

# **Integrating Environment issues in Top Management Decision Making**

**Von der Fakultät Wirtschafts-, Verhaltens- und Rechtswissenschaften  
der Leuphana Universität Lüneburg**

**Zur Erlangung des Grades  
Doktor der Wirtschafts- und Sozialwissenschaften (Dr. rer. pol.)  
genehmigte**

**Dissertation**

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**aus  
Rom (Italien)**

**Eingereicht am: 22.02.2007 unter dem Titel: Integrating Environment with Business Strategy**

**Mündliche Prüfung am: 26.11.2007**

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**Elektronische Veröffentlichung des Dissertationsvorhabens**

**inkl. einer Zusammenfassung unter dem Titel:**

**Integrating Environment issues in Top Management Decision Making**

**Veröffentlichungsjahr: 2010**

**Veröffentlicht im Onlineangebot der Universitätsbibliothek unter der URL:**

**<http://www.leuphana.de/ub>**

## Acknowledgements

When you get to the end of a journey as long as this one you are only sure about one thing: you are tired. You are tired because the struggle to pull something decent out of your own brain is a battle that is fought hour after hour, day after day, for years! You come up against your own limitations and that leads you to start thinking that maybe you should simply give up, go to the beach and enjoy life.

Of course, there are also the good moments. Moments when you finally manage to open a ‘door’ that has long been closed. You have been trying all your tricks to open it, failing to do so and then one day, just like a miracle, you actually find the right key. In a moment you are through the door and you know it is real. For a split second you feel like a genius! You read over and over again that wonderful 10-line paragraph on which you have been concentrating for a good 10 days (week-ends included). It is yours, you found the solution, it’s beautiful, it’s a work of art!

The celebration is swiftly over. True enough you are a genius, but only until you realise all the problems that opening that door has created. In fact, you quickly begin to wish that you had actually never opened it. You are confronted with a dilemma: slam the door shut and through away the key or run headlong through it until the next door? The choice is not an obvious one. Closing the door in front of you means a step back, erasing all traces of the steps that have brought you to this point.

You look around: did anyone see you? Will the reader realise? These questions convince you that there is no turning back, you cannot pretend that you did not know, you must carry on the journey and continue looking for the other keys.

I would not have been able to keep going throughout the past five years without the unwavering support I have received along the way. My efforts, in the end, are only a part of the story. Some thanks are therefore due...

I want to thank my family, their support has been fundamental in helping me to decide to start this PhD, as well as throughout the whole time that I spent working on it.

I want to thank my supervisors, Luk and Stefan, who were able to put up with me, my questions, doubts and uncertainties.

A special thank you goes to Renato who helped me interpret this academic parenthesis in my career and for being a real friend. He saw me through the ups and downs of these last five

years often challenging me to a game of pool, tennis, squash or “boules” to help the mind relax . I will always remember the one week summer stay in Elba where I forced him to work despite the magnetism of the wonderful beaches and their occupants. There was also the entire month of August 2006 which we spent in Fontainebleau writing. I still ask myself: how did we survive that?

I want to thank INSEAD for being a great place to work, and Kai for choosing me among many candidates to work on the Balanced Scorecard (BSC) and Environment project that sparked this whole work back in 2001.

I want to thank the managers of the companies featured in the case studies for their enthusiasm and interest in the project. I will never forget the workshops without air-conditioning in late July in Rome and the champagne-based working lunches in France.

I want to thank the sponsors of the research: ACEA, ALPHA, EDF, SONY. Without their support and their active participation this project would not have happened.

I want to thank my colleagues Anastasia, Andrea, Ben, Rolando and Tracey the only sparks of life in the desert of CMER. We had some wonderful times and laughs.

Finally, I want to thank Jolanda for understanding how crazy I am and despite that, still loving and supporting me at all times.

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## **LIST OF ABBREVIATIONS**

**ACEA** = Multi-Utility Service company for the city of Rome (Italy)

**ACEAIP** = ACEA Public Lighting Services

**BSC** = Balanced Score Card

**CEM** = Corporate Environmental Manager

**EC** = Environmental Chains

**EM** = Environmental Manager

**ALPHA** = Large International Company – Corporate Level

**TMG** = Top Management Group

**BETA** = Business Unit of ALPHA

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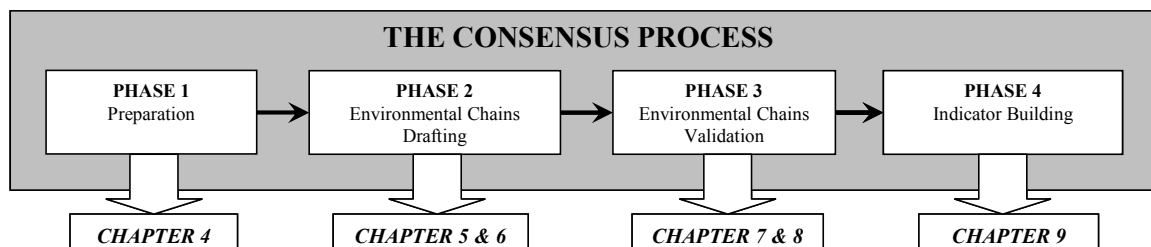
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# EXECUTIVE SUMMARY

This study explores and suggests methods to integrate environmental issues in top management strategic decision-making. Specifically, as shown in the Figure, the author of this study has developed a method called the *Consensus Process*, which consists of four main steps enabling environmental manager (EM) to choose a good pilot (Phase 1); clarify the set of strategic objectives he thinks environment is contributing to (Phase 2); discuss and build consensus on these findings with the top management group (Phase 3); and establish a set of indicators allowing the assessment of performance and of its environmental-related portion through time (Phase 4).



