

7 Environmental Chains Validation (PHASE 3)

The Research Problem

What consensus process can increase the environmental manager and TMG consensus level and quality over the environment cause-effect chains?

In Chapter 6 we saw that environmental managers are significantly and systematically more valuable than top managers in describing *potential* Environmental Chains (EC). EC's are described as *potential* because they have not yet been discussed by TMG members. This chapter describes how these concepts move from being considered *potential* to being *valid*. The word *valid* refers to the idea that only the concepts *surviving* group discussion are of ultimate importance.

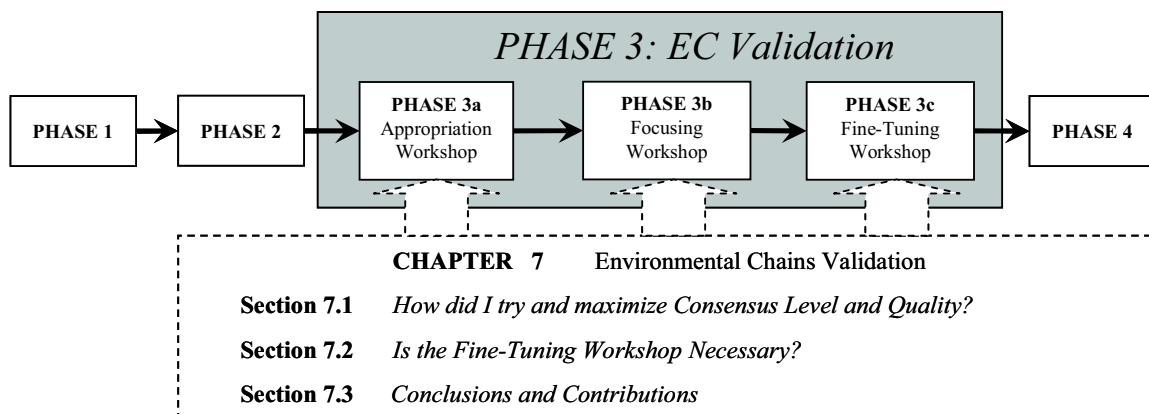


Figure 7.1 Detail of the EC Validation process

For the *EC Validation phase* Kaplan and Norton (1996a) propose a workshop divided in three parts.

- Part 1: Discuss, specify and/or define mission and vision statements.
- Part 2: Draft objectives (prepared in the Concept Clustering phase) should be discussed and validated one by one starting from the financial perspective through to the customer; internal process; and development and growth. This part ends when the TMG members have validated a one-sentence or a one-paragraph description of the objective.

- Part 3: TMG members start brainstorming on possible indicators and even divide themselves into sub-groups to work on them (Kaplan and Norton, 1996a, p.305).

As shown in **Figure 7.1** this study is slightly different as it divides the *EC Validation Phase* into three sub-phases: *Appropriation*, *Focusing* and *Fine-tuning*. The *Appropriation Sub-phase* aims to help the validation group understand and appropriate the Strategy Map as a whole. During the *Focusing Sub-phase* the group can decide on which Environmental Chains to focus their efforts. The *Fine-Tuning Sub-phase* is where the BSC Objectives are revised, improved and validated.

The main reasons for these changes relate largely to time availability of the TMG. The workshop format suggested by Kaplan and Norton (1996a, p.305) would take an entire day while, for this study, the maximum amount of time the TMG was available was half a day. Therefore the new proposal fits better to this criterion. Originally, a two-step process including only the *Appropriation* and *Fine-tuning Sub-phases* was planned. However, after the appropriation workshop, managers wanted to reduce the scope of the project and to avoid this it was necessary to add the *Focusing Sub-phase* before starting the *Fine-tuning*.

The discussion on the shift in Consensus Level and Quality will be dealt with in the *Fine-Tuning Sub-phase* because that is where the content actually changed. **Section 7.1** details the process rules that were followed. **Section 7.2** discusses why a *Fine-tuning Sub-phase* is necessary, as well as detailing how, also according to empirical evidence, Consensus Level and Quality shift. **Section 7.3** brings this chapter to a conclusion and includes the contributions as with previous chapters.

7.1 How was Consensus Level and Quality maximised?

During the interviews the quality of the outcome was mainly linked to counteracting the individual cognition mistakes in this phase the *enemy* (from a purely content quality standpoint⁶⁴) are the group dynamic problems. This is because in this phase interaction between managers actually takes place. In **Section 5.1.2** I have argued that using the

⁶⁴ The outcome of group-type events will not only depend on the information that is available and on the level it is shared but also on other issues such as the power games between the players. As mentioned in Chapter 1 the aspect of power is not covered in this study.

interview contents in the format of anonymous quotes has the potential to counteract group-type problems.

Once the format of the information has been decided there are only three other issues that need a decision to obtain a final and reliable result:

- (vii) Which content should be the focus of discussions?
- (viii) Who should be involved in the discussions?
- (ix) How exactly will the discussion be managed?

For the first two issues all the topics that were proposed by managers were covered in the discussions. (**Process Rule 3.1 – Table 7.17**). and all the interviewees were invited to this third phase of the process. Similarly to Phase 2, it was important that the environmental manager also participated (**Process Rule 3.3 – Table 7.17**). The process prescriptions for each sub-phase are discussed in the next three sections.

7.1.1 Process followed in the Appropriation Workshop?

Since there was already a draft version of the potential Strategy Map the rationale behind the *Appropriation Workshop* was firstly to make the participants *validate* (i.e. agree on...) a common view of the challenges ahead and secondly, to *appropriate* (i.e. feel ownership of...) its contents. It seemed that both points could be achieved by asking the group to re-build the Strategy Map (as if) they had to build it for the first time. All interviewees were invited to participate in this workshop (**Process Rule 3.4**). As shown in **Table 7.1**, the participants followed the same five-step perspective by perspective starting from the financial perspective (**Process Rule 3.2 – Table 7.17**).

N.	Steps for re-building the strategy map at the <i>Appropriation Workshop</i>
1	Ask participants to write two or three objectives on a post-it summarising what were the main drivers for that perspective
2	Facilitator takes the post-it and sticks them on a black board
3	Facilitator points out issues that were mentioned in the interviews but not written on the post-its.
4	Discuss together the links between the objectives.
5	Discuss together on which of these objectives environmental work could have an impact.

Table 7.1 Steps for re-building the Strategy Map at the *Appropriation Workshop*

7.1.2 Process followed in the Focusing sub-phase

The explicit objective of the *Focusing Sub-phase* was to reduce the amount of work needed to complete the exercise. At this point of the research the CEO's of ACEAIP and BETA realised that there was still a lot of work ahead and subsequently asked that the scope of the exercise was narrowed down. Their request meant that the exercise was accepted for two reasons. Firstly, because maintaining a wide scope (i.e. specifying all BSC Objectives) would disperse too much energy without added any real value to the data gathering. Exploring one (or two) ECs would be enough to observe the discussion and decision-making processes that were of particular interest. Secondly, the process of choice was interesting in itself. Considering the TMG time required to run this exercise, it is not unlikely that an environmental manager would also be faced with similar choices (**Process Rule 3.6 – Table 7.17**).

The ultimate choice of where to focus the discussions depended mainly on which *key managers* had developed interest in the exercise. *Key managers* are defined as a subset of TMG members whose inclusion would be highly desirable once a particular topic has been chosen. In this sense these managers are *key* because without their agreement work on a particular topic cannot be pursued. For example, if an environmental activity is to improve production efficiency it would be hard to explore this idea without the involvement of the production manager (**Process Rule 3.7 – Table 7.17**).

Tables 7.2 and **7.3** highlight the importance of including key managers as related to the ACEAIP and BETA. In ACEAIP the key manager was the CEO and the EM. The decision to work on both EC1 and EC2 seemed to suit the CEO mainly because both cause-effect chains could be explored within the realm of the maintenance activities which were the current focus

of his own improvement efforts (CEO, ACEA IP, 2002). However, in BETA not all key managers were interested in participating in the exercise. As a result, the scope was narrowed down to the sole Environmental Chain 5 (EC5) and the portion of EC6 that did not require participation of the production manager (i.e. a non-interested key manager).

ACEA Public Lighting (ACEAIP)		
Key Managers	EC1	EC2
CEO	Interested	Interested
Environmental Manager	Interested	Interested

Chosen!

Chosen!

Table 7.2 Opinion and choice of ACEA key managers

BETA				
Key Managers	EC3	EC4	EC5	EC6
CEO	No preference	No preference	No preference	No preference
Supplier Manager			Interested	Interested
Vineyard Manager			Interested	Interested
Environmental Manager	Interested	Interested	Interested	Interested
Marketing Manager		NOT Interested		
Production Manager	NOT Interested	NOT Interested		NOT Interested

Chosen!

Partially Chosen!

Table 7.3 Opinion and choice of BETA key managers

In ACEAIP the project could continue *not* because of the CEO's interest in environmental issues, but because of his interest in the performance measurement and management aspect (i.e. the Balanced Scorecard). The CEO's interest meant that key managers would be encouraged to participate in the discussions. In BETA, there were strong indications that the CEO was not too interested in the management aspect of the exercise (e.g. absence from most

of the *Appropriation Workshops*). This meant that the less enthusiastic managers felt able to desert the discussions and to pull out of the exercise at the earliest opportunity.

Choosing an EC automatically included the concerned key managers. There is, however, another set of actors, or a *second tier of managers*, that become relevant if one wants the decisions to be correctly executed and analysed. *Second tier managers* are usually direct reports of key managers. It seemed useful to include them because they are the ones that, once the decision is taken, will be in charge of implementing it. Since the group had been narrowed down it seemed possible to include these managers as well in the exercise. Their inclusion was much easier because they were all direct reports of the key managers who accepted to go along with the work (**Process Rule 3.8 – Table 7.17**).

The variation of participants *before* and *after* the *Focusing Sub-phase* shown in **Tables 7.4** and **7.5** is then the result of the exclusion of key managers and the inclusion of second tier managers (in Tables below Grey highlights their inclusion).

Project Participants ACEAIP		
Managers	Before Focusing	After Focusing
CEO		
Maintenance Manager		
Financial Controller		
Call Centre Director		
Network Management Director		
Quality Manager		
Environmental Manager		
Network Building Director		
On-site Construction Director		

Table 7.4 Project participants ACEAIP

Project Participants BETA		
Managers	Before Focusing	After Focusing
CEO		
Marketing Director		
Sales Director		
Production Director		
HR Director		
Financial Director		
Grape Supply Director		
Vineyard Director		
Environmental Manager		
Grape Supply Co-Director		
Supplier Training Manager		
Supplier Assistance Manager		
Supplier Communication Manager		

Table 7.5 Project participants BETA

The *Focusing Sub-phase* is important for environmental managers as it shows how this approach can be relevant and therefore apply to groups other than just the top management. In ACEAIP the project lands at a product line level (i.e. maintenance activities) while in BETA discussions included those reasonable at the operational level (i.e. grape supply

management). Even though this idea is only introduced at this phase, it has been included directly in the checklist of questions for entity choice described in **Section 4.2** (i.e. choice of which business unit of the corporation should serve as the pilot entity).

7.1.3 Process for the Fine-Tuning Sub-phase

N.	Steps for Objective Validation
1	Presentation of the objective and text based on managers' quotes.
2	Changes in contents and definitions of words as suggested by the workshop participants.
3	Final re-reading for approval.
Important: Never go to the next objective if the current one has not been validated by the group.	

Table 7.6 Steps for *Validation Workshop*

This last sub-phase is the one where the ‘real discussions’ took place because the objective of these workshops was to validate all BSC Objectives *word by word*. This phase was key to the entire exercise because it enabled managers to clarify to each other their opinions and, by doing so, lead the way to common definitions. **Table 7.6** includes a summary of the actions taken to validate an objective. It proved extremely important *never* to go to the next objective if the content of the current objective under discussion was not clear and/or explicitly validated by the group. To this end, the objective text should be re-read to the group one last time and everyone should agree with the contents before moving forward to discuss the next objective (**Process Rule 3.9 – Table 7.17**). Follows an example of a *Fine-tuning* discussion.

Example of Fine-Tuning Discussion (ACEAIP - Municipality Needs)

Interviewer	Here's the tentative objective text we need to validate: "I the Municipality am shareholder partner and client of ACEAIP. As a client I want the service contract to be fulfilled and a reduction in complaints from citizens and districts ...".
DIRECTOR	So...basically you mean that the Municipality will only be satisfied if the citizens and districts are satisfied as well...
Interviewer	Exactly...what I heard from you in the interviews is that even if ACEAIP respects the service contract criteria, if the citizen calls the municipality, or writes to a newspaper or the districts are complaining then, anyway, the perception of the Municipality will be that ACEAIP is not doing a good job...

DIRECTOR ...yes...but wouldn't you also want to add that the Municipality wants the discount?

Interviewer Discount?...well...sure...how do you want to write this...should we add "...at a reasonable price"...?

CONTROLLER ...yes...in the earlier days the cost would not have been such an issue...today it clearly is...the Municipality is benchmarking the costs of our service with the cost of the same service in other cities...it is hard for them to justify that we cost a lot more...

Interviewer Then let's write "at a minimum cost"...

7.2 Is the Fine-Tuning Sub-phase necessary?

Kaplan and Norton suggest that a *Fine-Tuning Workshop* should be included to revise, improve and validate the BSC Objectives (**Process Rule 3.1 – Table 7.17**). As discussed for the previous steps the first question to ask is whether or not this step is really needed. After all, gathering all these top managers in one room for several hours is an expensive exercise. The quotes presented at the beginning of **Section 5.1.1** suggest that TMG time is of great concern to the environmental managers because it is a very scarce resource. If this workshop is not useful in increasing Consensus Level and Quality then there are very good reasons not to do it. Clarifying its usefulness is then of paramount importance for practitioners to make the right choices.

