credit union:** In open-ended comments made following the workshops, the most common comments were “useful”, “interesting”, “enjoyable,” and “looking forward” (to the next workshop, or later outcomes). The 36 comments (some respondents made more than one) included no negative adjectives. The follow-up interview revealed that nobody had complained that the two days were a waste of their time. On the other hand, as pointed out by one participant, “Nobody’s said anything like ‘Gee whiz, we found the Holy Grail.’” Also, several participants failed to turn up for the second half-day session in one set of workshops, giving pressure of work as a reason.

**Service club:** Yes, because everybody continued to turn up, even though the workshops were held on Saturday mornings. The (anonymous) evaluation questionnaires included no negative comments, nor were any regrets expressed.

**Barossa:** The organizer of the workshop sent an email questionnaire to participants a few days after the workshop, asking them to rate its relevance, effectiveness, efficiency, and usefulness (not further explained) on a scale ranging from 0 to 10. Though only 4 of the 19 participants responded, the mean scores were 9.5, 8.0, 8.5, and 9.2 respectively; an overall average of 8.8. With 10-point satisfaction scales tending to average around 7.0 (Anderson and Fornell, 2000), this is a high figure. In the standard open-ended evaluation questionnaire, no comments were made that indicated dissatisfaction, except one related to the long duration of the workshop – though a related comment was “Whilst it was a long day, the photos and workshop atmosphere were rewarding.”

### **Analytic induction**

Criterion E4 received a mildly positive response on the whole, and nearly all participants kept turning up to workshops. Thus the original wording of this criterion can be confirmed.

### 9.3.3 Criterion E7: Did participants feel empowered to act?

Full wording	As a result of the process, participants feel empowered and stimulated to act to carry the work forward.
Data sources	Feedback from participants. Record of meeting.
Supporting evidence	Participants report feeling empowered and stimulated. Follow-up plans are discussed at final meeting.
Contrary evidence	Participants do not report feeling empowered and stimulated. No follow-up plans discussed.

This criterion applies when the participants' completion of a futures study imparts to them a sense of empowerment.

**Radio network:** Judging from comments at the end of the two-week course: mainly not. Participants felt that the issues were too abstract and remote from their daily life, and they did not believe that they could influence RN on policy issues. This may almost always be the case when relatively junior staff deal with large-scale issues, particularly those on which they are not well informed.

**Engineering manufacturer:** As EM was a small private company, and the respondents in the interviews included EM's directors and top managers, they were already empowered, and knew it. The process can thus hardly have added any sense of empowerment. As for the other point, "stimulation," this was designed for use with the scenario workshops, but as this case used interviews rather than workshops, it does not apply to EM. However, on follow-up, the study was reported as one of the factors behind the decision to continue the development of EM's revolutionary electric motor. The CEO had severe doubts about this in the original 2003 study, but in mid-2005 had accepted that despite the development costs (around 5% of EM's annual turnover) the electric motor was essential to EM's long-term future.

**Iraq:** Not applicable; no stakeholders were involved, so there were no participants in a position to act on the findings.

**Legal service:** Clearly yes, because they *did* act, without delay. Follow-up plans were discussed at the final meeting, Scenario 2 (changing the board structure and the constitution) was implemented, and a new constitution formed for LS. Despite a number of sequential steps being involved, this was completed three months after the final workshop.

**Credit union:** In general, no. The climate in the workshops was not one of impending action – in contrast with several other cases, which were seeking change. Some follow-up plans were discussed at the final meeting: the formation of a small working group to further develop some of the issues raised. However, this was set aside due to pressure of other work. On follow-up a year later, the strategic planning manager answered this question with a clear “No,” but added “ – but I don’t think we’ve finished the process.” Despite these few positive indications, it was clear that this question could not be answered positively for participants as a whole.

**Service club:** For a minority, this was clearly the case; for example “Tony R— took it [a report on the Process at SC] to a workshop in Queensland because he was so excited by it.” (Follow-up interview with one outgoing district governor, 9 months later.) However for most participants, no evidence of feelings of empowerment could be found, and in some cases the contrary applied. The same interviewee reported of one group of participants from a very conservative club, “I think the scenario planning made them feel threatened. The notion of trying something radically different was threatening to them and they were trying to hang on. They were in denial.”

**Barossa:** Results were mixed. On follow-up 9 months later, positive answers included “Yes - it reinforced the importance of assessing and prioritising landscapes in the region so that the most valuable and sensitive can be better protected. Another participant commented “No, but this is a big ask.” Still another replied “It made me more aware of the actions that are necessary” – which reflected the opinions expressed in the discussion at the end of the workshop. In brief, there was no unanimity in this case, partly because the single workshop was not intended to be complete in itself.

### **Analytic induction**

The most comprehensive statement that can be made on this criterion is:

**E7a:** As a direct result of the process, a few participants felt empowered and stimulated to act to carry it forward – but those few felt highly empowered and stimulated.

### 9.3.4 Criterion DE2: Did participants gain clearer perceptions of possible and desired futures?

Full wording	Participants gain more detailed perceptions of future possibilities and desired futures. The Process creates “future memory” to help prepare for later action.
Data sources	Feedback from participants: after workshops, and on follow-up.
Supporting evidence	Participants say that futures were described in enough detail to enable them to know whether they were occurring.
Contrary evidence	Participants do not make such a statement.