The need and the interest for this topic stems from the practice. environmental managers feel their ideas are underestimated by top management and literature provides only partial solutions and suggestions (*Chapter 1*). This issue is of general interest to all top managers because it has to do, first of all, with the process of clarifying the company strategy. A clear strategy will allow functional specialists, such as the environmental manager, to act, in the most value creating way.

The main issue at hand is bringing the top managers and environmental managers together, each with their own biases. Individuals view issues from different angles depending on the way their brain filters the information. Such filtering is a source of bias and because of that individuals make mistakes without knowing it. If individuals have biased views, and if, as the literature suggests, these views are a function of their studies, age, or professional experiences then the problem could possibly be solved by working in groups. In other words, people do make mistakes, but supposedly, they make *different* mistakes by collaborating with others the quality of decisions could improve. If only it were that simple...

Unfortunately research shows that when you put more than one person in the same room individuals behave differently compared to when they are alone. One example of the change in behaviour are the omissions individuals make during group discussions. These omissions, while having a plethora of causes, they all have one thing in common, they hurt the quality of the final decision because they reduce the richness of the discussion. Collaboration, while being a potential solution, generates also additional problems. The key issue is then to find ways (processes) to unleash this information, to make it available to the group, or, in other words, to avoid these omissions.

In order to discuss the pros and cons of any proposed process the following concepts were introduced as evaluation criteria: *Consensus Level and Quality*. *Consensus Level* relates to the level of management agreement on a specific topic or course of action. *Consensus Quality* relates to the quality of the information available (*Content Quality*); the quality of the interaction among managers (*Interaction Quality*); and the quality of the people involved (*Group Quality*). Now the research problem reads:

*What consensus process can increase the environmental manager and TMG consensus level and quality over the impact of environment-related issues on organisation means and ends?*

The Balanced Scorecard, a strategic decision making tool, was chosen as the starting point for discussions due to its technical and marketing appeal. The *Technical appeal* related to its emphasis on the medium to long term strategy as well as the method to define it in a clear way. It was expected that such issues would assist the EMs in making their point clear. The *Marketing appeal* related to the fact that we needed to spark the interest of top management. The Balanced Scorecard, heavily marketed since the early nineties as a best practice in strategic decision-making, was seen by top management as a tool that could specifically address their needs.

The first issue to be analysed and discussed in detail is *Content Quality*, that is, the quality of the information available for discussion. The word *Content* has been divided into *topic* (what the content is about) and *format* (in what way the content is expressed). What does the Balanced Scorecard propose in this respect?

From a *format* point of view it suggests that information should be expressed as objectives, indicators, targets, projects, responsibilities, *cause-effect links*, *cause-effect chains* and units

(See Chapter 2). The advantage in this kind of display is that it retains explicitly and formally the logical links between them all. In other words, because of this format, it will be very clear that a given objective is measured by those two indicators which are driven by those three projects and so on.

From an EM's viewpoint the most interesting novelty are the *Environmental Chains*, that is, a series of units<sup>1</sup> connected by *Cause-Effect Links* comprising at least one environmental and one financial unit. Environmental Chains make explicit the contribution of environmental work to business issues, this is explained by for the following analogy:

Let's imagine that a man needs to fetch a coconut at the top of a tree. The tree is about 10 metres high and the man knows that he can reach out with arms stretched to about 2.5 metres. In order to reach the top of the tree, he needs to climb from branch to branch. While contemplating the size of the tree and the difficulty of the task, the key question is whether or not the intermediate branches will *hold the man's weight*. With no information about the quality of those branches, he does *not know* if he can succeed until the coconut is within his reach. At any time, he could suddenly be stopped mid-climb and prevented from moving forward. If however, he knew in advance that there are three good intermediate branches distanced by no more than 2.5 metres in the *exact moment* he climbs the first branch he *already* knows he will reach the top of the tree.

Environmental managers are also looking up at the tree assessing the scale of the task before them. At the top there are the business unit financial results. Without a validated Cause-Effect Chain if they want to prove that an environmental action is relevant they would need to reach the top of the tree with little or no assistance from the intermediate branches. Each top manager that they encounter on the way and to whom they pitch their idea may not be a *strong enough branch*, so the idea may not hold. However, if the entire top management has agreed on the key objectives, the path to the top is clear, then the intermediate branches will be more sturdy. In which case all the environmental manager has to do is to climb to the first branch. He will not need to argue that a specific environmental project is the one to bring the highest financial return. More simply he needs to show that it is one of the best contributors to employee motivation, or product quality, which might prove an easier task.