7.2.1 Why would the Fine-Tuning Sub-phase increase Consensus Level and Quality?

The idea that Consensus Level and Quality may improve because of the Fine-tuning Workshop is explained in the literature on individual cognition mistakes introduced in Chapter 1 and shown in **Table 7.7**. These can be counteracted in this phase for two reasons: Even if the interviews were very well conducted, some individual cognition mistakes are likely to persist. In order to solve these mistakes, the discussion among managers promises to yield positive results.

Some individual cognition mistakes are likely to persist because during the Interview Phase the focus of the facilitator was to clarify ideas and not to challenge them. While the Drill-down Technique could be interpreted as sort of a challenge it does not go as far as proposing different opinions to the managers. The drill-down is only about asking the manager to

explain clearly what he has in mind and, eventually, his degree of certainty. The manager may come out of the interview with a high degree of certainty about his own opinions, but he may still be wrong because of his own individual biases. The facilitator is not an expert of the business, he does not have the evidence to propose counter-arguments. This is why managers' ideas are not fully challenged during the interviews.

As already discussed in Chapter 1, the group session can challenge individual biases because each individual reads reality through *schemas*⁶⁵ that condense their experience. Since individuals have different experiences, they also have different schemas and are thus likely to make different mistakes.

Individual Cognition Problems		
N.	Likely Errors in Problem Sensing	Explanation
1	Illusory Correlation	Assume events are correlated that in fact are not, because they are similar.
2	Illusory Causation	Assume events are causal, that in fact are not, because they are focus of attention.
3	Gap-creating	Assume events did not occur, that in fact did, because they are schema-irrelevant.
4	Gap-filling	Assume events occurred, that in fact did not, because they are schema-relevant.
5	Ignoring overly discrepant information	Fail to code or store information that is extreme or highly surprising.
6	Preference for ambiguous information	Prefer ambiguous information to avoid self-deprecatory learning.
7	Preference for self-enhancing information	Fail to code or store self-deprecatory information.

Table 7.7 Individual cognition problems (See Section 1.3 for detailed discussion)

The Fine-tuning sub phase will help counteract the individual cognition problems shown in **Table 7.7** since the individuals, through group discussion come to a common view of what the group should aim for. This is why Consensus Level is expected to shift.

Such group sessions also seem necessary for two additional reasons such as:

- iii. If well managed, the discussion may generate new ideas that none of the individuals had thought of before, thus increasing Consensus Quality.

⁶⁵ A *Schema* represents the way knowledge about prior behaviour and expectations about behaviour are organised. These constructs are the ones against which new information is tested for relevance (Kiesler and Sproull, 1982, p. 557)

- iv. The involvement of managers in the decisions will rally commitment to implement those decisions (Wooldridge and Floyd, 1990).

A group session could potentially counteract any individual biases and lead the way to a consensus of opinion. However, the extent to which this can happen will depend on how well the *Group-type Mistakes* shown in **Table 7.8** will be counteracted. In other words, while the Fine-Tuning is an opportunity to improve the situation it constitutes also a threat to worsen it, that is, if the Group-type Mistakes are not properly counter-acted.

Group-type Mistakes	
Label	Phenomenon
Message Tuning	Overestimate the commonality of information shared and tune communication accordingly
Message Distortion	Modify the message based on perceived desires of the receiver
Biased Interpretation	Bend a message towards one's own pre-conceptions or ideas
Transparency Illusion	Belief that one's own thoughts and attitudes are more obvious to others than is actually the case
Indirect Speech Acts	Concealing a request behind indirect statements
Uneven Communication	Relatively few people (not necessarily the most informed) tend to do the majority of the talking
Common Info Effect	People tend to discuss what everyone already knows
Need to be Right	The tendency of looking at the group to define what reality is
Need to be Liked	The tendency for people to agree with a group so that they can feel more like a part of that group
Group Think	Deterioration of mental efficiency/judgement due to unconscious pressure to conform to perceived group opinion
Escalation of Commitment	Persisting in a losing course of action only because of the to-date involvement in that action
Abilene Paradox	Agreement of all group members to an individually undesirable course of action solely due to misunderstanding of each others' preferences.
Group Polarization	The tendency for group discussion to produce a more extreme judgement than might be obtained by pooling the individuals' views separately.

Table 7.8 Group-type mistakes (See **Section 1.3.1** for detailed explanation)

7.2.2 What Consensus Level and Quality properties will be discussed?

As shown in **Table 7.9** both Consensus Level and Quality are expected to shift during the Fine-Tuning Sub-phase. Consensus Level should shift automatically because managers will be *forced* to agree on the final outlook of BSC Objectives. Interaction Quality will shift because managers will be interacting. Group Quality should shift because people who would not normally be involved in such strategic discussions, such as the environmental manager, are included in the discussions. The Quality of information should shift due to the exchange of information among managers.

<i>Potentially Shifting Properties during Fine-Tuning</i>			
<i>Concept</i>	<i>Definition</i>	<i>Properties</i>	<i>Definition</i>
Consensus Level	level of agreement between managers on decisions taken.	<i>No Properties</i>	
Consensus Quality	the extent to which the decisions taken are likely to result in the desired firm performance	Interaction Quality	the extent to which the interaction managed to solve individual cognition problems and avoid falling into group dynamics mistakes.
		Group Quality	the extent to which the people involved have sufficient knowledge to discuss and power to implement the decisions taken.
		Content Quality	the quality of the information

Table 7.9 Potentially shifting properties during Fine-Tuning Sub-phase

7.2.3 Did the Fine-Tuning Sub-phase increase the Consensus Level?

In this process phase managers had the opportunity to discuss, negotiate, agree, disagree and learn about each other's opinions. In the end, however, whatever opinion they are left with, there is a pressure to come up with one single group-view of what needs to be done. This group-view, expressed by the Strategy Map, is unlikely to overlap exactly with each individual opinion. What is more likely to happen is that each manager will change his/her mind on a number of issues while on other issues he/she will simply *give in* while sticking

firmly to the original opinion. As a result, the concept of Consensus Level seems to call for a further clarification into *formal* and *intimate*.

Intimate Consensus Level refers to the fact that managers have *actually changed their mind* on a given topic. They are not only signing off a formal document but they believe these contents are correct⁶⁶. *Formal Consensus Level* refers to the topics that have been signed off by a group after a formal discussion but not necessarily agreed upon by the individual managers. This concept is relevant for the following two reasons:

- v. Officially signing-off on certain actions engages managers to implement the decision.
- vi. If the decision has be formalised by general consensus where everybody was invited to speak out, the risk of blame for not implementing actions agreed upon during group discussion may be more severe. In other words, by simply formalising the discussion there is an increased likelihood that actions will be pursued.

The empirical evidence points to the fact that both *Intimate and Formal Consensus Levels* have increased. From a *Formal Consensus Level* point of view there are two distinct situations to evaluate. The first situation is one where an objective on that specific topic (e.g. costs) already exists. Consensus Level increases if, compared to the situation before this process step, more managers now agree on what the objective means and why it is useful. The second situation is one where the objective developed did not exist or is different from the one that the participants used to describe that same topic. In this second case, Consensus Level increases by design because the object of consensus was absent. As shown in **Tables 7.10** and **7.11** in most cases the objectives were new or significantly modified. This means that, certainly, Formal Consensus Level has increased.

⁶⁶ This is exactly the same definition that was given in Chapter 2 for *Consensus Level*.

ACEAIP – BSC Objectives before and after PHASE 3

N.	Objective Title after Phase 3	New?
F1	Increase Sales Volume	<i>Modified</i>
F2	Increase EBIT	<i>Existing</i>
C1	Increase Municipality Satisfaction	<i>NEW</i>
C2	Increase Districts Satisfaction	<i>NEW</i>
C3	Increase Citizens Satisfaction	<i>NEW</i>
IP1	Improve Citizen Communication quality	<i>NEW</i>
IP2	Improve control of time-to-repair	<i>NEW</i>
IP3	Reduce time-to-repair	<i>Existing</i>
IP4	Reduce need-to-repair	<i>NEW</i>
IP5	Increase maintenance efficiency	<i>Modified</i>
IP6	Implement Quality/Safety/Environment System	<i>NEW</i>
IP7	Develop District-ACEA partnership	<i>NEW</i>
DG1	Improve Information System	<i>NEW</i>
DG2	Improve employee Motivation	<i>NEW</i>
DG3	Improve capability intervention diagnosis capabilities	<i>Existing</i>

Table 7.10 ACEAIP - Which BSC Objectives are new?

N.	Objective Title after Phase 3	New?
F1	Increase Future Sales	<i>Modified</i>
F2	Retain License to Operate	<i>NEW</i>
F3	Minimize Risks to Consumer Health	<i>Existing</i>
C1	Supplier Acquisition and Retention	<i>Existing</i>
C2	Increase Cooperatives Boards Satisfaction	<i>NEW</i>
C3	Increase Press Centers Satisfaction	<i>NEW</i>
C4	Increase Courtiers Satisfaction	<i>NEW</i>
C5	Strive for Supplier Delightment	<i>NEW</i>
C6	Increase Local Authorities Satisfaction	<i>NEW</i>
C7	Increase Local Community Satisfaction	<i>NEW</i>
C8	Increase Professional Community Satisfaction	<i>NEW</i>
IP1	Be recognized as the leader in vineyard mgmt practices	<i>NEW</i>
IP2	Improve Grape Supplier Performance	<i>Existing</i>
IP3	Improve Local Community Communication Quality	<i>NEW</i>
IP4	Improve Local Authority Communication Quality	<i>NEW</i>
DG1	Improve our capability to innovate	<i>Modified</i>
DG2	Develop Training and Counselling Capabilities	<i>Existing</i>
DG3	Enhance Employee Motivation	<i>NEW</i>

Table 7.11 BETA – Which BSC Objectives are new?

The shift in Intimate Consensus Level can actually be seen in the various conversations taking place during the workshops. One such conversation is the one on green pricing (See **Section 8.1.1**). In that occasion the environmental manager brings a new topic to the table and convinces the CEO that it is worth pursuing its analysis further. The entire Fine-tuning Sub-phase is one giant container of these *consensus events* since at least *two issues* per objective were discussed and approved by the group. Each consensus event, however, leaves some doubt on whether the consensus reached is more *intimate* than *formal* or vice-versa. All shades seem to be present. Here is one example where some *intimate consensus cues* can be observed:

Conversation on the security of public areas with the public lighting service...

Interviewer	The citizens want...to be able <i>to travel around safely</i> .	
MANAGER 1	What do you mean by this?	
Interviewer	Some of you pointed in the interviews to the fact that the role of ACEAIP is to ensure public places are safe to walk in and to drive through.	
DIRECTOR	We need to find a better way of expressing this...	
CONTROLLER	Yes...the concept of security is important, it is crucial in the idea of street lighting	
Interviewer	OK...what do you propose?	
DIRECTOR	Certainly the police from each municipality district should indicate to us those areas that constitute a security risk...they spend several hours every night patrolling the area...they are in the best position to know...	
Interviewer	In this case we need to shift to the <i>District Satisfaction Objective</i> ...where we talk about the planning with them...how about... <i>a well-lit area</i> ?	
DIRECTOR	No...we either say this well or we don't say it at all	
Interviewer	<i>'an area well-lit and secure...secure and well-lit'</i>	
DIRECTOR	Two concepts must come through. The first is that we need to communicate with the districts about these specific areas. The second is that we should ensure adequate lighting in these areas <i>before</i> anything bad happens...	
CONTROLLER	We could say that the districts want to be more involved in planning the public lighting in their areas <i>also using some security measures</i> .	
MANAGER 1	Yes...that's it!	
Interviewer	how about...using two criteria, <i>usability</i> , which relates to the way the place is lit and 'usable', and <i>security</i> , which relates to its safety.	
MANAGER 1	I agree...this says it all...we don't need to add anything else...	<i>Intimate Consensus Cues</i>
DIRECTOR	Yes, I agree. ...	
CONTROLLER	Also...very good.	

(ACEAIP, Workshop, 3 June 2003)

The conversation here started from the discussion on citizens' needs and shifted to the district's⁶⁷ needs. Originally, the needs of the district did not contain the phrase on security but only a general indication that they wanted to be more involved in the planning of ACEAIP activities in their area. This discussion led to the inclusion of the phrase *'using both usability and security criteria'* to the objective. What happened here is that the participants in the discussion (e.g., Director, the Controller and one of the managers) *intimately* agreed on the final validated version of this objective.

7.2.4 Did the Fine-tuning Sub-phase increase Content Quality?

Content Quality shifts for two reasons. Firstly, because the BSC Objectives did not exist before this process step. The incoming potential BSC Objectives are only known to the facilitator who has *created* them in the Clustering Phase. In practice, the views and opinions expressed by the managers through different wordings acquire common labels⁶⁸. As proposed in **Table 7.12**, the agreement on the common labels seems likely to move the Content Quality Properties of believability, objectivity, reputation, interpretation and ease of understanding.

Content Quality Properties potentially impacted by Fine-Tuning		
Sub-Property	Definition	Why would Fine-tuning have an impact?
Believability	The extent to which data is accepted or regarded as true, reliable, credible.	If people have a discussion on the meaning of a concept and choose to retain it with a given definition they will then regard it as accepted, credible, reliable and true.
Objectivity	The extent to which data is unbiased (unprejudiced) and impartial.	The act of discussing them and agreeing on common views makes the objective less biased for the group as a whole.
Reputation	The extent to which data is trusted or highly regarded in terms of their source or content.	The source of the information is in this case the group. If the top managers are all in the room the result is certainly reputable.
Interpretability	The extent to which data is in appropriate language and the data definitions are clear.	Finding the common labels and language is the overall aim of this step, by the end of the fine-tuning all the words validated should have a definition attached.
Ease of Understanding	The extent to which data is clear without ambiguity and easily comprehended.	Finding the common labels and language is the overall aim of this step, by the end of the fine-tuning all the words validated should have a definition attached.
Completeness	The extent to which data is of sufficient breadth, depth, and scope for the task at hand.	Following discussions, if the managers decide to change, add or eliminate a BSC Objective completeness will certainly change.