To the extent that this criterion was met, the Process would have captured users’ imaginations, with evocative narrative, and they would have remembered the scenario paths on follow-up.

**Radio network:** This aspect was not covered in the course evaluation, nor specifically mentioned in the open-ended responses. It was difficult to find out from participants informally, because most spoke little or no English, and I spoke even less Bahasa Indonesia.

**Engineering manufacturer:** This criterion was partly supported. On follow-up, a manager mentioned that “by going through your process, it asked questions that we previously hadn’t considered.” However, because the event chains from the midcasting were not detailed or vivid enough, the Process did not address, on an operational level, how EM management could perceive the early warnings from the 11 surprise situations. On follow-up the directors had formed a much clearer perception of EM’s future: “ideally, we’d transfer to being an R & D centre” - instead of, as at present, a manufacturer. As with other criteria for EM, the fulfilment of DE2 was delayed, being much more evident on follow-up in 2005 than during the original study in 2003.

For the electric motor: the Process clearly captured the imaginations of the chairman and the CEO, given the time and effort they spent disagreeing and finding fault with the “surprises” in the midcasting. The Process thus perhaps aided in forming clearer perceptions of possible futures for the motor.

**Iraq:** This would apply only to myself, as developer of the scenario network. Result: perceptions were only a little clearer, because the holons were not detailed enough. The holon *Iraq becomes a troublesome US colony* could have been explored in much more detail.

**Legal service:** On follow-up, the main organizer in LS answered an unqualified “Yes” to this question, as the thrust of the workshops had been toward making such perceptions clear. For the Board to renew its structure (abolishing the positions of most of the members) such perceptions were essential. As LS would have probably ceased to be funded if the restructuring had not occurred it was essential for all participants to foresee the consequences of the range of likely futures.

**Credit union:** One participant commented “Unless you have a strong dream it won’t happen; [you must] believe that something long-term can actually be planned for.” It was pointed out to me that the nature of the Australian finance industry is such that major changes cluster in a short period, followed by long periods of no change – for example, the sale of all the state governments’ insurance agencies in a few years around 1990. Thus the normal situation in that industry is “punctuated equilibrium” (Eldredge and Gould, 1976), with the industry at the time of the study (and since) in a situation of no substantial change. As such, participants felt no sense of urgency, answering this question with responses such as “Not really” – because, as a senior manager commented, “They were not particularly interested in doing so.”

**Service club:** Until the fourth workshop this criterion would clearly not have been satisfied, but in the final (fifth) workshop, the pieces seem to have come together for most participants. Evidence of this was the small number of participants (only 3 out of 20) who opted for a version of the status quo for SC, while all the others participated in creating vivid narratives about their imaginary visits to a SC club in 2025. Of all the case studies, this was the most successful in meeting this criterion.

**Barossa:** Though the key purpose of this workshop was to explore visions of the future for the Barossa Valley, the issue of creating “future memory” was hardly relevant, because no scenario network has yet been created at the time of writing (the project is still incomplete, with funding being sought). As one participant commented, nine months later, “Think a follow up workshop dedicated to this may be useful.” This criterion is thus, in the circumstances, not applicable.

## Analytic induction

Though it may seem obvious that the creation of a scenario map would itself be evidence of clearer perceptions of possible and desired futures, there was little evidence – particularly on follow-up – that this had been achieved. It was not that the negative applied, or that no perceptions were clarified, but that the effect was very weak. Since the only successful applications of this criterion were for LS and SC, the following statement is formed from those two cases, discarding data from the other five.

**DE2a:** When participants felt a clear threat to the future of an entity they valued, the Process created “future memory” to help prepare for later action, and participants gained more detailed perceptions of future possibilities and desired futures.

## 9.4 Execution criteria assessed at the application level

This section covers the last four execution criteria, which were assessed mainly during the follow-up phase. All of these criteria are satisfied when some appropriate action is able to be taken as a direct result of the Process. The guiding principle is “readiness for action” rather than simply “action taken” because a suitable situation may not yet have arisen, or other factors may have intervened.

E6. The output is directly usable by the entity.

E8. As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, and more adaptable to change.

E9. The broad situation was anticipated.

E10. The Process results in action for change: in the entity, or in participants’ behaviour.

### 9.4.1 Criterion E6: Was the output directly usable by the entity?

Full wording	The output is directly usable by the entity.
Data sources	Feedback from participants and entity managers.
Supporting evidence	Report that at least some aspects of the output are directly applicable.
Contrary evidence	No such report.

This criterion applies at the conclusion of the casework, and applies when participants who were members of the entity agree that they can make direct use of the output of the futures

work. The relevant word is “usable” rather than “used” because other circumstances may have prevented the output being used. Such circumstances were explored in the follow-up sessions.

**Radio network:** No, because it was cast at a level beyond the entity’s direct control – to do with ownership of RN and the like; only the Indonesian government would have been able to use the output.