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<sup>1</sup> Units are a new element, original to this study. They comprise all the BSC Objectives, indicators, projects and responsibilities relating to one single argument. For example, if *Customer Satisfaction* comprises three objectives, four projects, five indicators and four responsible managers, all of these elements are part of the *Customer Satisfaction Unit*.

From a *topic* point of view the Balanced Scorecard suggests both a checklist of issues and sequence of use (*Chapter 3*). In other words, it suggests starting with a definition of what the shareholder wants and, as a consequence, to define what type of clients to look for and what to do internally to best satisfy them. Having a set of issues to prompt managers seems useful because it is widely agreed that failing to raise a question on a given topic will significantly reduce the possibility of considering the issue for discussion. For example, having a risk item in the checklist ensures that questions such as: ‘What type of risks are we taking? Should we manage them more actively?’ are addressed.

From an environmental manager’s viewpoint this is even more important because the contribution of environmental issues may be hidden in soft strategic issues such as reputation or employee motivation. This is why I have completed the Kaplan and Norton Checklist by making the potential environment-business links more explicit. For example, if the literature has shown that reputation is potentially enhanced by environmental work, it is good for the environmental manager to know and to have that question come up when the issue of reputation is raised.

Notable novelty is the introduction of a very detailed definition of risk, stakeholder needs and company reputation. These issues have in common the fact of being under-represented in the Kaplan and Norton descriptions of the Balanced Scorecard as well as being potentially impacted by the environmental practices of a organisation. I enter the action part of the study with the final version of the research problem: *What process can increase the environmental manager and TMG consensus level and quality over the environment chains?*

The first challenge was to choose the companies and business units with which to collaborate (*Chapter 4*). The research on *process* issues requires the involvement of research partners that test a given process while giving the researcher the opportunity to observe them. Since participation in the project required an entry fee, it made the choice of which companies to work with much as easier as it would be those companies that considered environmental issues significant and complex enough to justify investing in research.

Choosing which business unit to work with was not that easy. While several criteria to try and optimise this choice were used it turned out that the most important factor for succeeding to involve a business unit was the ease of access to business unit directors. The delays to project kick-off varied from two months, where access was easiest, to a plain no-go (i.e. failure to find a business unit willing to test the method), despite the multi-national, and thus



theoretically vast array of choices of this particular research partner. The implication for environmental managers is that if they realise that their direct access to business unit directors is difficult they should either be patient or choose a project champion who is more within their reach.

The organisations that feature in this study are ALPHA and ACEA with their respective business units BETA and ACEAIP (ACEA's Public Lighting Services). These two business units participated in the project for two different reasons. In BETA the buyer of the project was the EM. He wanted to use this project to link environment to strategy. In ACEAIP the buyer was the business unit director who was mainly interested in the strategic decision-making and indicator-building process with the environmental issues being just 'the cherry on the cake'.

Once the companies and business units had been selected the research could begin with by interviewing managers (*Chapter 5 - Section 5.1*). Interviewing was designed to elicit from managers their ideas about business issues, environmental issues and the links between the two. The measurement of efficacy relates here to the content quality properties of completeness and ease of understanding. Maximising *Completeness* means *avoiding loss of content* while maximising *Ease of Understanding* means *making the content clear and unambiguous*.

Before discussing the details of the process rules and their effects it is important to realise the importance of interviews. This issue is worth discussing because in a practical setting it may be tempting to cut corners, after all, interviews cost *management time*, an expensive and valuable resource. Skipping them would, however, be a mistake because they counteract some of the individual and group-type mechanisms that, as described in Chapter 1, reduce *Content Quality*.

For example, from an individual point of view the interviewer-to-manager exchange is an opportunity for the manager to realise that some of the concepts he has been using may not be as clear as he thought. Also, the collection of managers' quotes in the interviews makes it possible to show, in the group session, how managers had over- (or under-) estimated the common views on some issues. In short, while interviews may be hard to set-up and costly to carry out, doing so appears to be an absolute, non-negotiable must!

Maximising *Completeness* and *Ease of Understanding* is not only an issue of carrying out interviews but also depends on *how* they are carried out. In other words, the techniques used to minimise loss of content. The process rules proposed cover three main issues:

- the checklist of questions;
- the techniques to maximise disclosure; and
- the techniques to maximise the interviewer's ability to listen and understand.

It is at this point that the checklist developed in Chapter 3 comes in useful. Without having this list to hand the interviewer might not realise when some important issues are omitted. For example, if a manager mentions that shareholders are interested in profit, by having the list to hand the interviewer might ask: '...and what about risk?'

On the whole the interviews seemed to work well as there was an increase in both *Completeness* and *Ease of Understanding*. For example, during one interview a manager of ACEAIP stated that 'citizens essentially want to be *well-received* by the call centre operators'. The manager was asked to further elaborate on the meaning of *well-received*, which it seems included: to be received with courtesy; be rapidly understood; be provided with a deadline to repair; and have a guarantee that the repair will be done by this date. In other words, by prompting the manager, the interviewer improved *Completeness* by increasing the number of concepts from one to four, while also defining more clearly the concept of *client satisfaction* (increased *Ease of Understanding*). The techniques proposed are useful and may enable EMs to bring new issues to the table, issues potentially driven by environmental work.