Table 7.12 Content Quality Properties potentially impacted by the Fine-tuning Sub-phase

⁶⁷ The Municipality of Rome is divided in 22 districts. Each of these districts has management and political representatives.

⁶⁸ See Example in **Table 5.13**

The second reason is that, as shown in **Tables 7.13 to 7.16**, the validated objectives are not exactly the same as the incoming ones. These changes can be classified into two broad categories: *stylistic* and *strategic*. The *stylistic changes* aim at improving the clarity of the ideas while leaving unchanged the nature of the message. On the contrary, the *strategic changes* constitute major decisions to insert/eliminate BSC objectives and/or significantly modify them.

These changes relate to a shift in the property of completeness. *Completeness* has been defined as: *the extent to which data is of sufficient breadth, depth, and scope for the task at hand*. In Chapter 5 *Completeness* has been treated as synonym of *quantity* of information raised, in other words the amount and volume of information. In this case, quantity is not a good proxy for *completeness* any longer. This is because the task at hand has changed. While in Chapter 5 the task at hand was to prepare information for a discussion and for choice, in this Chapter the task at hand is to *make the right choice*, that is, the choice that yields the best possible results for the company.

This means that at this stage it is impossible to know whether completeness has increased or not. This assessment can only be done at a later stage by asking the managers whether or not the modifications in the BSC Objectives proved to be the right ones. It could very well be that some of the decisions taken here, such as the modification of an objective, will prove to be the wrong decisions. Since completeness depends, at least partly, on the efficacy of the discussion, anecdotal indications of positive shift could be the observed *Intimate Consensus Cues* and the increased interaction quality. However, the real sign of this shift remains unknown at this stage.

Since Environmental Chains are made of made of environment and non-environment related objectives the Content Quality changes described in general are entirely applicable to the Environmental Chains. For example, as shown in **Figure 7.2**, in BETA the Environmental Chains did significantly change. The objective *minimise risk of packaging rejection* was erased because of the scarce interest of that objective key manager (i.e. production manager)⁶⁹.

⁶⁹ See **Section 7.1.2 – Table 7.3**

ACEAIP – BSC Objectives before and after PHASE 3

Objective Title after Phase 3		Stylistic Change	Strategic Change
F1	Increase Sales Volume		
F2	Increase EBIT		
C1	Increase Municipality Satisfaction		
C2	Increase Districts Satisfaction		
C3	Increase Citizens Satisfaction		
IP1	Improve Citizen Communication quality		
IP2	Improve control of time-to-repair		
IP3	Reduce time-to-repair		
IP4	Reduce need-to-repair		
IP5	Increase maintenance efficiency		
IP6	Implement Quality/Safety/Environment System		
IP7	Develop District-ACEA partnership	Entirely New!	
DG1	Improve Information System		
DG2	Improve employee Motivation		
DG3	Improve capability intervention diagnosis capabilities	Moved out -	Included in IP2

Table 7.13 ACEAIP - Types of BSC Objectives changes

Before	After
<p>C3 – Increase Citizen Satisfaction</p> <p>The satisfaction of the citizens is the heart of ACTIS because it allows the renewal of the contract with the Municipality and the satisfaction of the Municipality Districts. The citizen wants easy access to ACEAIP call center, feel he's appreciated for the service he's providing, have the possibility to verify the advancement state of the repair, that the first intervention happens within reasonable time and in an established date, that the solution of the problem happens within reasonable times as well as feeling safe while moving around the city.</p>	<p>I, the Citizen, want easy access to the communication channels with ACEAIP, feel I'm appreciated to the service I'm providing to ACEAIP, the communication of a repair time that is within reasonable delays, the respect of this date, know the causes of a delay as well as living in a beautiful and safe city.</p>
<p>IP4 – Reduce Need to Repair</p> <p>In order to prevent the citizen complaint we will reduce the causes of break downs through an efficient ordinary maintenance, a reduction of the damages from other services and an investment program on the oldest and underperforming parts of the network.</p>	<p>In order to prevent the citizen complaint we will reduce the causes of break down through an efficient ordinary maintenance, a reduction of damages caused by other services, an improvement of the quality of the control on the design and construction by ACEAIP contractors and by third parties and an investment program on the oldest and underperforming parts of the network.</p>

Table 7.14 ACEAIP – Two examples of changes of Objectives

BETA – BSC Objectives before and after PHASE 3

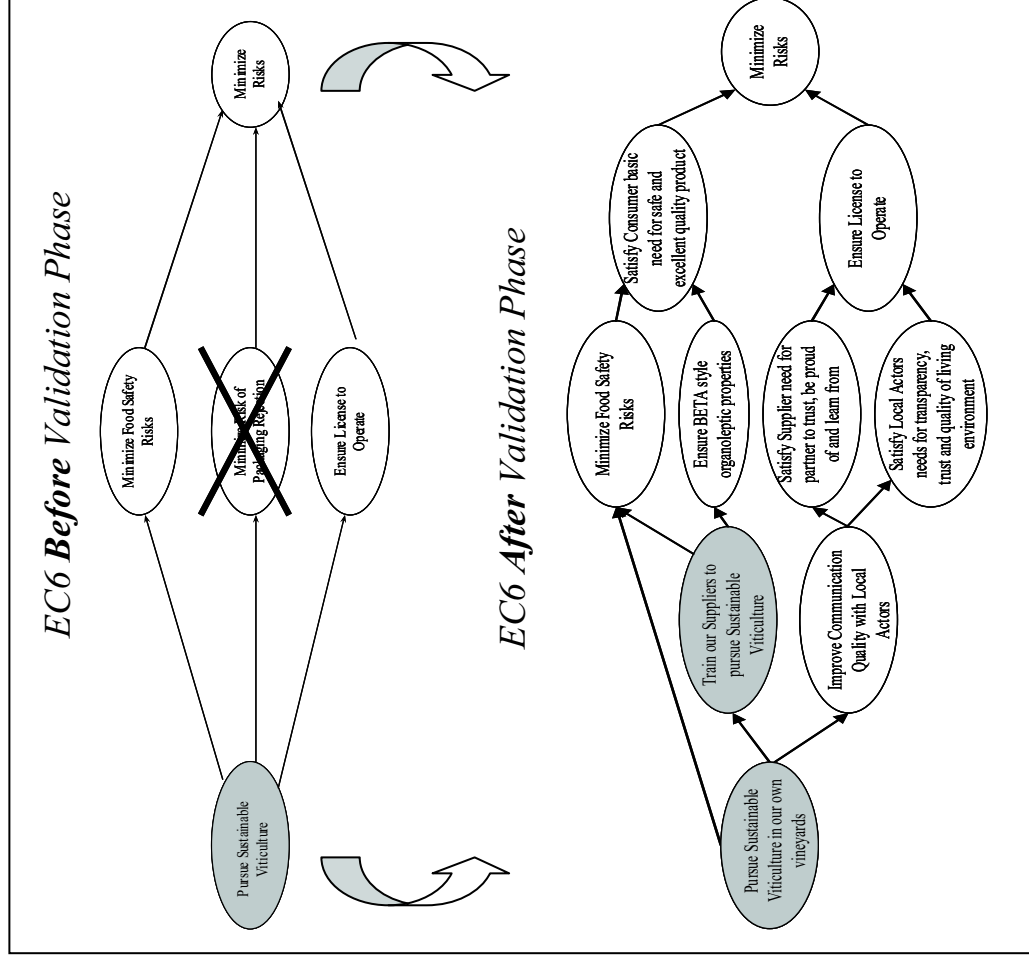
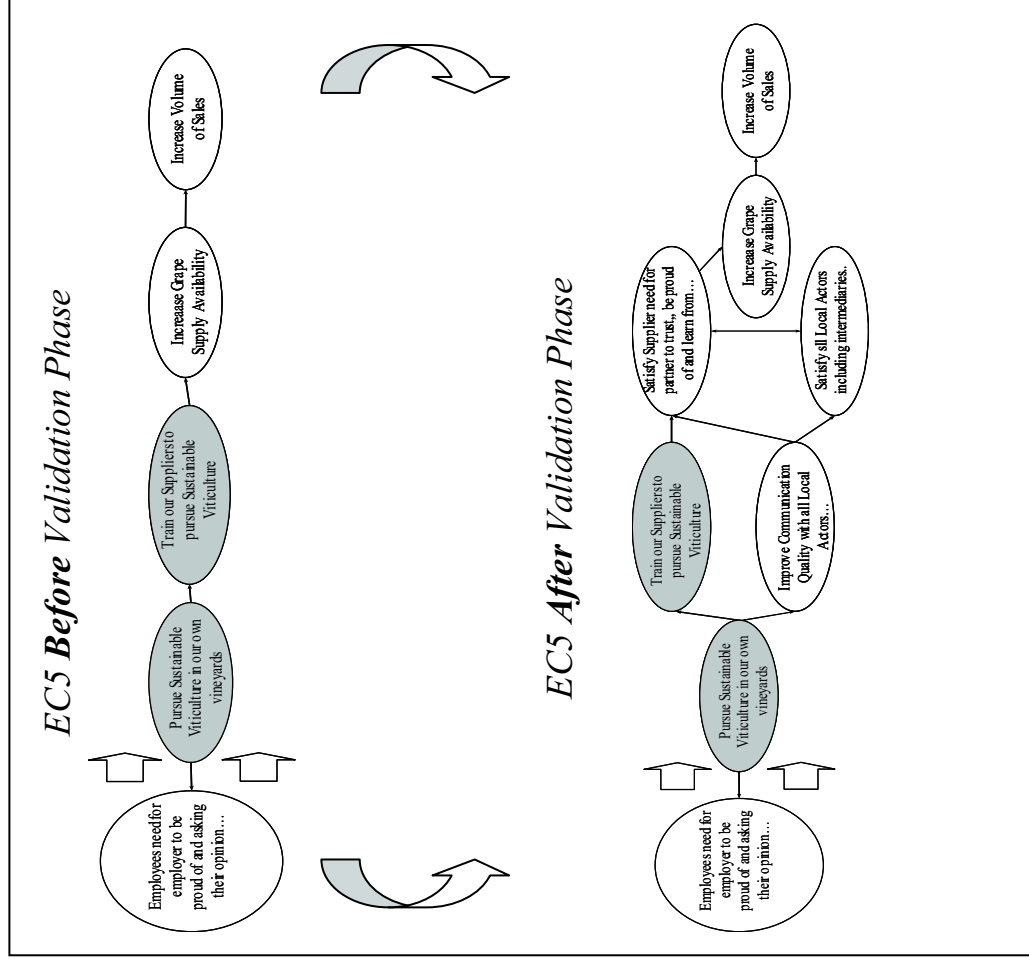
N.	Objective Title after Phase 3	Stylistic Change	Strategic Change
F1	Increase Future Sales		
F2	Retain License to Operate		
F3	Minimize Risks to Consumer Health		
C1	Supplier Acquisition and Retention		
C2	Increase Cooperatives Boards Satisfaction		
C3	Increase Press Centers Satisfaction		
C4	Increase Courtiers Satisfaction		
C5	Strive for Supplier Delightment		
C6	Increase Local Authorities Satisfaction		
C7	Increase Local Community Satisfaction		
C8	Increase Professional Community Satisfaction	Entirely New!	
IP1	Be recognized as the leader in vineyard mgmt practices		
IP2	Improve Grape Supplier Performance		
IP3	Improve Local Community Communication Quality	Entirely New!	
IP4	Improve Local Authority Communication Quality	Entirely New!	
DG1	Improve our capability to innovate		
DG2	Develop Training and Counselling Capabilities		
DG3	Enhance Employee Motivation	Entirely New!	

Table 7.15 BETA - Types of BSC Objectives changes

Before	After
F3 – Minimize Risks to Consumer Health	F3 – Minimize Risks to Consumer Health
We will minimize the risks to consumer health through innovation of our production practices.	We will minimize the risks to consumer health through the constant control and innovation of our vineyard management practices and the ones of our grape suppliers
C6 – Increase Local Authorities Satisfaction	C6 – Increase Local Authorities Satisfaction
I Want BETA to be transparent, trustworthy and compliant with current and future environmental regulations	We want BETA to be transparent, trustworthy, compliant with current and future regulations and active in improving the quality of life in the Champagne Region,

Table 7.16 BETA – Two examples of changes of Objectives

Figure 7.2 EC5 and EC6 before and after the Validation Phase



7.2.5 Did Interaction Quality increase during the Fine-Tuning Sub-phase?

Interaction Quality refers to the idea that the topics raised by the managers during the interviews are actually discussed. An indication of *bad Interaction Quality* is for instance if only the director talks for the entire workshop and his managers never voice their concerns or objections. Interaction Quality is a *relative* concept. It depends on the quality of interaction that the group *usually has* and on whether the facilitator was able to encourage more interaction among group participants. Some of the managers, in post-intervention interviews judged the interaction positively:

Manager 1

'...during the workshop we were able to focus on certain issues, to share them...there are a lot of things that we ignore of each other's activities or that we take for granted...people keep them in their head because it is part of their daily routine...but when they disclose them as they did it becomes clear that we often do not give enough importance to such issues...we discovered together a lot of topics on which we can work to improve the business...' (BETA, vineyard manager, 14 April 2003).

Manager 2

'...the seminar was, on the whole, a fun experience. It was not boring because it was alive...we have confronted each other with our different views...the method used is a good one because it allowed us to confront each other directly, without having to go through the bureaucratic steps that often slow us down...' (ACEAIP, customer relationship manager, 4 June 2003).

Manager 3

'...the result of that workshop was way beyond my expectations...I found it a very very positive experience...impressive (explain me why) because it was no ready-made meal, it was clear that we were working with the ingredients each of us had given...the main finding for me was to see, to actually have the proof of how well we were tuned in as a team... (so it is during the seminar that you found this out?) Yes...and in doing, it gave us the opportunity to clarify to each other what we had in mind...' (ACEAIP, financial controller, 22 June 2003).