**Engineering manufacturer:** In one specific sense, the output was highly usable: the reason for EM requesting a report from me was to show it to their bank, to help in getting a loan. (However, after seeing the report, according to the CEO, “the bank did a big yawn” – so though the report was used, it did not in the end prove useful for that purpose.) Looking more broadly, the report was useful because it was used: in other words, criterion E10 (action for change, discussed in section 9.4.4 below) subsumed criterion E6. If E10 applies, E6 will also apply, which it did in the case of EM.

**Iraq:** Not applicable; because no entity commissioned the work, no effort was expended to make the output usable by any specific party. Also, the real entities involved (such as the US military) would have access to far more detailed views

**Legal service:** The information was highly usable, largely because the workshops had been designed for that purpose. Its usability was confirmed by its actual use: within a few months, LS had succeeded in changing its constitution, as a direct result of the workshops, as noted in the discussion of criterion E10, below.

**Credit union:** The output was clearly usable, though it had not yet actually been used. On follow-up, one senior manager commented “I wouldn’t mind going back through all those little tools to see if we can make use of some of that” – though this was a reference as much to the methodology as to the findings. A related comment was “When the new staff member turns up, I’ve got this on the list to fire up.”

**Service club:** At participant level, this criterion could hardly have been more successful. All of the 9 participants who filled in questionnaires at the final session (many did not, leaving early because the session had run over time) said they would be making changes. These ranged from specific changes to meetings (“less ritual, more discussion time, more stimulating speaker topics”) to the systemic (“motivate them to undertake change on a gradual basis...this may take many guises, but encouraging ‘ownership’ in change”). On follow-up, at club level,

this was true for some clubs: those that were ready for change. A report was circulated to all clubs, “but not all presidents have been through it because of the centenary celebrations.” Note that in this case there was no real entity, but a loose confederation of clubs. For most clubs, their only involvement had been receiving the report on the workshops.

**Barossa:** Not applicable, because (a) the output of this preliminary session was not designed to be directly usable, and (b) since the entity was the physical environment of the Barossa Valley, the only participants who could have used the findings were the few government officials involved in regional planning.

### Analytic induction

Taking account of the lack of usability in the case of RN, the criterion can be reworded thus:

**E6a:** The output was directly usable by the entity, when cast at a level that the entity could use.

### 9.4.2 Criterion E8: Did the entity become more future-oriented?

Full wording	As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, and more adaptable to change.
Data sources	Feedback from participants and entity managers (the latter need not have been present at the workshops).
Supporting evidence	Majority agreement, and details provided, e.g. evidence of extended time horizons.
Contrary evidence	No majority agreement, or unable to specify any details.

This criterion relates to the entity as a whole rather than individual participants. It can almost be taken for granted that the latter would become more future-oriented, after spending several days thinking about the future – but for the entity itself to become more future-oriented would involve some observable change. The wording is not intended to imply that the Process itself is solely responsible for change; the multiple-cause axiom (chapter 4) always applies.

**Radio network:** Due to follow-up not being possible, this was not able to be established - but probably not. The Process was too rushed; it comprised only one day in a two-week audience research course that mostly encouraged convergent thinking and analytical skills. However,

this criterion was not expected to apply to this pilot study: it would have been far too much to expect.

**Engineering manufacturer:** Clear evidence was found for this criterion had been achieved. In particular, the company's planning horizon, which in the initial interviews had been stated as one year, was now much extended. The CEO, in his follow-up interview, stated "Yes, now I'm looking three to five years ahead.... I'm probably more focused on the future than I was back then." He attributed this change partly to the Process, and partly to events as they had turned out for EM in the two years between the case study and the follow-up. He did not mention the obvious fact that in 2003 his attentions had been focused on operational issues: specifically, "bedding down" the large contract for making engine parts for lawnmowers.

**Iraq:** Not applicable, because the entity was the conflict, not a social group, and no stakeholders were participants in this study.

**Legal service:** Yes, on the whole. The first workshop, covering the past of LS, showed that after a high point in its founding years in the 1970s, almost nothing had changed at LS, despite high staff turnover. Following these thesis workshops, the management re-contacted me, asking me to facilitate some further workshops, comparing the (unchanged) statement of objects in the new constitution with the activities that LS was currently undertaking, with a view to changing emphasis from criminal cases to family and civil law, to a new focus on crime prevention rather than simply representation. This was clear evidence of a change of orientation towards the future. However, in the follow-up, one senior manager provided an alternative view: "No, it is still strategic in the extreme – people are not open, they are strategic" – as if participants were more future-oriented as long as it served their purposes at the time, but later became less future-oriented.

**Credit union:** The general response on follow-up was "no" – but the organization was already future-oriented to an above-average level, as evidenced by its prior involvement in a joint credit union scenario study several years previously. One participant's comment was that the lack of change had been partly due to the selection of participants for the workshops: "I'd do some sort of psych filter on the senior decision makers first [to select participants] then adapt it down to a five year thing, then they'd get some value out of it."

**Service club:** Yes, at district level, and for clubs that were already more future-oriented – for example, those that already had strategic plans. Thus the process increased the difference

between clubs, with the previously more future-oriented becoming more so, and the less future-oriented not changing. But these were the immediate results (7 months later). The longer-term result expected by one district governor was that the more conservative clubs would eventually be led to reform by the more progressive clubs.