Furthermore, during the interviews, the interviewer also learns. This is interesting because normally (i.e. when building Balanced Scorecards) these interviews are performed by external people, facilitators, like myself. However, as one of the corporate environmental managers pointed out, the opportunity to hear top managers explain their view of the key strategic issues is very rare and precious. Whether or not the environmental manager should be one of the interviewers depends on the objective of the exercise. For instance, if the objective is to build a strategic management tool, probably the environmental manager is not the right person. On the other hand, he probably should participate if the objective is to understand better how environmental issues can best contribute to the business.

Another important topic to cover for the interview step is how to choose the participants. The guiding principle is always to minimise loss of content. In order to do so, all managers with a specialist knowledge, that is, knowledge that is not accessible to others, were involved.

Evidence that this might be a useful criterion comes from the analysis of the EM's contributions that turned out to be different and additional to the ones suggested by top managers (*Chapter 6*). In other words, the empirical evidence shows that excluding the EM's from the interviews would have reduced Content Completeness quite significantly. Not involving the EM has an impact on the effectiveness of the strategic discussion. A top manager going through this study will *have* to ask himself the question: 'Am I sure that in our management team there is sufficient knowledge to consider the strategic aspects of environmental management? Who should I call upon to fill this knowledge the gap?'

Once the interviews had been carried out the next step in the process was *Concept Clustering* (*Chapter 5 - Section 5.2*). During *Concept Clustering* the aim is to create headings, the BSC Objectives, under which similar concepts can be *clustered*, and to formalise the Cause-Effect Links between them. The final result is a first draft of a *Strategy Map*, a synthesis of the company strategy derived from the interview contents. The challenge is to draw up the synthesis report without omitting any information (maximising *Completeness*) and displaying them in the best possible format (*Ease of Understanding*).

Maximising *Completeness* is not as simple as it seems. Sometimes there was a temptation to leave out issues because they were only mentioned by one manager or because they could not be easily understood from the interview notes. Techniques to counteract these tendencies are important and include, among others, the participation of two people; the use of quotes; and the decision to include all concepts mentioned. In terms of *Ease of Understanding* it seems reasonable to suggest that if concepts previously referred to by using different names are now clustered under a common heading (the BSC Objective) it will be easier for the participants to understand each other when talking about that particular issue.

The interviews and the clustering brought me to a draft strategy map. It is important to realise that this map is not the view of the managers, but the interviewer's view of what they said. In order to become *theirs* a group discussion phase is necessary (*Chapter 7*). This phase was carried out in three steps:

- *Appropriation*;
- *Focusing*; and
- *Fine-tuning*.

*Appropriation* is aimed at re-building the map as a whole to give the full picture before delving into the details. The *Focusing* step, narrowed down the areas for discussion which in

turn reduced the time that managers had to spend since their time was limited. The *Fine-tuning* step aimed at validating the entire text of each BSC Objective. *Fine-tuning* became the focus for further analysis and discussion since it was, by design, the richest in exchange between managers. Certainly, this step is necessary because it helps to avoid individual cognition mistakes through group interaction. The threat to the quality of the outcome is then the effectiveness of group interaction, that is, the ability of the group members to avoid conscious and unconscious omissions.

In this process step all *Consensus Level* and *Quality* properties are potentially shifting. Obtaining a positive shift in these properties depends on the techniques used to maximise the exchange and openness of the workshop participants while gently buffering (eventually) the managers that are not playing the game. It is key in this step to encourage the group to validate and define word by word. You should not move on to the next objective until everyone has agreed on the definitions proposed.

The *Fine-tuning Workshop* seemed effective since there are indications of positive shift in both *Consensus Level* and *Quality* properties. In order to analyse *Consensus Level* a distinction was made between *formal* and *intimate*. The word *formal* describes a situation where managers give in on a topic and agree without being convinced it is right to do so. The word *intimate* relates to the fact that they have actually changed their mind, they intimately agree with the position of the group on the topic at hand. Observing *Formal Consensus Level* increase is easy, if new objectives appear or if old objectives are approved by a larger amount of managers, this increases by design. In this respect this has certainly increased considerably. On almost every objective *Formal Consensus Level* increased. While there were some indications that *Intimate Consensus Level* also increased, a definite answer on this point would require a different research design.

Concerning *Content Quality*, the array of properties that shift greatly increases and is proposed to include believability, objectivity, reputation, interpretability, ease of understanding and completeness. While for most of them the discussion is hypothetical, the changes to the BSC Objectives made by the participants provide evidence that the property of completeness is shifting. Evidence of increases in interaction quality also existed.

The issue of *Group Quality* deserves a separate discussion (*Chapter 8*). *Group Quality* in this phase refers to the ability of managers in the group to defend the topics raised in the previous phase appropriately. The empirical evidence suggests that this will depend on occasion,

willingness and ability to defend. The manager who launched an idea during the interview should be given the possibility to defend it in front of his colleagues. If the defender is absent the objective is easily dropped. The same manager must be willing to explain his opinion to the group. If the defender fails to do so the objective is also easily dropped. Finally, the manager needs to be able to explain his point in a way that suits his audience. Failing to be understood runs the risk that this issue will also be dropped.