These quotes are self-explanatory in that they point to the fact that interaction has improved. *Manager 1* points to the fact that *'people keep issues in their head'* because the activities are normal everyday activities for them. By doing so they are overestimating the level of knowledge of their colleagues on that issue. *Manager 2* points to the fact that the way the

seminar had been set up meant that they were able to *cut corners* and be more effective (i.e. quick) in decision making compared to the usual '*bureaucratic*' procedures. *Manager 3* discusses how '*evidence*' of the management alignment was for her one of the main outcomes of the seminar. This means that managers had never had the opportunity to interact in a way that allowed such '*evidence*' to emerge.

7.2.6 Did Group Quality increase during the Fine-Tuning Sub-phase?

Group Quality in this phase measures the extent to which managers in the group will defend the topics raised in the previous phase. **Section 7.2** shows that the presence of the environmental manager was of paramount importance for the group to be able to appropriately discuss environmental issues. In this respect, Group Quality was certainly higher in his presence than it would have been had he not participated in the discussions.

7.3 Conclusions and contributions

The aim of this chapter was to describe and comment on Phase 3 of the process which has been carried out in three sub-phases: *Appropriation*, *Focusing* and *Fine-tuning*. The *Appropriation Sub-phase* aimed at getting the managers to agree with the overall Strategy Map. The *Focusing Sub-phase* was necessary to narrow down the exercise in order that it took up less management time. The *Fine-Tuning Sub-phase* aimed at validating the BSC Objectives. This chapter also describes the process rules followed for all three sub-phases before focusing attention more particularly on the *Fine-Tuning Sub-phase*. *This latter sub-phase is of particular interest* because that is where the changes in the BSC Objectives and Environmental Chains occurred. The chapter includes a detailed explanation of the need to include the *Fine-tuning Sub-phase* as well as comments on the results of the intervention. The sub-phase potentially limits individual level biases and provides the opportunity to involve key decision-makers from the TMG in order to get their commitment to implement decisions. However, the chapter also points to the fact that a Fine-tuning Workshop may be the locus of Group-type Mistakes to be counter-acted by specific techniques.

Concerning the decisions taken during these three sub-phases in the process **Table 7.17** provides, at a glance the list of the Process Rules followed. Those highlighted in grey are references to the relevant literature, while those in white do not refer to any particular literature. Those highlighted in black highlight whether the empirical evidence of this study proved that the relevant literature was useful. The advantage of this kind of display is twofold. On one hand, it enables practitioners to use these prescriptions as a basis for their action and are well-informed about the true degree of *reliability* of the prescription. On the other hand, it clearly points to areas where other scholars could bring in additional literature or build additional empirical evidence.

Process Rules - PHASE 3		
	Questions for EM's	Process Rules
Appropriation	How to maximize Consensus Level and Quality?	<i>3-1. Do not omit any potential BSC objective mentioned in the interviews</i>
		<i>3-2. Use criteria in Table 7.1</i>
		<i>3-3. Invite all interviewees to Appropriation workshop</i>
<i>3-4. Include Environmental Manager</i>		
<i>3-5. Choose to Focus on one or two EC's</i>		
<i>3-6. Exclude managers who's area of responsibility will not be discussed</i>		
<i>3-7. Include key managers</i>		
<i>3-8. Include second tier managers</i>		
<i>3-9. Follow criteria in Table 7-6</i>		
Focusing		
Fine-Tuning		
No Fill = Decision taken through use of common sense; Greyed = Decision taken through use of relevant literature; Black = Supported by the empirical evidence		

Table 7.17 Summary of Process Rules – Phase 3

Finally, the chapter also discusses whether and how Consensus Level and Quality have increased. As shown in the Evaluation Framework in **Figure 7.3** the empirical evidence suggests they have probably increased.

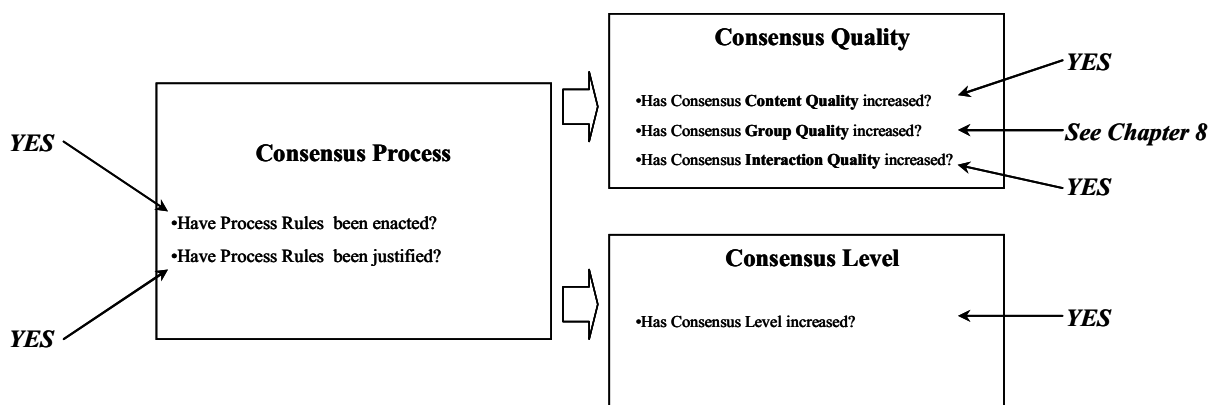


Figure 7.3 Evaluation Framework Results for PHASE 3

7.3.1 Contribution to the literature

As already mentioned in **Section 5.1.1** the literature on the *process* of building a Balanced Scorecard has been rather silent. On the theme of objective validation the situation is similar. Kaplan and Norton spend no more than one page describing how to carry out the validation phase (Kaplan and Norton, 1996, pp. 304-305) while Paul Niven spends four pages describing what, according to him, are the criteria to be followed (Niven, 2002, pp.110-114). None of them however provides with an explicit link to the literature aimed at being able to measure the effectiveness of the validation phase and to consequently improve the techniques used.

This chapter represents a contribution to the Balanced Scorecard literature in two ways. First, the discussion of the process rules constitutes a starting point for scientific investigation. Secondly, the provision of a process effectiveness measurement framework constitutes a

baseline to be both challenged and used to benchmark the effectiveness of these or new process rules. Thirdly, it provides a clear indication that the problems the process rules should aim at resolving are the ones related to individual and group type biases.

7.3.2 Implications and future research

This work should be considered exploratory, the main aim being to set some clear rules of the game like definitions, measurement frameworks and first tentative process prescriptions.

Firstly, since this process step deals with effective facilitation of group sessions more work should be done to link it to the body of literature on group dynamics and facilitation.

Secondly, since this research design did not allow for an in depth discussion on Consensus Quality it seems desirable to design exercises allowing qualitative and even quantitative discussion. Thirdly, additional variables influencing Consensus Quality could be brought in, such as power. Finally, empirical quantitative testing of qualitative findings of Consensus Level and Quality shifts could also be designed.

7.3.3 Contribution to practice

The contribution to practice of this study is, first of all, the Process Rules. These rules and the reflections around them may be of use to managers wanting to kick-off similar processes in their companies.

The implications of this chapter for environmental managers are rather heavy. First, this exercise shows that whatever discussion these managers want to have about environment and strategy, once started with interviews it needs to continue with sessions where relevant managers are asked to agree on concepts. Failing to do so will fail to reap all the potential benefit because managers do think different things even if they use the same words.

Going back to the metaphor proposed in **Section 2.9**, the branches of the tree (i.e. the BSC Objectives), if not validated in a group discussion, will not hold. The environmental manager will then be left with the hard job of showing the financial returns of environmental work, instead of simply showing the contribution to client satisfaction or product quality.

TO DATE and FORWARD

This chapter delved into the interaction part of the study where managers have come to a group-level view of environmental chains. The next chapter will discuss the indicator building process and results.

8 Should the EM be involved in EC Validation? (PHASE 3)

The aim of this chapter, as shown in **Figure 8.1**, discusses the effect of including the environmental manager (EM) in this process phase. The chapter also introduces a related general Process Rule. This seems an important issue because it would probably not come natural for a TMG to include in their decision-making process a manager that *is not a TMG member already*. **Section 8.1** considers whether the fact of including the environmental manager improves Group Quality. **Section 8.2** concludes this chapter and provides the contributions.

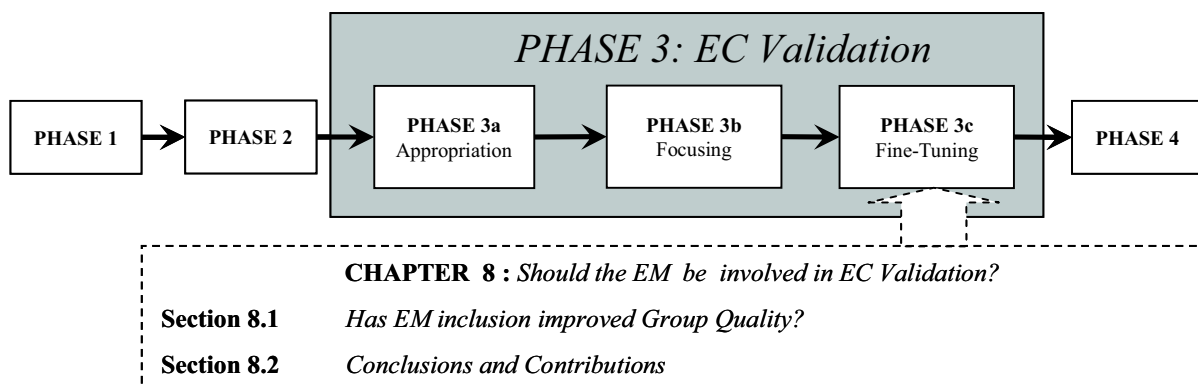


Figure 8.1 Sections in Chapter 8

8.1 Has EM inclusion improved Group Quality?

Group Quality has been defined as *the extent to which the people involved have sufficient knowledge to discuss, and power to implement, the decisions taken*. As shown in **Table 8.1** this section only discusses the property of *Completeness*. More specifically, the section shows that EM inclusion has increased *Completeness* in ACEAIP. As highlighted in the chapter, the presence of the environmental manager may be important to *protect* the environment-related ideas from being discarded before undergoing thorough analysis.

Group Quality Properties Analysed - PHASE 3				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific Meaning</i>
Consensus Quality	Group Quality	Completeness	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Minimize ideas lost due to failure to involve the managers proposing the ideas

Table 8.1 Potentially shifting properties due to choice of participants – PHASE 3

8.1.1 Consequences of EM inclusion - ACEAIP

The environment-related discussions in ACEAIP took place during the validation of the two cause effect chains EC1 and EC2 shown in **Figure 8.2**. In the case of EC1, there was little to discuss since the environmental management system (**L1a**) was a corporate-level project and its implementation did not depend on the will of the ACEA IP director. As a result the discussion took more the form of an update of the status of the project. However, on the issue of green-pricing (**L2a**), one of the key potential drivers of EC2, the EM is actively seeking to convince the CEO of the quality of the idea.

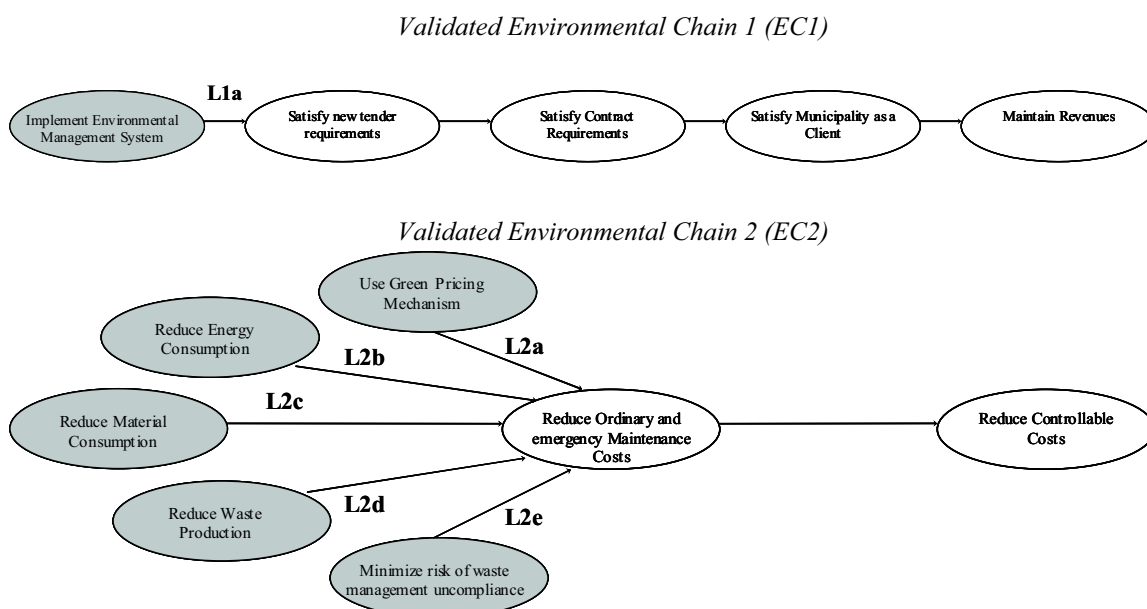


Figure 8.2 Validated Environmental Chains in ACEA IP

Defending L2a

- EM* Green pricing allows a large electricity user like ACTIS to pay an additional price and earmark it for investments in renewable energy production capacity. The electricity produced by this investment, most probably co-funded by EU money, could be sold at twice the current market price because of the current regulations.
- DIRECTOR* If I find a project that is financially feasible I will do it.
- EM* Also ACTIS would gain an immediate image-return...you could say that the entire city is lit with green electricity...
- DIRECTOR* OK...but do we already have a solid financial evaluation of the returns expected from constructing renewable energy production plants?
- EM* I gave the financial analysis of this project to the corporate institutional relationship director, my boss.
- DIRECTOR* Well...because that is quite important...if we have these financial evaluations of the return on the investment I will know that tomorrow I can become both a user and a shareholder of those facilities...furthermore I profit from the better image ...if you have the financial analysis I will be glad to consider it seriously.
- EM* I am carrying out the discussion at a group level...perhaps the analysis would change a bit if only ACTIS was to be involved...but on a group level the forecast is not only positive but very positive. The pay back time is quick especially considering that the European Commission co-funds these initiatives...today the average price for energy is 130 Liras⁷⁰/kWh you should convert this to euros to make it more contemporary while with the green pricing it is 260 Liras/kWh...The only setback we could encounter could be in getting the permissions to build power plants...but for this we could partner with the municipality to provide the necessary authorisation.
- DIRECTOR* Yes...and I would add that bringing in the municipality as a partner could well be possible because they would also better their image thanks to this.