**Barossa:** Though this entity is not an organization, some of the participants became more future-oriented in their own organizations. Several participants came from a local government authority, which soon afterwards appointed a Sustainable Futures Officer, who re-used some of the visual materials in her work, and (at the time of writing) is planning to continue the futures work of which this Barossa case was the first stage. Another of the participants was from a government planning agency, which followed up the image comparison session in the workshop with a large-scale online survey in which respondents assessed the landscape values of photographs of the Barossa. On those two grounds, this criterion must be regarded as having been accomplished in this case study.

### **Analytic induction**

Drawing together the above findings, the conclusion was weakly positive – with the proviso (bearing in mind the CU experience) that:

**E8a:** The entity became more future-oriented as a result of the Process, more accepting of divergent thinking, and more prepared to adapt to change – provided that participants were in a position to enable this to happen.

### **9.4.3 Criterion E9: Was the broad situation anticipated?**

Full wording	The broad situation was successfully anticipated.
Data sources	Ask participants: “Where are you now, on the scenario map?”
Supporting evidence	Success if the current position can be found on the original map.
Contrary evidence	Current position does not exist on the scenario map.

This criterion means that the broad situation of the entity at the time of follow-up is clearly locatable as a holon on the event-level scenario map that was produced in the original workshops.

**Radio network:** The broad situation in 2003 was correctly anticipated (RN was still a single entity, wholly owned by the government) but this knowledge was not particularly useful. The morphological hierarchy created for this study did not cover a slow decline in central government funding, with consequent loss of capabilities – though in retrospect this was entirely predictable from international comparisons (an equivalent situation in Australia is a major reason for the existence of this thesis, as noted in chapter 4, section 4.4.2).

**Engineering manufacturer:** On follow-up, the morphological futures wheel for EM as a company (Table A4.2.2 in Appendix 4) partly covered the situation. Scenario path 7 (“drop an existing industry”) had been used, with the sale of EM’s electroplating plant. Path 1 (“consolidate recent expansion”) was almost complete, with the introduction of some lean manufacturing approaches. However, what that futures wheel did not cover (due to what might be called a “morphological blindness” related to the selection of variables) was the decline in the market for lawnmowers and the consequent loss of business for EM in manufacturing engine parts. EM’s turnover had fallen from \$A12 million in 2003 to less than \$A9 million in 2005. That broad situation had certainly not been anticipated, because the futures wheel had been focused on activities rather than outcomes.

For the electric motor, situation 2B1 in Figure A4.2.1 of Appendix 4 applied, two years later: the development was continuing, on a larger scale, still internally funded. Turning from the morphological division to a broader assessment of the electric motor, the situation had been accurately anticipated: further technical development, investigations of possible markets (though no manufacturing agreements had yet ensued), and further work on IP protection, with at least six patent application in train.

However, as the CEO noted, the Process “was interesting for what it told us [but] it was [also] interesting for what it didn’t tell us [for example] the Chinese syndrome.” By that, he meant the huge growth of the Chinese economy, which had resulted in greatly increased prices for EM’s raw materials, such as brass and copper. The 11 midcast surprises did not include either a large increase in raw material prices (though they did include a likely consequence: “Engineering plastics replace many of the small metal parts that EM produces”). Nor did they include any mention of Chinese manufacturing replacing Australian - though again, one midcast possibility was “Sustained 30% increase in value of Australian dollar.” For both of these examples, the situation was thus indirectly anticipated. had the midcast surprises been incorporated in the scenario map, as was done for later cases, the possibility of the “Chinese syndrome” would have been much more obvious.

**Iraq:** This criterion was achieved very explicitly: “Iraq becomes a troublesome US colony.” But as noted in section 9.2.4 above, perhaps a more focused situation could have been anticipated, with more detail on in what exact ways Iraq would become troublesome.

**Legal service:** Criterion E9 succeeded on the initial terms of engagement, because this was a very short-term anticipation. However shortly after the constitution was changed, major changes occurred in the regulatory environment of LS. The federal agency that had funded it was abolished, and its functions transferred to the Attorney-General’s Department, in line with the federal government’s “mainstreaming” of indigenous services. In hindsight, warning signs had been present for at least a year. I was unaware of these, but the staff of LS, in follow-up interviews, mentioned that they had been aware that some large change was impending. In practice, the main difference this made to the outcome for LS was that its tender process was delayed considerably.

**Credit union:** The general position was seen as unchanged since the workshops 18 months earlier. However, this was so broad that a major upheaval would be required for the general position to change.

**Service club:** Not fully applicable, because this study was completed only six months before the completion of this thesis, and nothing had yet changed. However, in a follow-up interview, one district governor remarked “Yes, we are on the way from model 1 to model 3” (where model 1 was the stability path, and model 3 was the transformative path, described in table 9.5 above and chapter 8, section 8.7).

**Barossa:** Insufficient time had elapsed: this was a 20-year vision, with fieldwork carried out only nine months before completion of this thesis. In that time, there was no clear change in the environment of the Barossa Valley.

### **Analytic induction**

Given the limitations and caveats discussed above, the broad situation was successfully anticipated – at least, for the interim. Thus the wording of this criterion does not need to change.