Now that the entire set of BSC Objectives, the Strategy Map and/or the Environmental Chains have been validated by the group it is time to define the quantitative proxies of these concepts: the Indicators (*Chapter 9*). This phase was planned in three steps:

- *Brainstorming*;
- *Fine-tuning*; and
- *Validation*.

However, only the first two steps were actually carried out. The *Brainstorming* step aimed at making a list of possible indicators while the *Fine-tuning* to specify each indicator chosen in all details (e.g. formula, target, periodicity etc.). Certainly, this step is needed because it helps avoid individual cognition mistakes and group type omissions in two ways.

The first one is immediate, building indicator proposes questions that are more specific than the ones proposed for the objective definition. This forces managers to further specify and discuss, together, the concepts they are after and thus clarify even further what they actually mean. The second one is relevant in the long term. When managers will reconvene to discuss the results of their actions the presence of indicators is potentially a tool to avoid group-type mistakes because it provides quantitative evidence of what happened. Similarly to the other group-type phase the quality of the outcome depends on the efficacy of group interaction, that is, the ability of the group members to avoid conscious and unconscious omissions.

Similarly to what happened in the objective validation phase this process step also provokes a shift in all Consensus Level and Quality properties. Obtaining a positive shift in these properties depends, again, on how the workshop is run. The key aid device in this step was the checklist of the indicator characteristics proposed in Chapter 2 which served to focus efforts and enable decisions to be made more easily.

Similar to Chapter 7 was also the indicator *Fine-tuning* step that seemed to be effective to a certain extent since there were indications of positive shift in both *Consensus Level* and

*Quality* properties. Specifically, on the *Formal Consensus Level* for all objectives discussed there were either changes in the existing indicators or the development of new ones. Formal Consensus Level has increased.

Two phenomena are of interest for the environmental manager in this phase. The first is the revision of the objectives due to indicator Fine-tuning discussions. The second is the fact that depending on the business indicator chosen, environmental issues may appear to be more or less relevant and impacting on business strategy.

To conclude, the work is far from being finished. However, this study not only opens up relevant research topics for the process phases covered but it also 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.

# READER'S GUIDE

The issue under investigation in this study is *to explore the drivers and suggest methods for environmental managers to integrate environmental issues in the top management strategic decision-making*. In order to make the reading easy the whole study has been written following the principle of providing the minimum information to clarify the point under discussion, no more, no less. The conclusions, the analysis, the implications and the limitations are discussed on a chapter by chapter basis, making it easier for the reader to remember the issue under discussion. The closing chapter brings together the conclusions of each chapter of the study. The study is divided into two parts.

**Part I: Planning** describes the planning and preparation for the research and consists of the following chapters:

**Chapter 1** provides an overview of the interest, relevance and importance of this study. Also it proposes, through the introduction of the relevant literature, an exact wording for the research problem and a framework for evaluating the effectiveness of each process step.

**Chapters 2 and 3** describe and justify the chosen framework that prompts managers during interviewing and organises the resulting contents in a way that will support effective decision making. This is the end of the planning part of the study and we now move into the action part where the case studies are explained in full.

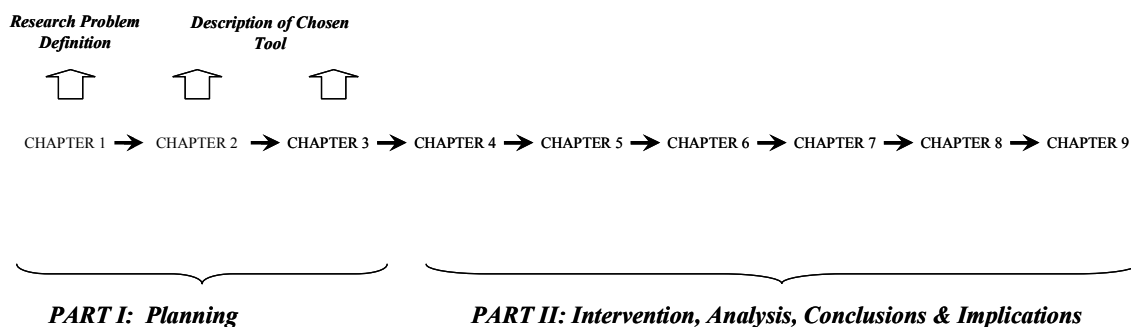
**Part II: Intervention** comprises the following chapters:

**Chapter 4** is where the action begins, the first phase of the process. This chapter discusses the reasons selection and participation in the research and the process for choosing a business unit. **Chapter 5** details, justifies and discusses the choices of who to interview. It outlines how the interviews were conducted and summarises the resulting contents. In **Chapter 6** the general issue of who to involve in interviews is explored further for the specific case of the environmental manager. The main objective is to discuss whether and why the environmental manager had more/less/different ideas from the rest of the management team.

**Chapter 7** deals with the first time that the people meet as a group. For this process step the choices were about how to display and generate discussion on the contents gathered during the interviews. **Chapter 8** focuses on the environmental manager's contribution to the objective *Fine-tuning* discussion. **Chapter 9** describes the *Indicator Building* process and how this may be relevant for the environmental manager. **Concluding Remarks** wraps up the results and discusses the need for extending this research further.