The mechanism of green pricing and the reflections on whether it could be used to reduce costs, produce additional revenues and enhance image was a totally unknown concept in ACEA IP before this meeting. It is the environmental manager (EM) that brings it up during the interview phase and then defends it at the fine-tuning meeting. The point here is not so much whether ACEA IP will in the end follow-up with the project but that the EM's presence gave the possibility of considering such opportunity, as the director's reaction conveys. There is no doubt, at this stage, that if the environmental manager had been absent from such discussions such a valuable issue would never have been brought to the table. The environmental manager is the one who thought about it and studied the details putting together a well argued case. It seems unlikely that anybody else could replace him in explaining it.

For the other links in EC2 (L2b,c,d,e), the environmental manager does not know the potential himself and proposed to the director a pilot project where the volumes of the resources and their costs could be assessed for further clarification. I tried to ease the EM in:

⁷⁰ Lira is the Italian currency at this point in time. Italy then switched to the Euro currency: 2000 Liras = 1 Euro.

Defending L2b,c,d,e

- Interviewer* At this stage we do not know how much environmental resources are being consumed and what impact this has on the bottom line. This is why the environmental manager assistance might be of use to you...
- EM* Yes...if I may...we can see that the way ACEAIP is managed today is quite efficient, generally speaking, however there may be significant margin of improvement. In order to find this out I would need to perform an analysis of all the physical inputs and output of ACEAIP activities and couple it with costs. Unfortunately I cannot this on my own. I need one of the ACEAIP people to help me out dig out the info.
- DIRECTOR* You should probably talk to X1 and X2 because they are quite aware of our costs in terms of resources.
- EM* OK then...I will call you in a couple of days to know when I can contact X1 and X2. Hopefully, the analysis will be ready by the end of the research project. If you think that this methodology is useful please feel free to get someone from ACEAIP to help out with the number crunching exercise.
- DIRECTOR* OK...I will tell them and wait for your call....

In this case as well, the proposal to perform such analysis stems from the knowledge of the EM on environmental matters. The fact that the first step of any discussion should be an environmental analysis is something anyone with some background in environmental management knows. Methodologies to couple costs with use of environmental resources are (or at least should be) part of an EM tool kit. So, while the use of these methodologies is a rather obvious first step for environmental management professionals, it probably would not be for other managers. This analysis project would certainly not have been proposed, let alone actually launched, in the absence of the discussions generated by the research project and the presence of the environmental manager in such discussions.

8.1.2 Generalising the EM inclusion Process Rule

Chapter 1 defined the environmental manager as: ‘*someone who is in charge of finding the optimal ways for an organisation to deal with the environmental impact of its products and processes on the natural environment*’. However, the interest for the EM inclusion in this process step is not due to the managerial role, but rather his/her ability to defend the ideas that s/he proposed during the interviews.

In order to find a general all-encompassing Process Rule for this process in the research, the concept of *Environmental Idea Defenders* is introduced. Put more simply, these are individuals who defend an environment-related idea in front of the group. *Environmental Idea Defenders (EID)* are essential during the *Validation Phase* when choices about what to retain, change and/or add are being made. Some of these changes happen naturally, without much discussion, others are *defended* by one or two people in front of the the rest of the group. This issue is relevant for environmental managers for two reasons. Firstly, because the objective modified could be one of the objectives on which environmental work could have an impact. Loosing out on such an objective could be damaging from an environmental perspective. Secondly, because environmental work itself could be the subject for discussion. The concept of *Idea Defenders* is not exclusive to environmental matters. As shown in **Table 8.2**, in ACEAIP, there were nine *defence* events.

Event N.	Objective	Topic defended	Defender
1	<i>FI</i>	We want to Increase Sales and not only Maintain them	<i>CEO</i>
2	<i>FI</i>	Green Pricing is an opportunity	<i>EM</i>
3	<i>CI</i>	Municipality also wants low costs	<i>CEO</i>
4	<i>CI</i>	Implementation QSE Integrated Management System is a requirement	<i>EM</i>
5	<i>C3</i>	Intervention requests should have same weight regardless of the channel	<i>Myself</i>
6	<i>IP1</i>	Active role of Municipality Districts in communication with citizens	<i>CEO</i>
7	<i>IP2</i>	Tecnicos diagnosis capabilities today are not all the same	<i>Myself</i>
8	<i>IP3</i>	There should be a distinction between first intervention* and repair**	<i>Myself & Maint. Mgr</i>
9	<i>IP5</i>	We need to transform our employees from executers to coordinators	<i>CEO</i>

Table 8.2 Defence events and defenders in ACEAIP Objective Validation Phase

Notably on two of these topics, the researcher and author of this study was the only defender and subsequently both topics were dropped without much further discussion. In both cases, the topic used for discussion were used as the idea launcher with the idea that some members of the group would take it up and defend it, but the managers who raised the point in the interviews *did not speak out*. At that point, the researcher even doubted that he had heard those issues in the first place. But in referring back to the transcripts he realised that what he had witnessed was a group-type dysfunction or an omission of information. The researcher/interviewer was not able to present the argument more convincingly despite having captured the point in the quotes because he had no first-hand details about the rationale behind it. This event again speaks out for the need include knowledgeable managers in the

discussions, but also for some kind of facilitating process that will enable them to speak out when the moment comes (**Process Rule 3.10 – Table 8.3**).

In **Figure 8.3** the EM needs and capabilities have been coupled with the latter two phases of the Consensus Process. Up to this point, it has been argued that the empirical evidence supports EM inclusion in the *EC Validation Phase* because in most cases excluding this person would have meant that some useful or important topics would not have been brought to the discussions. In general terms, the researcher could witness this happening in practice because there was both *occasion* and *willingness*. Firstly and foremost the physical presence of the EM in discussions provided the *occasion* to bring the topic to the table. Secondly, we were also lucky enough to be in the presence of EMs with the *willingness* to defend their point of view in front of TMG, which, as shown by the omissions experienced on other topics, should not be taken for granted.

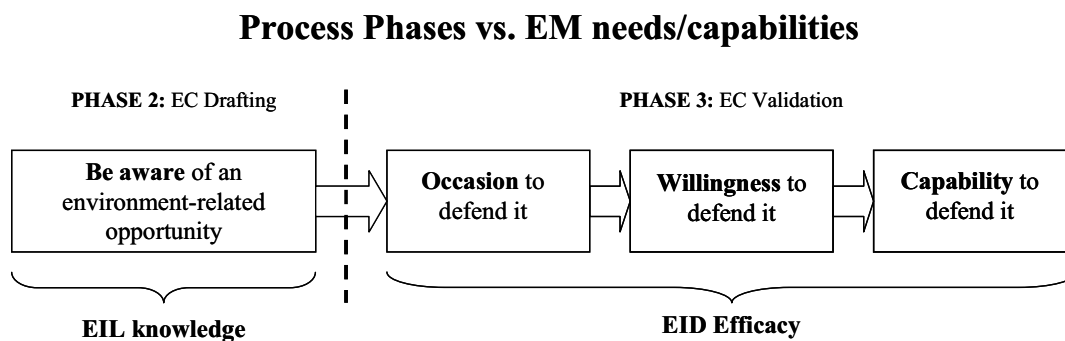


Figure 8.3 The Phases of a Discussion Event

It can be said that the Process Rules so far suggested only took care of these first two factors while totally ignoring the existence of a third factor: the *ability to defend*. If the EM decides to defend an argument his ability to do so will influence whether or not s/he is successful in getting the necessary buy-in from other members of the group for the idea to be explored further. Techniques aimed at maximising the EID’s ability to defend seem desirable (**Process Rule 3.11 – Table 8.3**).

To this end, it might even be the case that the EM will call upon a reputable manager that has higher likelihood of being taken seriously by the TMG. This means that, at least in theory, it should not be taken for granted that the EID should be the environmental manager, or her/him alone. The Process Rule then becomes:

Process Rule N.3-4 (previous chapter)

Include the Environmental Manager

Process Rule N.3-4 (revised)

Include EID's to maximize occasion, willingness and capability to defend

8.2 Conclusions and contributions

The aim of this chapter was to address the importance of the contribution of the environmental managers. The empirical evidence gathered in ACEAIP suggests that the *EC Validation Phase* is a threat to *Completeness* because there is the risk that relevant topics are discarded if the person defending the idea is absent from discussions.

As shown in **Table 8.3** it is proposed that the Process Rule changes from *EM inclusion* to *EID inclusion to maximise occasion, willingness and ability to defend*. This idea is broader than simply *EM inclusion* and allows the environmental manager to ask the right questions on how and when to use additional support available within or outside the company.

Process Rules - PHASE 3 - Final		
	Questions for EM's	Process Rules
Appropriation	How to maximize Consensus Level and Quality?	3-1. Do not omit any potential BSC objective mentioned in the interviews
		3-2. Use criteria in Table 7.1
		3-3. Invite all interviewees to Appropriation workshop
3-4. Include EID's to maximize occasion, willingness and capability to defend		Revised
3-5. Choose to Focus on one or two EC's		
3-6. Exclude managers who's area of responsibility will not be discussed		
3-7. Include key managers		
3-8. Include second tier managers		
3-9. Follow the Criteria in Table 7.6		
3-10. Think of techniques to increase willingness to defend of chosen EID's		Added
3-11. Thinks of how to increase the capabilities to defend of the chosen EID's		Added
No Fill = Decision taken through use of common sense; Greyed = Decision taken through use of relevant literature; Black = Supported by the empirical evidence		

Table 8.3 Consensus Process Rules PHASE 3 - Final

8.2.1 Contribution to the literature

The contribution to the literature is mainly to point at the importance of defence events for the environmental managers. Also the addition of the concept of *Environmental Idea Defenders* and the criteria *occasion*, *willingness* and *ability* which are influential in formulating a strong defence for any argument are new additions to the literature on environmental management, which has not, so far, gone into this level of detail.

8.2.2 Limitations and future research

While the Process Rule of EM inclusion had its limits, the modifications introduced in this chapter are more generally applicable. In practice, it would be useful at this juncture to ask the question:

Who should be involved in discussions in order to maximise *occasion*, *willingness* and *ability* to defend environmental projects and proposals?

The role of *defender* of an idea suggests that probably the body of literature on group dynamics and sales techniques may bring value to the discussion at hand. Also, the findings that are shown in a qualitative way for environmental managers could be tested on other types of specialists, especially if sitting at corporate level, since the characteristics of *preferential* knowledge would certainly apply in their case as well.

8.2.3 Contribution to practice

Environmental managers reading this chapter will probably be encouraged by the idea that they should also be involved in this phase of the strategic discussion as *Environmental Idea Defenders*. For them, this is clearly a desirable outcome, but it is, as for Chapter 6, no great novelty. As the survey of Swedish environmental managers suggests they already think they can contribute to the strategic discussion, it is the TMG that does not seem to acknowledge that (NMC 1997, 1998, 1999, 2000, 2001, 2002). So, the key contribution to practice is not so much the one pointing at the necessity of environmental managers to be put in a position to defend the issues they have themselves raised but to the impossibility for the TMG members to do so.

Top managers reading this chapter may be left asking themselves whether the current modes of communication allow relevant topics to come up in their agenda or if they are laying dormant somewhere in the organisation because, even if raised in TMG meetings, no one would be able to constructively comment on them. This chapter shows at least two points of practical relevance for them. Firstly, that the involvement of *Environmental Idea Defenders* in decision making might be beneficial to them. Second that it might also be very easily arranged and cost effective. The knowledge may be already there, it just needs to be appropriately brought to the attention of the decision makers.

TO DATE and FORWARD

This chapter delved into the interaction part of the study where managers have come to a group-level view of environmental chains. The next chapter will discuss the indicator building process and results.

9 Indicator Building (PHASE 4)

The Research Problem – Final Version

What consensus process can increase the environmental manager and TMG consensus level and quality over the environment cause-effect chains?

Chapters 7 and 8 discussed the process aimed at validating Environmental Chains. This is only the first step in the development of the content of the cause-effect chains since these require the definition of additional elements such as *indicators*, *targets* and *projects*⁷¹. This Chapter describes the process of building indicators coming to the conclusion that Consensus Content Quality increases not only because of the fact of building indicators but also because it generates changes in the BSC Objectives. Furthermore, the chapter points to the fact that EM absence from the definition of the environment-related indicators decreases Consensus Group Quality.