#### 9.4.4 Criterion E10: Did the Process result in action for change?

Full wording	The Process results in action for change: in the entity, or in participants' behaviour.
Data sources	Ask participants and entity managers (the latter need not have been at workshops).
Supporting evidence	Reports of some improvement due to the Process.
Contrary evidence	No reports of any improvement due to the Process.

Note the wording: “action for change” rather than simply “change.” The intended distinction is that for external reasons, unrelated to the Process, action for change may not produce change. (A duck paddling upstream on a fast-flowing river is undertaking action for change, even if she does not move relative to the riverbank.)

**Radio network:** The pilot use of the Process in this case was part of a larger program, involving training broadcasters in more democratic approaches to political information – such as talk-back radio programs. This did occur, but it cannot be said that it was a direct result of the Process. Whether there was any differential effect between Riau (where the Process was tested) and other provincial offices involved in the same program cannot be assessed, but there is no reason to believe that less than one day in a two-week program would have made a measurable difference. Nor, as a pilot study of feasibility, was it expected to achieve that.

**Engineering manufacturer:** As the CEO commented in a follow-up interview (after a long pause), “I guess the answer is yes... I guess we got out what we put in, it’s just you gave it back to us.” Expanding on that, he commented “We pulled out [your report] 12 months after, and looked at what we’d seen, what we’d expected and ... from this, it told us to get out of [EM’s old factory], to get out of the electroplating business. That’s what we had to do anyway. We went through that process. It was very unpleasant...” In fact that report did not “tell” EM to get out of its old factory and sell the electroplating business, though these possibilities were discussed. So for EM, this criterion could be rephrased as “the Process resulted in action for change a year later, based on participants’ interpretation of the report.”

**Iraq:** No, but in the absence of stakeholder involvement, the study could not have had any measurable effect.

**Legal service:** This criterion was fulfilled very strongly. The SNM experience was mentioned as the main impetus for the success of the new constitution. Confirming this, a note from the Senior Counsel of LS, sent to several others and myself, and dated 2 December 2003, stated:

I write to inform you that the AGM of [LS] held in Adelaide on 28th November 2003 approved constitutional amendments that substantially adopted ‘scenario 2’ as determined by the [LS] change workshops. Our thanks go specifically to Dennis List and David, and also to Bobby and James for their work in facilitating Dennis’s participation and assistance.

(David was the main facilitator; Bobby and James were intermediaries, through whom LS found me.) Though the reason for the organization commissioning the workshops was that it foresaw the need for change, senior management expressed pessimistic views about the possibility of the workshops leading to constitutional change. In that context the Process was unexpectedly successful – though the change of constitution would also have had other precipitating factors.

**Credit union:** On follow-up, the credit union had not carried out any action for change as a direct or indirect result of the Process. Nor had it changed in any other substantial way in the intervening year. However, as no clear direction for change emerged in the workshops, it can be argued that this criterion should be extended: to note that one indicator of success is that the entity takes no action for change, when no clear benefit emerges from the workshops.

**Service club:** Yes, very clearly. A follow-up interview with a district governor six months later revealed that substantial work had been put into place in several clubs, moving them towards the “Transformation model.” Also, new partnerships had been formed with several educational bodies as a direct result of the workshops. SC has long sponsored young people on international exchange visits, and this move to closer relationships with educational organizations was seen as a way of increasing awareness of SC among young people.

**Barossa:** The follow-up came only nine months after the case study, and the focus was on landscapes, which change very slowly. However one of the local councils had appointed a new Sustainable Futures Officer, who at the time of writing is engaged in a program of visiting schools and repeating the image-selection process with school students. Several follow-up comments also indicated action:

- “It reinforced the sense of urgency and need for the Landscape Assessment project that we were discussing in government circles. And a commitment was made to do this work.”

- “A wine industry impact study is being reviewed, landscape assessment project commenced, and regional planning group established.”

Thus, even though this was only the first workshop of a planned series, five actions resulted from it - though, as always (following the multiple-cause axiom in chapter 4) this workshop cannot have been the sole impetus.

### **Analytic induction**

The relevant question here was: in what circumstances did action for change arise as a direct result of the Process? Setting aside the radio network (for which no information was available) and the Iraq case (for which there was no Process), clear action for change had arisen in each other case. However it was not possible to separate causes from effects. All five entities recognized a need for change: one reason why they agreed to participate. What the Process perhaps achieved was to guide that change, by illuminating the possible consequences of various choices. Thus a revised criterion would be that the Process resulted in better-considered action for change – which of course immediately raises the question of how we can be certain that the action was indeed better considered. This issue could be resolved only in retrospect, by statements such as “if we hadn’t done those scenario workshops and had gone ahead with the action we had first planned, we’d be facing disaster now.” However the circumstances in which such statements could be made with clear knowledge might not be at all frequent.

The legal service and service club cases were highly successful in terms of this criterion – but a supporting reason in those two cases was a pre-existing impetus for change. The scenario workshops helped in providing direction to that change. But oddly, both cases resembled the above-mentioned duck, in that the end result of the change would be that each organization would be able to continue as previously. A perceived need for change in inputs was intended to result in no change in outputs: the resumption of the previous status quo. (The same applied in the Barossa case.) These findings can be expressed in terms of the Leaf of Goals: that the actions made for change in the (horizontal) centre of the leaf allowed long-term objectives to remain attainable.