# PART I – PLANNING

The first part of this study will be dedicated to the presentation of the research problem and the explanation of the tool serving as the starting point of discussion, the Balanced Scorecard. **Chapter 1** suggests that unveiling the optimal environment-related activities, that is, those activities that are carried out with the intent to improve firm environmental and financial performance is a matter of finding the right way to make the EM and the top management group (TMG) interact. **Chapter 2** introduces the notion of Balanced Scorecard (BSC) elements as concepts that, together, are likely to increase the quality of the information discussed. **Chapter 3** includes the BSC as a checklist of basic business issues useful for a quick appraisal of an organisation's situation. Inserting environment-related issues in the BSC ensures that such questions are raised in relation to business-relevant topics and language.



**Figure I.1** *Part I and Part II contents*

In other words, and as shown in **Figure I.1**, **Part I** of the study will be dedicated to prepare the grounds for the intervention, while **Part II** will describe what happens when the intervention actually takes place. In fact, starting from **Chapter 4** onwards, the study describes each step of the intervention and, following that, discusses, analyses, draws conclusions and implications. This will be done on a step-by-step basis in order to maintain the discussion and analysis close to the real-life events typical of an action research project.



# 1 Framing the research problem

This chapter introduces the research problem. **Section 1.1** provides an overview of the interest in this topic and how it relates to existing literature. **Section 1.2** introduces and defines the key players within an organisation while **Section 1.3** details the potential problems these players may encounter with their individual perceptions and group interactions.

**Section 1.4** outlines the concepts that will guide the evaluation of the effectiveness of the process followed in the action part of the research, while **Section 1.5** justifies the use of the Balanced Scorecard as the departure point. The methodological approach used to investigate the research problem is introduced in **Section 1.6**. Finally, **Section 1.7** draws the conclusions and describes the contributions to literature and practice.

## ***1.1 How it all started: Introducing the research problem***

The origins of this study are to be traced back to a small office on the third floor of what is commonly called the ‘Far West della Magliana’. It is a large office area, with skyscrapers in the middle of the ‘palude pontina’. Until Mussolini decided to make use of the land sucking it dry by using a system of channels, of the area on the outskirts of Rome was nothing more than a large expanse of wetland. With modern times and the advancement of civil engineering it is now home to a number of tall, grey cement buildings. The area is isolated standing about a 15-minute drive from both the airport and from the centre of Rome.

In any case, it was in an office in one such grey cement structures that the idea of working on environmental issues first came to my mind. As a technical process engineer my everyday task was to plan large refineries and fertilizer plants to be built in the most remote places of the world, exotic localities like the Qatar desert or China’s wetlands. After a couple of years, I realised that all these places had one thing in common — they were as far as possible away from any living community. Considering the sloppy maintenance practices in most of these countries this choice made a whole lot of sense. The ‘stuff’ that would eventually be released in the air, water and soil is certainly not something people should breathe, drink or eat. In short, I felt guilty.

I did not want to close my eyes in front of a problem simply because it seemed out-of-my-hands. Basically, like some of the waste treatment plants we were building I was part of the *end-of-pipe solution*<sup>2</sup>. At the time I felt that engineers were the ones who had to find solutions to the problems created by politicians and managers but hardly ever taken as partners to find ways of preventing the problems together. Their mission was to solve issues quickly and as cheaply as possible. It is not surprising that, within that frame of mind I could not see how I could contribute to finding a solution that went to the root cause of the problem. I had to go.

The first step of my research journey was the International Institute for Industrial Environmental Economics (IIIEE) — a small applied research structure of the University of Lund (Sweden). The institute hosted what I believed to be one of the best Masters in Environmental Management and Policy available those days. During the 14 month-long programme I was exposed to a very wide array of issues such as environmental law, environmental management, lifecycle assessment, environmental technology, environmental strategy and so on.

During this time I found out some interesting facts. First of all, I discovered that there seemed to be strong indications that our society's production, consumption and disposal practices were, and still are, destroying the environment in which we live and thus putting our lives and those of our children in great danger (see *Millennium Ecosystem Assessment*, 2005).

I personally bought into this argument, which by the way was at the basis of the IIIEE's entire credo. I was interested in playing an active role in making the necessary changes happen. It was within this frame of mind that I went through my courses at the IIIEE in the year 2000. Each of those courses was looking at a different aspect of the possible final recipe. For example, environmental law looked at the way stricter standards can (or should) be imposed on organisations, while environmental management discussed practices within organisations thus enabling a better use of resources. The one topic that I ended up focusing on was corporate environmental strategy, which broadly studies the interaction between proactive environmental management actions and organisation's strategy.