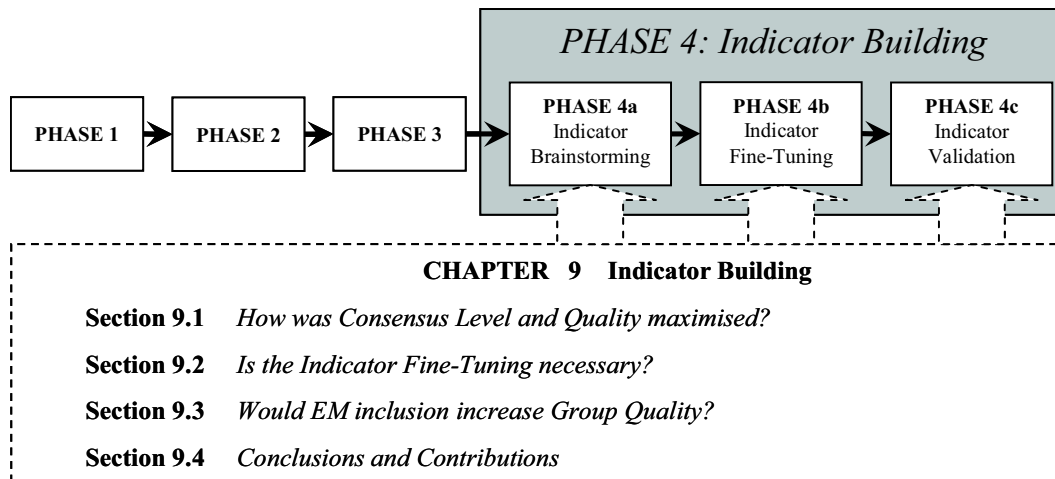


Figure 9.1 Contents of Chapter 9

⁷¹ See Chapter 2

For the *Indicator Building* phase Kaplan and Norton (1996a, p. 307) propose to brainstorm indicators during the first executive workshop (i.e. the one where also BSC Objectives validation takes place). During this workshop the executive group should be split into four sub-groups each one of which will be responsible for one of the perspectives. Second tier managers⁷² should also be invited to participate in order to ‘broaden the base of deliberations and consensus’. The architect will then work for several meetings with each of the sub-groups to determine:

- i. the ultimate wording for the objectives; the measures that best capture the objectives;
- ii. the sources of the necessary information; and the key linkages among measures.

Once this work has been carried out the executives would meet again in a second workshop and validate the work of the sub-groups. (Kaplan and Norton, 1996a, p.307).

As shown in **Figure 9.1**, the logic and the sequence of actions suggested by Kaplan and Norton has been retained for the purposes of this research. The *Indicator Building Phase* has been divided into three sub-phases: *Brainstorming*, *Fine-tuning* and *Validation*. The *Indicator Brainstorming*, aims at generating a wide array of possible indicators. The *Indicator Fine-Tuning* focuses and elaborates on those indicators deemed of interest. The *Indicator Validation* validates the indicators that have been *fine-tuned*.

The discussion on the shift in Consensus Level and Quality is a focus of the *Indicator Fine-Tuning Phase* because that is where the content actually changed. **Section 9.1** details the Process Rules followed. **Section 9.2** discusses why an *Indicator Fine-Tuning Phase* is necessary as well as detailing how, also according to empirical evidence, Consensus Level and Quality are shifting. **Section 9.3** discusses why it seems important for the EM to attend the *Indicator Fine-Tuning* discussions. **Section 9.4** specifies conclusions and contributions.

9.1 How was Consensus Level and Quality maximised?

⁷² The authors call them *key functional managers*

In the previous two chapters the aim was to build and validate a set of BSC Objectives and units, that is, a set of concepts describing *what the TMG wants to achieve and how*. The process rules aimed, up to now, at avoiding certain individual cognition and group dynamics phenomena in building BSC Objectives. Now the aim is to counteract the same phenomena during the definition of indicators. Even though the object of discussion is of a different nature (i.e. indicators *versus* objectives) this phase is very similar to the previous ones in that it: involves individuals; forces them to interact in discussions; and seeks to achieve some kind of negotiated agreement.

It is not surprising if individual cognition and group dynamics phenomena have a role to play here as well.

The final aim for Phase 4 is for the TMG to build indicators that satisfy the criteria in **Table 9.1**⁷³. The Process Rules contained in this section will detail how the research dealt with and tried to avoid individual cognition and group dynamics problems. As for the issue of *who to involve in the process*, Kaplan and Norton's suggestion of bringing in some key middle managers was applied (**Process Rule 4-1 – Table 9.14**). As for all the other process phases the environmental manager was always involved (**Process Rule 4-2 – Table 9.14**).

⁷³ See **Section 2.2** for more details

INDICATOR DEFINITION		
N.	An Indicator should...	because...
<i>Neely, Adams and Kennerly, 2002</i>		
1	...be built with reference to a specific objective or a project	...otherwise it will not be possible to remember why the firm is using that measure in the first place.
2	...have a clear and evocative title...	...otherwise it will be impossible for people to refer to it and remember it.
3	...have a clear mathematical formula...	...it allows comparability through time by ensuring that calculations are performed always according to the same rules.
4	...have a calculation and reporting frequency...	...it makes sure the information contained in the measure is analysed at the best moment in time, when decisions need to be taken.
5	...have a codified data gathering process...	...it ensures that the data needed to keep the measure 'alive' is entered correctly and timely.
6	...have a target level...	...it forces managers to set expectations and couple with projects.
7	...be fueled by one or more projects...	...it is only a waste of time and money to measure progress in an area that nobody is working to improve.
8	...have specific managers responsible for projects	...somebody should be responsible for the actions making that indicator improve.
<i>Additional for This Study</i>		
9	...has been discussed and validated by TMG	...it is in accordance with this study research problem

Table 9.1 Indicator definition (Adapted from Neely et al. 2002, p.37)

9.1.1 Process followed in the *Indicator Brainstorming Phase*

The participants in the *Indicator Brainstorming Workshop* were the same executives as those participating in the previous process phase (**Process Rule 4.3 – Table 9.14**). The reason for this is that since the knowledge gained in the Objective-building workshop would be useful for this phase, it seemed beneficial to call on the people who had participated in the Objective-building discussions. A lot of the terms used had already been criticised, negotiated and defined thus reducing the possibility of misunderstanding. The

discussions were conducted, objective by objective, and followed the five sequential steps detailed in **Table 9.2 (Process Rule 4.4 – Table 9.14)**.

N.	Steps to brainstorm indicators related to a BSC objective
1	Read the objective out loud to the group
2	Make a list of possible indicators
3	Check their consistency with the contents of the BSC Objectives
4	Revise BSC Objectives contents and/or select the more relevant indicators
5	Discuss definition of new words in indicator title if necessary
Note!	Recommended that managers to avoid criticising indicators proposed
Note!	Cut the conversation if it becomes too specific on any given indicator

Table 9.2 Steps to *Brainstorm Indicators* related to a BSC Objective

9.1.2 Process followed in the *Indicator Fine-Tuning Phase*

It is in this second step of the process that middle managers start participating in the discussion process. Participants are divided into subgroups with each subgroup including the participation of some TMG and some middle managers. In order to identify the participants for each subgroup the director, was asked two questions as highlighted in **Table 9.3**. A positive answer to these questions would entail an automatic inclusion in the subgroup (**Process Rule 4.5 – Table 9.14**).

N.	Criteria for second tier manager inclusion in sub-group
1	Are there managers that have exclusive knowledge of relevance for those subgroup objectives?
2	Are there managers whose assistance is needed to eventually implement indicators or the related projects?

Table 9.3 Criteria for second tier manager inclusion in sub-group

The aim of this phase of the process is twofold. Firstly, there is a need to reduce the number of indicators to a relevant subset of the brainstormed list. Secondly, there is the need to become more specific about the definition of the indicator. To do so the checklist in **Table 9.1** from Chapter 2 was used. It was a useful format that needed to be completed for each and every indicator (**Process Rule 4.6 – Table 9.14**)

9.1.3 Process followed in the *Indicator Validation Phase*

The aim of the *Indicator Validation Phase* is to get the entire TMG to approve the fine-tuned indicators. It should have taken the form of a workshop where all TMG members could participate and which, in theory, would have increased the likelihood of future commitment to the use of the indicators. However, this was not possible in either of the organisations used in this study. This process phase shows the ultimate limits reached in the action-orientated data-gathering work.

9.2 Is the *Indicator Fine-Tuning Phase* necessary?

Kaplan and Norton suggest the execution of an *Indicator Fine-Tuning Phase* aimed at selecting the most important indicators from the previously brainstormed list. Again, we should be asking first of all whether or not this step is really needed since gathering top managers in one room is costly.

9.2.1 Why would the *Indicator Fine-Tuning* increase Consensus Level and Quality?

The situation at this stage is that the group of participants have come to a common definition of a number of objectives they will pursue as a team. In doing so, and as

described in Chapters 7 and 8 the Consensus Level and Quality has the potential to increase, and, in some cases, it does so. Now, the task given to the participants is to specify quantitative proxies of the concepts they have previously defined in words. This, in itself, represents a potential increase in Content Quality because the indicator can be intended as a *process* device allowing counteracting individual cognition and group dynamics mistakes. It is a *wall of evidence* aimed at providing evidence of whether or not the management hypothesis were right or wrong.

There are two aspects relating to the issue of building indicators. The first is what happens while building them. The second are the consequences of *using* the quantitative data at a later stage to assess what happened and decide the way forward. In **Tables 9.4** and **9.5** no distinction has been made because the decision of whether or not to build indicators should be taken based on *all* its potential consequences, and not only on the consequences of the process phase at hand.

Individual Cognition Problems		
Label	Explanation	Usefulness of Indicators
Illusory Correlation	Assume events are correlated that in fact are not, because they are similar.	Measuring the issues will show whether or not they are actually correlated
Illusory Causation	Assume events are causal, that in fact are not, because they are focus of attention.	Measuring will show whether or not the events are actually causal
Gap-creating	Assume events did not occur, that in fact did, because they are schema-irrelevant.	If we assume that schemas are clear then there would be no influence. The issue is that building an indicator includes the formalization of the 'schema', that is, the exact components of the issue to be measured. The gap-creating phenomenon will be counter-acted only to the extent that the related schema will be more clearly specified.
Gap-filling	Assume events occurred, that in fact did not, because they are schema-relevant.	See Gap-Creating.
Ignoring overly discrepant information	Fail to code or store information that is extreme or highly surprising.	Building and indicator means looking for the discrepant information.
Preference for ambiguous information	Prefer ambiguous information to avoid self-deprecatory learning.	There is less space for ambiguity when indicators are built because there is a measurement.
Preference for self-enhancing information	Fail to code or store self-deprecatory information.	Once indicators are built managers cannot choose unilaterally to change them. They cannot fall back on self-enhancing information.

Table 9.4 How do indicators potentially counter-act individual cognition problems?

Group-type Mistakes		
Label	Phenomenon	Usefulness of Indicators
Message Tuning	Overestimate the commonality of information shared and tune communication accordingly	NO INFLUENCE
Message Distortion	Modify the message based on perceived desires of the receiver	NO INFLUENCE
Biased Interpretation	Bend a message towards one's own pre-conceptions or ideas	NO INFLUENCE
Transparency Illusion	Belief that one's own thoughts and attitudes are more obvious to others than is actually the case	NO INFLUENCE
Indirect Speech Acts	Concealing a request behind indirect statements	NO INFLUENCE
Uneven Communication	Relatively few people (not necessarily the most informed) tend to do the majority of the talking	NO INFLUENCE
Common Info Effect	People tend to discuss what everyone already knows	When indicators are built managers will be forced to discuss the issues that are not going according to the expectations. The indicators are evidence of this deviance.
Need to be Right	The tendency of looking at the group to define what reality is	Building indicators on customer and other stakeholder expectations will bring within the group the 'voice' of these people which may be pointing at the fact that the managers opinions are wrong.
Need to be Liked	The tendency for people to agree with a group so that they can feel more like a part of that group	Indicators are objective evidence of what happened. While there is still interpretation to be done it may be easier for somebody to challenge the group without fearing of being disliked because he/she is only commenting on existing evidence.
Group Think	Deterioration of mental efficiency/judgement due to unconscious pressure to conform to perceived group opinion	Indicators provide evidence for whether or not group opinion is right.
Escalation of Commitment	Persisting in a losing course of action only because of the to-date involvement in that action	Indicators may show that escalating is an irrational choice.
Abilene Paradox	Agreement of all group members to an individually undesirable course of action solely due to misperception of each others' preferences.	NO INFLUENCE
Group Polarization	The tendency for group discussion to produce a more extreme judgement than might be obtained by pooling the individuals' views separately.	NO INFLUENCE

Table 9.5 How do indicators potentially counter-act group type mistakes?

9.2.2 What Consensus Level and Quality properties will I discuss?

As shown in **Table 9.6** Consensus Level and Quality are expected to shift during the Fine-Tuning phase. Consensus Level should shift automatically because managers will agree on all the different components of an indicator. Again, and similarly to Chapter 7, while the formal consensus is there by-design it should not be taken for granted that intimate consensus exists. Interaction Quality will shift because managers are interacting. Group Quality should shift because of the insertion in the discussion of people, such as the environmental manager, that would normally not be involved in these strategic discussions. Content Quality may shift due to the exchange between managers on a new set of questions, i.e. the questions that managers should answer in order to build a good set of indicators (See **Table 9.1**).

<i>Potentially Shifting Properties during Fine-Tuning</i>			
<i>Concept</i>	<i>Definition</i>	<i>Properties</i>	<i>Definition</i>
Consensus Level	level of agreement between managers on decisions taken.	<i>No Properties</i>	
Consensus Quality	the extent to which the decisions taken are likely to result in the desired firm performance	Interaction Quality	the extent to which the interaction managed to solve individual cognition problems and avoid falling into group dynamics mistakes.
		Group Quality	the extent to which the people involved have sufficient knowledge to discuss and power to implement the decisions taken.
		Content Quality	the quality of the information

Table 9.6 Potentially Shifting Properties during Indicator Fine-Tuning Phase

9.2.3 Did Indicator Fine-Tuning increase Consensus Level?

The *Indicator Fine-tuning* was carried out in sub-groups this means that the Consensus Level referred to here is the one between the sub-group participants. There are two distinct situations to evaluate. The first situation is one where an indicator on that specific topic (e.g. costs) already exists. Consensus Level increases if, compared to the situation before this process step, more managers now agree on what the indicator means and why it is useful. The second situation is one where the indicator developed did not exist or is different from the one that the participants used to describe that same topic. In this second case, Consensus Level increases by design because the object of consensus was absent.

As shown in **Table 9.7** even though only five objectives were worked on in total (i.e. three in ACEAIP and two in BETA), in all cases the indicators were either new or significantly modified. This means that, certainly, formal Consensus Level has increased.