Given the above considerations, the statement re-formed through analytic induction is:

**E10a:** The Process resulted in action for change in the entity, if that entity was already prepared for change. In particular, the process resulted in change in behaviour when participants were both impressed by their experience in the Process and when they perceived an achievable path to a desired change.

## 9.5 Overview and comparison of findings

The following table summarizes the achievement of execution criteria for each case. Notations are: \*\* = yes, fully achieved; \* = partly achieved; - = not achieved; .. = not applicable, or information not available. Italicized letters (*a* and *b*) refer to footnotes below the table.

TABLE 9.7 CRITERIA ASSESSED DURING CASEWORK

Case...	RN	EM	Iraq	LS	CU	SC	Barossa
<b>Effectiveness level A: implementation</b>							
E1. The purpose of the futures work is made explicit to all involved.	*	**	.. <i>a</i>	*	**	*	**
E2. Participants' initial assumptions are challenged, focus broadened, and their perceptions reframed.	**		.. <i>a</i>		*	**	*
E5. Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.	**	**	*	-	*	**	**
DE1. Workshop participants include all major stakeholder groups, covering all likely impinging systems.	-	*	.. <i>a</i>	-	*	**	*
DE3. Anticipations are expressed specifically enough that they can be tracked and confirmed.	**	**	**	**	**	**	*
Summary of level A: occurrence (% of potential)	70	80	75	30	70	90	70
<b>Effectiveness level B: influence</b>							
E3. The boundaries of uncertainty are explored and clarified.	*				-	*	..
E4. Participants are satisfied with the Process, finding the activity worthwhile.	**	**	.. <i>a</i>	**	*	**	**
E7 Participants feel empowered and stimulated to act.	-		.. <i>a</i>		-	*	*
DE2. Process creates "future memory"; participants gain more detailed perceptions of future possibilities and desired futures.	..		.. <i>a</i>		-	*	..
Summary of level B: influence (% of potential)	50	50	..	75	12	62	75
<b>Effectiveness level C: application</b>							
E6. The output is directly usable by the entity.	-	**	.. <i>a</i>	**	**	*	..
E8. As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, and more adaptable to change.	..	**	.. <i>a</i>	-	-	**	**
E9. The broad situation is successfully anticipated.	**	*	*	*	**	.. <i>b</i>	.. <i>b</i>
E10 The Process results in action for change: in the entity, or in participants' behaviour.	..	**	.. <i>a</i>	**	-	**	**
Summary of level C: application (% of potential)	50	87	50	62	50	83	100

*a.* Almost impossible to have occurred: the relevant entities were not involved with the Process.

*b.* E9: For these cases, follow-up occurred too soon for broad anticipation to be relevant.

Entries in the above table are conservative: two stars were awarded only when the evaluation yielded an unequivocally positive answer. By averaging the number of stars across the relevant cells in each column, an index of success can be obtained for each criterion. For each effectiveness level, an average percentage is shown – intended only as a crude summary enabling patterns to become more readily visible; precise measurement is not implied.

TABLE 9.8 OVERALL SUCCESS OF PROCESS BY EXECUTION CRITERIA AND LEVEL

Criterion (original wording)	Average stars (range: 0 to 2)	Relevant cases
<b>Effectiveness level A: implementation</b>		
E1. The purpose of the futures work is made explicit to all involved.	1.5	6
E2. Participants' initial assumptions are challenged, focus broadened, and perceptions reframed.	1.2	6
E5. Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.	1.4	7
DE1. Workshop participants include all major stakeholder groups, covering all likely impinging systems.	0.8	6
DE3. Anticipations are expressed specifically enough that they can be tracked and confirmed.	1.9	7
Average for level A	<b>1.4</b>	
<b>Effectiveness level B: influence</b>		
E3. The boundaries of uncertainty and plausibility are explored	0.6	5
E4. Participants are satisfied with the Process, finding the activity worthwhile.	1.8	6
E7. Participants feel empowered and stimulated to act.	0.7	6
DE2. Process creates "future memory"; participants gain more detailed perceptions of future possibilities and desired futures.	1.0	4
Average for level B	<b>1.0</b>	
<b>Effectiveness level C: application</b>		
E6. The output is directly usable by the entity.	1.4	5
E8. As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, more adaptable to change.	1.2	5
E9. The broad situation is successfully anticipated.	1.4	5
E10. The Process results in action for change: in the entity, or in participants' behaviour.	1.6	5
Average for level C	<b>1.4</b>	

Bearing in mind that the above averages are not highly meaningful, they are still useful for making comparisons between criteria, effectiveness levels, and cases. Table 9.8 suggests that the weakness of SNM is at the Influence level, for which the only criterion to be satisfied to some degree for all cases was participant satisfaction (E4). There was no clear evidence that the other three criteria at this level were consistently supported. At Implementation level, the Process performed better; had it not been for the weakness in stakeholder representation (with the problem largely overcome in the last two cases, as noted in section 9.2.4 above), it would have been better still. At Application level, the Process also did fairly well, with the weak point here being E8: the entity becoming more future-oriented. However, as one participant noted, this is a "big ask" – expecting an organization to become more future-oriented simply as a result of four half-day workshops was not a realistic expectation.