Landmark publications within this field are the works of Porter and Van der Linde (1995) and Reinhardt (1998, 2000). Their broad claim is straightforward. The fact that proactive environmental management will bring value to an organisation is industry, time, company and even product specific. This claim was interesting because it shifted the attention of both

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<sup>2</sup> *End-of-pipe solution* = a solution taken to treat the problem rather than its causes.

academics and managers from the question of *whether* to do proactive environmental management to *when* and *how* to do it. Reinhardt summarises his argument against the black and white view of the world:

*‘On one hand the die-hard Malthusians assert that environmental disaster is inevitable and that the resource scarcity and environmental degradation will bring about social collapse. On the other hand, their cornucopian adversaries assert that serious environmental problems are inconceivable, that scarcity is a myth, that the Malthusians are at best dupes and at worst malevolent troublemakers. These two groups have more in common than they would like to admit: both hold ideas of the world that are fully deterministic. They can’t both be right, but it could be that they are both wrong. If we are honest with ourselves we have to admit that we do not know the precise consequences of our actions. Both the Malthusians and the Cornucopians offer counsels of despair: they want us to believe that human agency doesn’t matter. These counsels ought to be rejected. The responsible place is in the middle of the road (Reinhardt, 2000: 245).’*

Seeking a *place in the middle of the road* through *human agency* has strong management implications. Within the previous debate a manager could sit back and say: ‘Ok, convince me that I should work on the environmental issues.’ As a consequence, as Reinhardt details, environmental enthusiasts worked hard at trying to prove, once and for all, that such activities *always* pay (Reinhardt 1998, p.44). On the contrary, after Porter and Reinhardt’s articles the new question for managers was: ‘Am I capable of recognising the threat and turning it into an opportunity?’ While this *hot potato* landed in the hands of the managers, the message towards scholars seemed to be that adequate methodologies allowing managers to recognise, analyse and implement sensible solutions had to be actively built, tested and communicated.

How does Reinhardt carry on from there? As shown in **Table 1.1**, as part of the concluding remarks of his book he suggests eight mistakes managers should avoid and seven questions they should be asking themselves.

<b>Eight mistakes to avoid</b>	<b>Seven questions to ask</b>
Pessimism	What are the basic economics of the situation?
Improper framing of questions	What are the politics?
Wishful thinking	What are the long-term objectives?
Faulty analysis	What are the short-term implications?
Insufficient information	What are the real costs of the organisation's environmental policy?
Thinking win-win or thinking win-lose	What exactly is being purchased when the company spends money on environmental improvements?
Thinking all or nothing	Is there a better way to do this?
Regarding government and environmentalists exclusively as adversaries	

**Table 1.1** Questions to ask (adapted from Reinhardt 2000, pp. 236-244)

Reinhardt's hint in this respect, supported by the cases discussed in his book (i.e. Reinhardt, 2000), is that managers are today making at least some of these *eight mistakes* as well as failing to ask themselves these *seven questions* correctly.

Even supposing that one totally agrees with the list proposed by Reinhardt there are still several issues that would need to be discussed in more detail in order to make those questions *actionable*. Among others, which managers should be asking themselves these questions? When exactly? How should the results of the discussions be shared and communicated? How can they overcome pessimism, faulty analysis and lack of information? These questions, among others, are taken up in this study.

**The research problem – first version**

*How can managers increase the understanding and optimally respond to potential environment-related opportunities or threats?*

## 1.2 Which managers?

The first issue to be solved is which managers this study should focus on. Cyert and March in 1963 suggested that organisations are coalitions of individuals organised in sub-coalitions (or groups). This theory is relevant because it points to the fact that different coalitions, or, as in this case, manager groups, often have '*substantially different preference orderings*' (Cyert and March 1963, p.27), not every management group has the same goals. It is thus definitely not possible to address the issue of managers *in general*. The *relevant* managerial groups (or coalitions) need to be clearly defined and their goals discussed before any work on the process can even start.

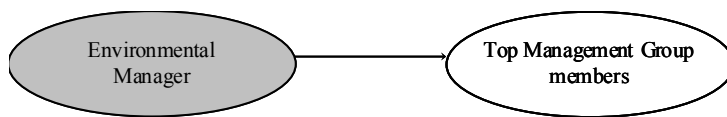
This choice was not that difficult after all. During the Master practical work carried out at the IIIIE I was, in fact, able to observe the existence of two distinct managerial groups whose opinions were often contrasting: EMs and top managers. Confirmation of this personal impression came from the annual survey carried out by the Swedish Environmental Management Association (NMC). This survey found the *lack of top management commitment* to be among the two highest concerns and frustrations of environmental practitioners. This finding was common to all six annual surveys carried out between 1997 and 2002 (NMC, 1997, 1998, 1999, 2000, 2001, 2002).

So, not only I had some kind of proof that two groups of managers existed, but also an indication that communication among the two groups did not work very well. The reason could only be a far-fetched hypothesis at the time but, in line with the ideas of Cyert and March, it was feasible to think that it might have something to do with their different sets of goals and roles in the organisation.

### 1.2.1 The environmental manager and his role

From a literature point of view environmental managers have received so far very little attention. A recent (August 2006) search on Business Source Premier (search criteria: word *environmental manager*; in abstract; article; peer reviewed) gave 50 hits. Of these fifty articles only one discussed the issue of the environmental manager's (EM) dilemma within an organisation (Catasús, Lundgren and Rynnel, 1996) but, at the same time, it failed to provide

a definition for the role of an environmental manager. For the purpose of this study an environmental manager (EM) is *someone who is in charge of finding the optimal ways for the organisation to deal with the environmental impact of its products and processes on the natural environment*. As shown in **Figure 1.1** the assumption here is that all the proposals on environment-related action will come from the EM. Higher levels of the hierarchy will then decide to accept or discard these proposals.