<i>Indicators Built</i>		
Indicator Name	Indicator Objective	New?
<i>ACEAIP</i>		
F1i1 - Sales Volume	Measure the financial consequences of increasing the volume of work with the Municipality and with other clients.	<i>Modified</i>
F1i2 - Sales Volume Forecast Reliability	Measure the quality of the forecast and the capability of respecting expected timing.	<i>NEW</i>
F2i1 - Controllable Costs	Measure total costs net of investments and holding overheads.	<i>NEW</i>
F2i2 - Holding Costs	Show how much the holding costs influence the total costs of ACEAIP.	<i>NEW</i>
IP6i1 - Maintenance Costs per light	Measure how much it costs to maintain the existing street lights on.	<i>Modified</i>
IP6i2 - Production Costs per light	Measure how much it actually costs to increase street lighting.	<i>Modified</i>
<i>VEUVE CLICQUOT PONSARDIN</i>		
IP1i1 - Sustainable Viticulture (SV) Starters	Measure the quality and quantity of propositions for new sustainability related projects coming from employees.	<i>NEW</i>
IP1i2 - SV projects implemented	Measure the quality of VCP selection and testing processes.	<i>NEW</i>
IP1i3 - SV Practices Acquired	Measure the state of the implementation process	<i>NEW</i>
IP2i1 - New Technical Partners	Know the number of suppliers with which there is an exchange on vineyard management practices, an indication of long-term loyalty.	<i>NEW</i>
IP2i2 - New self-evaluated suppliers	To be able to know the quality of the environmental work of that particular supplier. It is the basis of real Sustainable Viticulture.	<i>NEW</i>

Table 9.7 What happened to the indicators in *Fine-tuning phase*?

9.2.4 Did *Indicator Fine-Tuning* increase Content Quality?

Content Quality should increase automatically because the explicit task of this process step is to build indicators. As shown in **Table 9.8** building indicators for a concept that was, so far, only defined with words has the potential to impact on several Content Quality Properties such as believability, accuracy, objectivity, value-added, timeliness, interpretability and ease of understanding. The actual increase was not measured in this study because the content quality framework was looked for (and found) only after the data gathering step.

Content Quality properties potentially impacted by INDICATOR BUILDING		
Sub/Property	Definition	Why would Indicators have an impact?
Believability	The extent to which data are accepted or regarded as true, real, credible.	The fact of having an indicator measuring the concept reduces the space for interpretation.
Accuracy	The extent to which data are correct reliable and certified free of error.	Until this step there could not be any accuracy because the data was entirely qualitative.
Objectivity	the extent to which data are unbiased (unprejudiced) and impartial.	Quantitative data is impartial by nature.
Value-Added	The extent to which data are beneficial and provides advantages from their use.	Certainly having quantitative measures on the objectives seems to be a useful for the managers that will be able to assess whether the hypothesis they made about strategy are actually working.
Timeliness	The extent to which the age of the data is appropriate for the task at hand.	This is also a new criteria that enters into the picture just now because in the definition of indicators there is also a time criteria of when the data should be updated and how often it should be discussed.
Interpretability	The extent to which data are in appropriate language and units and the data definitions are clear.	The work on indicators forces management to decide even more precise language and units. This is possibly the reason why objectives do change as a result.
Ease of Understanding	The extent to which data are clear without ambiguity and easily understood.	A concept with an indicator attached will probably be clearer.

Table 9.8 Content Quality Properties potentially impacted by Indicator Building.

However, apart from the expected advantages of building indicators, focus of this process step, the empirical work has highlighted a non-negligible side effect: the modification of the validated objectives due to the indicator-related discussions. From a methodology stand-point this *should not have happened* because the objectives have been discussed

and validated in the previous process step. On the contrary, there are at least three reasons why the occurrence of this phenomenon should not be a surprise highlighted as follows:

- (i) Participants may keep reflecting on the topics discussed and may gather (or retrieve from memory) additional data.
- (ii) Involving middle managers in the process, may also bring new information.
- (iii) Building an indicator requires a very clear definition of the object-to-be-measured. Managers may realise that their definitions were simply not good enough and be forced to fine-tune them.

To exemplify how these mechanisms manifest themselves it is best to show the example of the discussion on the Sales Objectives in ACEAIP. The dialogue below contains extracts of the 15-minute conversation taken from the *Indicator Brainstorming Phase*.

Validated BSC Objective (F1): *Increase Volume Sales by retaining the Municipality Client, the satisfaction of the Municipality, the Municipality-Districts and the Citizens, the increase of production efficiency and the acquisition of new third-party⁷⁴ clients*

INTERVIEWER *Let's talk about F1, the objective related to Sales Volume...how do you currently measure this?*

CONTROLLER *We measure the total increase in Sales Volume...*

INTERVIEWER *Let's open up some possibilities...would it be best to measure a difference between years, a weighted percentage of that difference...when do you close the accounting for the year?*

DIRECTOR *We open 1 January and close 31 December '...we are interested in the economic event, not in its financial implications...*

INTERVIEWER *Not interested?*

DIRECTOR *No...the moment of economic interest is when the new street lights go on...*

CONTROLLER *We consider an amount in our Sales Volume at the exact moment that we send the invoice...we send the invoice once the lights go on because it means that the work has been finalised...regardless of the fact that the payment of the invoice will happen later on.*

⁷⁴ *Third-Party Clients* are all the clients except for the Municipality of Rome, the main client (90% of Sales) of ACEAIP

DIRECTOR ...I was thinking...we could give to the Sales Volume a management twist...

INTERVIEWER You mean... 'what I thought I would do is what I actually did'? ...

DIRECTOR Bravo! But we could apply this on the Sales Volumes...it would be interesting to know that if we had managed things in a different way we would have brought home a higher volume of sales...yes, this would be really interesting!

INTERVIEWER Then we are talking about a delta...something like, forecast sales volume minus obtained sales volume...

DIRECTOR To be precise there are three types of Sales Volumes: forecast, generated and accounted. Forecast sales is the amount I think I will be able to obtain the following year, it is the number I put in my budget. Generated is the amount of sales I have sold during the year, some of this may be still on the make at the end of the year. Accounted relates to that portion of the generated sales that I am capable of finishing and invoicing by 31 December . For example, if I forecast 100, I might generate 90 and account for 80...

MYSELF So these are indicators to be considered...

DIRECTOR Yes, because if I forecast 100 I will plan my resources accordingly, I will ensure that the people I have are able to deliver 100. This constitutes an investment that I make vis a vis the sales I expect...if I fail to reach this number I need to know it and assess the causes of the failure and act on them...one of our key capabilities towards the Rome Municipality is to tell them how much work we can carry out the following year because they build their budgets and look for the money based on this premise...if I am not capable of realising what I have promised the Municipality will be unhappy for two reasons. Firstly, because they have spent time and energy looking for the [unused] funds. Secondly, because they will have to do additional paper work to re-direct them.

CONTROLLER It seems that this is an additional indicator. The accounted Sales Volume is certainly interesting and we cannot do anything about that, but we could add another indicator to show our capability to fulfil forecasts...

MYSELF To recap...it seems that we have two things here...one is the sales increase and the other is forecast precision...let's leave these two to the Fine-Tuning Phase and go forward to the next objective...

NEW!

Modified BSC Objective (F1): Increase Forecast Precision and Volume Sales by retaining the Municipality Client, the satisfaction of the Municipality, the Municipality-Districts and the Citizens, the increase of production efficiency and the acquisition of third-party clients

The addition of *forecast precision* to the BSC Objective text was sparked by my question on the interval used by ACEAIP to measure Volume Sales which is typical of the indicator building efforts. This means that this objective modification is not (only) due to

the failure to *find* this concept in the interview phase, but rather that this indicator-specific question sparked the attention of managers on an aspect of the objective previously gone unnoticed.

As shown in **Tables 9.9** and **9.10** the work focuses on some of the indicators as there was not sufficient opportunity to work on all. In *all six cases* the BSC Objective and/or Sub-objective changed as a result of the *Indicator Building Phase*. These changes can be classified into two broad categories: *stylistic* and *strategic*. The *stylistic changes* aim at improving the clarity of the ideas while leaving unchanged the nature of the message. The *strategic changes, on the other hand*, constitute major decisions to insert/eliminate BSC Objectives and/or significantly modify them.

The property under discussion here is *completeness*, that is, the extent to which data is of sufficient breadth, depth, and scope for the task at hand. Since the changes are applied to BSC Objectives the task at hand is the same as in **Chapter 7**, to *make the right choice*, that is, the choice that yields the best possible results for the company. This means that at this stage it is impossible to know whether completeness has increased or not. This assessment can only be done at a later stage by asking the managers whether or not the modifications in the BSC Objectives proved to be the right ones. It could very well be that some of the decisions taken here, like the modification of an objective, could prove to be the wrong decisions.

BSC Objectives Before and After PHASE 4

N.	Objective Title after Phase 3	Stylistic Change	Strategic Change
ACEAIP			
F1	Increase Forecast Precision and Volume Sales		
F2	Decrease Controllable Costs		
IP5	Reduce Grid Management and Maintenance Costs		
BETA			
IP1	Innovate faster than competitors in the Sustainable Viticulture		
IP2	Improve Supplier Performance		
IP6	Improve Communication Quality with Local Actors		

Before	After
ACEAIP -- F2 – Decrease Controllable Costs	
We will bring the EBIT to XX% within XX years through the retention of the Municipality Client and a more efficient ordinary maintenance, a reduction of the need of emergency maintenance and the increase of additional clients	We will reduce controllable costs through making the maintenance, management and construction processes more efficient as well as reducing the need to repair.
Definitions: <i>Controllable Costs</i> are those costs that are under the control of ACEAIP	
BETA -- – Innovate faster than competitors in the SV	
To be recognized as leaders in the Champagne region in our vineyard management practices we have to innovate faster than competitors and be capable of communicating them	We will innovate faster and more effectively than our competitors in the Sustainable Viticulture thanks to a constant attention to the new technical developments, the collaboration with official professional bodies and suppliers. We will also enhance training, creativity and the exchange among our vineyard employees
Definitions: <i>Innovation:</i> All those actions (including insertion of technical innovations, training and/or management tools) that we think have the potential to improve performance of BETA and its suppliers.	

Table 9.9 Types of changes in BSC Objectives

Table 9.10 Two examples of changes of Objectives

9.3 Would EM inclusion increase Group Quality?

Group Quality has been defined as: *the extent to which the people involved have sufficient knowledge to discuss, and power to implement, the decisions taken.* As shown in **Table 9.11** this section only discusses the property of *Completeness*. More specifically, the section aims to highlight that EM inclusion may be important to *protect* the environment-related ideas, and the *related objectives*⁷⁵ from being discarded before undergoing thorough analysis.

<i>Group Quality Properties Analyzed - PHASE 3</i>				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific Meaning</i>
Consensus Quality	Group Quality	Completeness	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Minimize ideas lost due to failure to involve the managers proposing the ideas

Table 9.11 Potentially shifting properties due to choice of participants – PHASE 3

It is by now clear that in this phase two processes are at work. One pertains to the construction of the indicators, the other to a revision of the objectives and sub-objectives. These two processes are strictly bound. The starting point is certainly the desire to build indicators. Without this intention nothing would happen. However, while the TMG builds the indicators they change their mind on certain issues and consequently revise objectives and sub-objectives.

The revision of objectives and sub-objectives seems important from an EM point of view because environmental issues may be connected to objectives that TMG decides to eliminate or insert. The following two sections deal separately with one example of *objective revision* and one of *sub-objective revision* to clarify the risks and the opportunities.

9.3.1 EM and the objective revision

⁷⁵ A *Related objective* is a BSC Objective that is influenced by environmental-related activities. It is an objective in the cause-effect chain that links the environmental objective to the BSC Objective in the financial perspective.

The objective revision may pertain either to the broadening of the concept to include additional issues or to the change in the definition of the concept. Both cases are included in what has been termed *strategic change*⁷⁶. The broadening of the objective concept seems to be mostly an opportunity for the EM because it introduces additional possibilities for environmental issues to be of relevance for. However, as shown in the following example taken from ACEAIP, a broader objective (i.e. which includes more sub-objectives) also has the potential to dilute the contribution of environmental work.

In ACEAIP the objective *increase profits* was changed to *decrease controllable costs*. This happened for two reasons. Firstly, the management decided that what they were really interested in controlling was *cost*. Secondly, the ACEAIP management decided that holding overheads and investments should be excluded from the cost-efficiency indicator. Holding overheads should be excluded because they were imposed upon ACEAIP at the corporate level. Their inclusion in an internal efficiency-type indicator would only *pollute* the data. Investments should be excluded because otherwise there would be an incentive to reduce them. For those expenses another indicator should be built along the lines of a return-on-investment type of measure. The total costs net of holding overheads and investments were called *controllable* because the management was *in control* of all the levers necessary to reduce them.

As shown in **Table 9.12**, this objective revision increases the relevance and weight of environmental topics. While environmental costs are always the same as an absolute, controllable costs are less than the total costs. As a result environmental costs go from **36%** to **50%**. If the objective of ‘reducing costs’ was left broad, that is, to include the holding overheads and investments, the environmental costs would have appeared as a smaller portion of the total costs. The reduction of the scope of the objective gives, in this case, more visibility and weight to environmental work. By being aware of this phenomenon the environmental manager can look critically at the overall indicators that environmental work is supposed to impact on and make sure that the true impact is being measured and managed.

⁷⁶ A change is *strategic* when the object of the company efforts after this decision will be different than the one before the decision. See **Section 7.2.4**.

BSC Indicator –Total Costs	
Cost of Energy	15 M€
Cost of Materials	4,5 M€
Cost of Waste	0.5 M€
Environmental Costs	20 M€
Controllable Costs	40 M€
Holding Overheads	5 M€
Investments	10 M€
Total Costs	55 M€
<i>Environmental Costs as % of <u>Total Costs</u></i>	36 %
<i>Environmental Costs as % of <u>Controllable Costs</u></i>	50 %

Table 9.12 Example of effect of changes in key indicators on perceived importance of environmental issues.