Looking toward an improved version of the Process, the next table examines the outcomes of the analytic inductions.

TABLE 9.9 CRITERIA BEFORE AND AFTER MODIFICATION THROUGH ANALYTIC INDUCTION

	Original wording	Revised wording
<b>Effectiveness level A: implementation</b>		
E1	The purpose of the futures work is made explicit to all involved.	For each entity involved, the purpose of the futures work was made clear to all participants – but some were not satisfied with that purpose, and wanted to finish with an action plan.
E2	Participants’ initial assumptions are challenged, focus broadened, and perceptions reframed.	Participants’ initial assumptions can be challenged, their focus broadened, and their perceptions reframed – provided that they are ready for this, either initially or through changed circumstances.
E5	Each possibility is explored with equal attention, not neglecting any that seem awkward or inconvenient.	Facilitators attempted to ensure that each possibility was explored with equal attention, not neglecting any that seem awkward or inconvenient. However many participants had a clear preference for one particular path, and focused much more on that than on the other paths.
DE1	Workshop participants include all major stakeholder groups, covering all likely impinging systems.	Workshop participants included all major stakeholder groups only when very strong steps were taken to include them, and when no direct competitors were involved,
DE3	Anticipations are expressed specifically enough that they can be tracked and confirmed.	<i>No change in wording needed.</i>
<b>Effectiveness level B: influence</b>		
E3	The boundaries of uncertainty and plausibility are clarified.	Because the SNM process was not designed to include exploration of certainties and uncertainties, the boundaries of uncertainty were normally not explored and clarified.
E4	Participants are satisfied with the Process, finding the activity worthwhile.	<i>No change in wording needed.</i>
E7	As a result of the Process, participants feel empowered and stimulated to act to carry it forward.	As a result of the Process, a few participants felt empowered and stimulated to act to carry it forward – but those few felt highly empowered and stimulated
DE2	Process creates “future memory”; participants gain more detailed perceptions of future possibilities and desired futures.	When participants felt a clear threat to the future of an entity they valued, the Process created “future memory” to help prepare for later action, and participants gained more detailed perceptions of future possibilities and desired futures.

TABLE 9.9 (CONTINUED)

	Original criterion	Revised statement
<b>Effectiveness level C: application</b>		
E6	The output is directly usable by the entity.	The output was directly usable by the entity, when cast at a level that the entity could use.
E8	As a result of the Process, the entity becomes more future-oriented, more open to divergent thinking, more adaptable to change.	The entity became more future-oriented as a result of the Process, more accepting of divergent thinking, and more prepared to adapt to change – provided that participants were in a position to enable this to happen.
E9	The broad situation is successfully anticipated.	<i>No change in wording needed.</i>
E10	The Process results in action for change: in the entity, or in participants' behaviour.	The Process resulted in action for change in the entity, if that entity was already prepared for change.

Of the five criteria at implementation level, only one (DE3: anticipations expressed clearly enough to be trackable and confirmable) remained unchanged. The other four were all qualified, applying only in certain situations, or to certain types of participants. Among the four criteria assessed at influence level, one remained unchanged, and two were qualified by applying only among certain participants, or only in certain conditions. The other (E3: “The boundaries of uncertainty and plausibility are clarified”) was not supported at all, largely due to a design fault in the Process. Of the four criteria at application level, one remained unchanged, and the other three were qualified in some way, operating only in particular situations. In summary, of the 13 criteria set up to evaluate the Process, three were confirmed without change, one was not confirmed at all, and the other nine were qualified, applying only in particular situations.

Two observations for the further development of the Process flow from the above discussion:

Criterion DE2 (creating “future memory”), as noted above, is probably an unrealistic expectation for a Process involving only four half-day workshops. If this criterion is to be taken seriously by an organization, a Process such as this may begin it, but only as part of a systematic program of cultivating foresight and futures thinking. This would be an interesting and useful program to develop, but it is outside the scope of this thesis.

Criterion E3: “The boundaries of uncertainty and plausibility are clarified.” Given the importance of this criterion, as established in chapter 3, rather than simply give up on it, further

work could be done. This would involve both modifying the Process to help this clarification occur, and developing clearer means of verification that it has occurred

### 9.5.1 Overall evaluation of the Process for each case study

It is instructive to consider each case study as if its project had been self-contained. If the Process steadily improved, on application of the action research cycle, and each case were successively more successful (in terms of the above execution criteria) this would serve as evidence that the development process was an effective one. However, because of likely random variation between cases, it should not be expected that the success curve – if success could be reduced to a single continuous variable – would show a smooth increase.

The following table, matching Table 9.8, compares each case, again averaging out the number of stars from Table 9.7. No stars means “no evidence that criterion was fulfilled at all”, one means “partly fulfilled,” and two means “strongly fulfilled.”