9.3.2 EM role in sub-objective revision

As shown in **Table 9.12** each BSC Objective usually has a number of Sub-objectives. Given the very large amount of Sub-objectives managers may have the tendency to build indicators only for some of them. On top of the fact that implementing indicators has a cost (e.g. data gathering, reporting etc.) this tendency is certainly healthy because having too many may not allow appropriate time for revision. On the other hand, the very fact of making choices exposes the managers to the risk to over-focus the attention on certain issues and under-focus on others. Let's take an example.

In ACEAIP⁷⁷ there is an objective called: Reduce Grid Running Costs (See **Figure 5.7**) ACEAIP management has divided the activity of running the grid into two main processes. The *Maintenance Process* takes care of maintaining through time the ability of the grid to function by, for example, substituting obsolete components such as light bulbs, light poles, transformers, cables and so on. The *Grid Management Process* includes all those activities that pertain to the use of the grid such as, decisions to turn the grid on or off, the analysis of the grid failures and the (daily) indication of grid repairs sequence and priority . Grid running costs can be reduced in one of the following three ways:

⁷⁷ Street Lighting Business Unit.

- (i) by reducing maintenance costs; by reducing grid maintenance costs; or
- (ii) by reducing both.

If the time dimension was not an issue this would not represent a problem. Management could carry out the analysis on the best available alternatives and pursue them. Real life may turn out to be a bit different. Time constraints, misunderstandings and power struggles may induce the management group to focus efforts only on one of these areas without further investigation. This phenomenon might occur in this phase because of the question: *why do you want to build an indicator for this sub-objective?* Here management is forced to decide whether they really believe this sub-objective can be improved.

This decision has important environmental implications because, as shown in **Table 9.13** different sub-objectives may have different environmental implications. In the case of grid management the maintenance process consumes materials (e.g. new light poles) and produces waste (e.g. old light poles) while the grid management mainly consumes energy (i.e. electricity needed to keep the lights on). For the grid management director energy costs weigh **83%**. It is very likely that if he is given the objective of reducing cost his top priority may be the energy issue. On the contrary, for the grid running operations director energy costs only weigh **25%**, the incentive to look at that issue is therefore much lower. In other words, a choice to focus on reducing the costs of the maintenance process alone will *reduce the incentive to devote efforts in exploring ways to reduce electricity consumption*.

BSC Indicator – Grid Running Costs		
	Energy Costs (as % of...)	Material Costs (as % of...)
Grid Running Costs	53%	6%
Maintenance Costs	-	10%
Grid Management Costs	83%	1%

Table 9.13 Grid Running Costs

9.3.3 Generalising the EM inclusion rule

This issue seems to call for the environmental manager's presence at this stage of the discussion because this is a *point of choice* where certain topics might *receive precedence over others*. The opportunity and ability of the EM to defend the relevance of environment-related issues is here just as important as it was in the objective validation phase (i.e. **Chapter 8**). The prescription of EM presence, similarly to the previous chapter will then be modified as follows:

Process Rule 4-1 (previous version)

Include the Environmental Manager

Process Rule 4-1 (final version)

Include one or more EID's to maximise occasion, willingness and capability characteristics

9.4 Conclusions and contributions

The aim of this chapter was to describe and comment on the *Indicator Building Phase* of the process (PHASE 4), which was carried out in three steps: *Brainstorming*, *Fine-Tuning* and *Validation*. The *Brainstorming Phase* aimed at producing a long list of indicators options. The *Fine-Tuning Phase* aimed at selecting in sub-groups only the critical few that the management will decide to focus its efforts on as well as defining in more detail the specifics of the indicator (e.g. formula, target, etc.). The *Validation Phase* aimed at validating the choices in a plenary session with the entire management team. This last phase was not carried out in this study.

The Process Rules followed in the first two sub-phases are described before focusing on the Fine-tuning Phase because that is where the changes in the BSC Objectives have occurred. Concerning the Fine-tuning Phase, it is necessary because it potentially solves individual level biases and group dynamic problems.

Concerning the decisions taken during these process phases, **Table 9.14** provides, at a glance, the list of the Process Rules followed while specifying whether they refer (grey) or do not refer (white) to relevant literature and whether the empirical evidence of this study was used to discuss them (black). The advantage of this way of displaying the information is twofold: On one hand, it allows practitioners to use these prescriptions as a basis for their action well-informed about the true degree of ‘reliability’ of the prescription. On the other hand, it clearly points to areas where other scholars could bring in additional literature or build additional empirical evidence.

Process Rules - PHASE 4 - Final		
	Questions for EM's	Process Rules
Brainstorming	How to maximize Consensus Level and Quality?	<i>4-1. Ensure presence of Key Middle Managers</i>
		<i>4-2. Include one or more EID's to maximize occasion, willingness and capability</i>
		<i>4-3. Ensure the presence of managers participating to PHASE 3</i>
		<i>4-4. Use Table 9.1 to run workshop</i>
<i>4-5. Use Table 9.2 to select participants</i>		
<i>4-6. Use Table 2.2 to build indicators</i>		
Fine-Tuning		
Validation		<i>Not Carried out</i>
<small>No Fill = Decision taken through use of common sense; Greyed = Decision taken through use of relevant literature; Black = Supported or discussed through the use of empirical evidence.</small>		

Table 9.14 Process Rules PHASE 4

Finally, this chapter also aimed to explore whether and how Consensus Level and Content Quality have increased. As shown in the Evaluation Framework⁷⁸ **Figure 9.2** the discussion carried out in this chapter suggests that Consensus Level and Content Quality have potentially increased, while for Group Quality and Interaction Quality there was not enough information to comment.

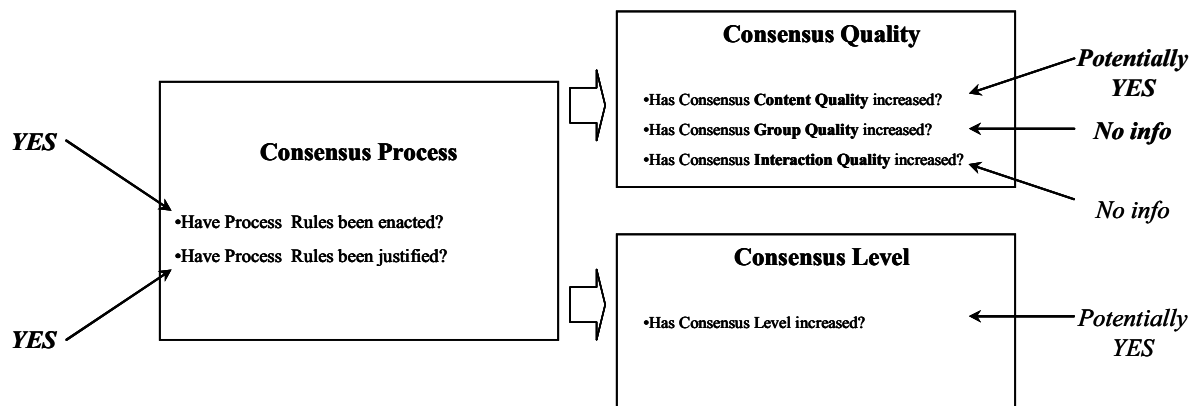


Figure 9.2 Evaluation Framework Results for PHASE 4

9.4.1 Contributions to the literature

As already mentioned in **Chapters 5 and 7** the literature on the *process* of building a Balanced Scorecard has been rather silent. On the theme of objective validation the situation is similar. Kaplan and Norton spend no more than two pages describing how to carry out the Indicator Building Phase (Kaplan and Norton, 1996, pp. 306-307) while Paul Niven spends four pages describing what, according to him, are the criteria to be followed (Niven, 2002, pp.157-161). None of them, however, provides an explicit link to the literature aimed at being able to measure the effectiveness of this phase and to consequently improve the techniques used.

This chapter represents a contribution to the Balanced Scorecard literature in three ways. Firstly, the discussion of the process prescriptions constitutes a starting point for scientific investigation. Other academics can take these process prescriptions further by challenging

⁷⁸ See **Section 1.4.1**

them and/or testing them. Secondly, the provision of a process effectiveness measurement framework constitutes a baseline to be both challenged and used to benchmark the effectiveness of these or new Process Rules. Finally, it provides a clear indication that the problems the Process Rules should aim at resolving are the ones related to individual and group type biases.

9.4.2 Limitations and future research

This work should be considered exploratory, the main aim being to set some clear rules of the game like definitions, measurement frameworks and first tentative Process Rules. Firstly, since this process phase, similarly to the ones preceding it, deals with effective facilitation of group sessions, more work should be done to link it to the body of literature on group dynamics and facilitation. Secondly, future research could try to capture qualitatively or quantitatively the shift of *Consensus Level and Quality*. Thirdly, additional variables influencing *Consensus Quality* could be brought in, such as power. Finally, future research could carry on with the observation of the following process steps. The *Indicator Validation Phase* was not carried out and following that there are still a lot of other steps like building projects, setting targets, allocating responsibility as well as the *Implementation Phase* where all these contents are brought into real life as part of an ongoing top management decision making process.

9.4.3 Contribution to practice

The contribution to practice of this study are, first of all, the Process Rules. These rules and the reflections around them may be of use to managers wanting to kick-off similar processes in their companies.

The implications of this chapter for environmental managers are at least two. First, this exercise shows that even if the objectives were well defined in the previous phase the Indicator Building Phase is the locus of changes in the objectives with all the relative opportunities and risks. The enlargement or reduction of the scope of the BSC Objectives has

the potential to increase or decrease the weight of environmental issues for that company's current strategy.

While it is unlikely that the will of the environmental manager alone can influence the decisions of whether or not to retain or modify a BSC Objective, the fact that he is aware and prepared for possible changes is in itself a valuable. For example, the EM could spot the objectives and put in the maximum effort, in collaboration with some other relevant managers, so that the Objective is retained, or changed as deemed relevant.

Second, going back to the metaphor proposed in Section 2.9 the branches of the tree are about to become even more solid. In the previous phase the environmental chains were only made of validated objectives, that is, concepts, words, validated with a specific meaning by all managers. In this phase these environmental chains are also assigned measurement tools. It will be possible to quantitatively measure the development of the strategy and (if desired) the contribution of the different activities to the overall picture which, as detailed by the quotes reported in **Table 4.2** seems to be an issue of interest for the environmental managers.

TO DATE and FORWARD

This chapter delved into the issue of how to build indicators and represents the last step followed by this study. The next chapter will summarise the conclusions and contributions of the whole study.

CONCLUDING REMARKS

The Research Problem – Final Version

What consensus process can increase the environmental manager and TMG consensus level and quality over the environmental chains?

After such a marathon of concepts, literature and empirical findings one must ask whether or not we are any closer to solving the issue proposed in **Chapter 1** as being the research problem.

I think we are. **Chapter 2** does provide a practical framework for environmental managers to find out, visualise, formalise and discuss where exactly they contribute to business value.

Chapter 3 constitutes a reminder of the type of content that could help in the decision-making process. If it is true that the logic objective-indicator-project-responsibility is a good one, then the omission of any of these elements should raise alarm bells for the environmental manager. Are the objectives measured? Are the projects assigned to the objectives? Are responsibilities clear? Failure to answer such questions properly is a sure sign that the issue raised by the environmental manager is probably also a concern at top management level.

Chapter 4 provides a guide to how an environmental manager could go about finding the right internal partner for a pilot project. This has proven to be a key issue in my work, much harder than what the literature on Balanced Scorecard suggests. The main challenge is that this particular strategic decision-making process provides solutions to problems that top management may not necessarily see immediately. A good deal of thought and sales technique should be inserted in this phase to succeed.

Chapter 5 proves to the environmental managers that, whatever they want to do in the end, the first step is, and must be, to carry out interviews. Not just talk to people, but make sure the talking is supported by a good checklist of questions and that their answers are recorded properly and well thought through. The fact that with few three-hour interviews we were able to capture the entire strategy of a business unit is, in itself an interesting finding. Also, and in connection with **Chapter 2**, the clustering technique allows the synthesis and the display of the finding in a format, the Strategy Map (or the Environmental Chain), that was particularly

appreciated and powerful because it shows clearly the links between environmental issues and business. All in all the environmental manager could use the process only up to this point simply to clarify to himself the situation and the views that the different managers have.

Chapter 6 provides a clear indication that the environmental manager is indeed a specialist with knowledge that may not be available to the other managers. His view of the business is different, and because of that, interesting to be unveiled. This chapter represents more a message to top management teams and its leaders. The underlying message is: if you don't have somebody in the team that has thought about the implications of environmental issues for your strategy do involve one. Failing to do so may reduce the richness of discussion and strategic alternatives.

Chapter 7 provides indications on how to carry out the validation of the objectives clustered after the interview phase. An environmental manager will want to go through this process if he wants the environmental chain to become a working document guiding collaboration with business unit managers. The fact that objectives do change due to the group discussion shows that the clustering is not only an individual view of the situation (i.e. the view of the people that performed the clustering) but also that it provides only a partial picture of the situation.

Chapter 8, similarly to Chapter 6, is again a message for top management teams and its leaders. It shows that failure to involve in the active discussion those who, like the environmental manager, raise original ideas will seriously impinge the chances of these ideas from being included, regardless of how good they may be.

Chapter 9, the last process step I was able to carry out, provides guidelines on how to build indicators. Indicators are not a new topic for managers. Environmental managers in this respect are no exception, they know about indicators especially because of the work on health, safety and environment management systems that have populated the late 1990s and now the beginning of this century.

Nevertheless, there seems to be at least two interesting messages. The first is that depending on the business indicator chosen the environmental issues may appear as more or less important. The second is that the discussion on the indicators is, in fact, a focusing exercise, it modifies, adds or erases objectives. This is why the environmental manager should strive to participate in the indicator-building processes related to those strategic objectives for which s/he thinks environmental issues are (or may) contribute.

The work is far from being finished. This study not only opens up relevant research topics for the process phases covered but it indicates that research on the remaining process steps of indicator validation, target setting, project building, responsibility allocation, strategy implementation, discussion of results and their implications for environmental managers also need to be explored.

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