TABLE 9.10 OVERALL SUCCESS OF PROCESS BY CASE

Case	Average stars (range: 0 to 2)	Relevant criteria (of 13)
Radio network	1.2	10
Engineering manufacturer	1.5	13
Iraq war	1.3	3
Legal service	1.1	13
Credit union	0.9	13
Service club	1.6	12
Barossa Valley	1.6	9

There was no clearly discernible trend throughout the project, except that the two cases with the most satisfactory outcomes were at the end. Comparing the above scores with my own holistic perceptions, it was surprising that the credit union and legal service cases came out so poorly. The LS case had seemed to be highly successful in its own restricted way (though not so useful for the development of the Process), while the CU case had also worked well - except that the credit union had not used the findings. In summary, the Process can be regarded as moderately successful in achieving satisfactory outcomes for clients.

The following paragraphs note the success of each case, in two key respects: (a) the effects of the Process on the subsequent success of the entity, and (b) the contribution of the case to the further development of the Process.

**Radio network:** Many of the execution criteria either did not apply in this case or could not be assessed. The key methodological question asked of this study was “Is this proposed Process likely to be able to produce viable scenario maps?” A negative outcome would have resulted in a different thesis project. The answer derived from the RN case, was a provisional Yes – though many aspects of the Process could not be fully employed in the short time available, and many of the aspects that *were* used clearly needed further development.

**Engineering manufacturer:** Though the chair of this company was highly interested in the SNM, and I carried out many long interviews with him, others in EM were much more skeptical about the project. As the method was not fully developed at this stage, it was something of a surprise to discover, on follow-up two years later, that EM had taken my report very seriously, and had made several major changes based on its conclusions. (Of course, other factors existed, and because of the participative nature of SNM, the report largely echoed what the managers had told me.) A major methodological finding from this case was the feasibility of using interviews rather than workshops – though more time is required for the former.

**Iraq:** This case study differed from the others in two respects: (a) there were no participants (so the case study can have had no effect on the outcome), and (b) because there were no participants, it was possible to revisit the case frequently, comparing outcomes with foresight, and thus sharpening the conceptual framework. The main contributions of this case to the development of the Process were:

1. Revealing the importance of actors’ motives in the outcomes of a set of events.
2. Highlighting the difficulty of combining attribution with the formation of the four-layered hemispherical model.
3. The need for subdividing actor groups as more information becomes available.
4. The lack so far of a way to integrate stakeholder perspectives into the hemispherical layers.

**Legal service:** In terms of the entity’s view of the Process, this was a great success. The Process was credited by the organization’s management with enabling the passing of a new constitution, and I was twice invited back to conduct additional change management work with the organization. However, in terms of contribution to the improvement of the Process, this case added little.

**Credit union:** Technically this case was successful, in that the Process worked very smoothly with two separate sets of participants, with only minor differences in the two scenario maps. However the exercise had no discernible impact on the organization, which did not change in any way because of it. In terms of the development of the Process, the problems experienced by these participants with the hemispherical model contributed strongly to a clarification of that model.

**Service club:** During the workshops for this case, it seemed at times that the Process was going badly wrong. The participants were unable to formulate a coherent scenario network, though this was perhaps due to the lack of constraints on the entity's future. In retrospect, though, this was perhaps the most successful case of all – in terms of the contribution of the Process to the attainment of the organization's objectives. On follow-up, seven months after the final workshop, clear action had been taken by the organization, as a direct result of the workshops. In terms of the development of the Process, this case led to the innovation of deliberately developing multiple futures, from which individual clubs could choose, and all could learn from each others' experiments.

**Barossa:** As this study explored only one additional aspect of the Process, and was not completed at the time of writing, the overall success of this case study cannot yet be judged. In terms of the method, this case confirmed the viability of an image-based approach to envisioning futures.

In summary, bearing in mind the exceptions and reversals noted above, the development sequence *did* improve the Process, though often the implications for process improvement of one case study were not realized until several studies later. Perceptions by entities' participants of the success of the Process were generally not correlated with the contribution of that case to the further development of the Process. This was initially worrying, but in retrospect there was no clear reason why such parallelism should have occurred.

## 9.6 Review of this chapter

Following this evaluation, the Process was found to be more successful at the implementation stage and the application stage than at the influence stage. The two most problematic criteria are in the influence stage. On review, it seems that the criterion "creating future memory" is over-ambitious for a Process of this kind, and is not a realistic expectation for a short series of

workshops. Criterion E3 on exploring the boundaries of uncertainty and plausibility was not fulfilled, due to a design defect in the Process. As this was found in chapter 3 to be very important, it would be desirable to undertake further development of the Process, designing this criterion into the fabric of the workshops.

Bearing in mind the findings from this chapter, a basic instruction manual for an improved version of SNM has been completed, and is presented as Appendix 5 below. It incorporates most of the reflections made in chapter 8, but does not address the design problem with criterion E3 (which would require further development work).

### **Limitations and shortcomings of the evidence**

Because of the qualitative and formative nature of this research, it was not possible to produce hard numerical evidence of the execution criteria that was fully relevant. It can fairly be said that the results presented in sections 9.2 to 9.4 are indications rather than findings. However a determined attempt was made to assess the evidence from as dispassionate a viewpoint as possible, consonant with retaining full relevance. While it would not have been difficult to develop numerical indicators, these would have faced the usual problem with performance indicators: that the variables they are measuring are only weak proxies, and not fully relevant to the task at hand. In these circumstances (the formative development of a social inquiry method) relevance was favoured over an illusion of precision.