**Figure 1.1** *EM proposes actions to TMG members*

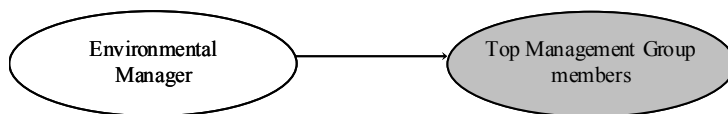
With this hypothetical process in mind, here taken as the starting point, the first locus of mistakes could be the analysis and screening tools, whether conscious or not, used by the EM. The literature on individual cognition evidences that managers' attempts to cope with information overload (Simon 1957) may induce them to *misinterpret* the world around them (Kiesler and Sproull, 1982). A further problem that might hamper the quality of solutions offered by EMs beyond misinterpretation could be the *lack of information* all together. The EM could be too far from the top of the organisation to know what exactly to look for in order for the solution to be relevant and aligned to the strategy of the organisation at that particular moment in time.

### ***Definition of an environmental manager***

*An EM is an employee of an organisation who is (or feels) in charge of finding the optimal ways for the organisation to deal with the environmental impact of its product and processes on the natural environment.*

## 1.2.2 The top management concept

On the receiving end of **Figure 1.2** there is *top management*. Top management is defined as a *relatively small group of most influential executives at the apex of an organisation* (Hambrick, 1994, p.173). This group of people is in charge of very complex tasks like formulating and implementing responses to the changing business environment (Miles & Snow, 1978). The perception of the importance of top management has been there for a long time (e.g. Barnard 1938). The view of the top management-related specialists such as L.J. Bourgeois, Donald Hambrick or Phillis Mason is that top management *counts* and it is opposed to the contrary view, put forward by other scholars (e.g. Hall 1977) that organisations somehow run themselves independently of the will and efforts of top management. This study takes this same view in the sense that if the TMG will not support the EM's proposals they are not likely to go very far.



**Figure 1.2** *TMG members receive environment-related proposals from EM's*

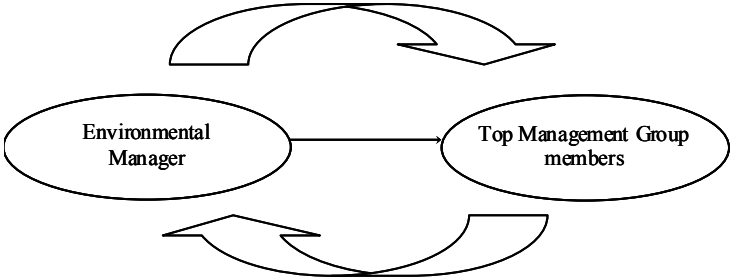
While in the early days top management was preferably referred to as a *team* (Bourgeois 1980) the latest research refers to it as a *group*. The conceptual element that distinguishes the two definitions is *behavioural integration*: the degree to which the group engages in mutual and collective interaction (Hambrick 1994, p. 171). In other words while the people at the apex of an organisation are, by definition, a *group* they will only be a *team* if they manage to work together. The level and quality of their interaction will define just *how much of a team* they are. Given the absence of assumptions on the behavioural integration of the managers participating in this study from now on top management will be referred to as the TMG (*Top Management Group*). In the attempt to provide scholars with a uniform framework for organizing theory and research, Hambrick (1994) proposes the TMG concept to be fully described by the following five properties: *Composition; Structure; Incentives; Processes; and Group Leader*.

*Composition* refers to the collective characteristics of its members. These characteristics can be tenure, age, functional specialties, education backgrounds, values, cognitive styles or personalities. The *Structure* of TMG refers to the roles of members and the relationships among those roles. The *Incentives* relate to how the types of drivers from individual to individual in a TMG will differ. Some TMG members will be more interested in getting to be the group leader, others in the pay arrangement and so on.

The *Processes* refer to the way TMG members interact, communicate and behave with one another. Finally the *Group Leader* is the CEO, or the person who is ultimately responsible for the decisions and the performance. The reason for including the CEO as a separate property of TMG stems from the indication, coming from field studies, that his particular characteristics seem to exert more power than the average TMG member. The action part of this study is built to influence the types of *Processes* that bring the TMG members to interact with one another and with the EM. The research problem could therefore be more precisely defined as<sup>3</sup>:

**The research problem – second version**

*What process can assist **the EM** in enhancing **TMG** understanding of potential environment-related opportunities or threats?*



**Figure 1.3** Discussion Process

Until now it was assumed that the EM has a valid solution and that his only problem is to get the TMG to understand it and provide adequate resources for its implementation. Most EMs participating to the NMC survey (survey to all Swedish environmental managers – see **Section 1.2**) and lamenting the *lack of top management commitment* would probably agree

<sup>3</sup> Note that the research problem wording changes are highlighted in bold.



with this assumption. In other words, they have great ideas but often TMG does not understand them correctly. However, we know that there is a good chance that EMs may also perceive reality differently and therefore their solutions may not be as good as they think. Different perceptions and lack of information are real problems that must be considered. Therefore, as shown in **Figure 1.3**, even though the EM may be the one to introduce the topic, through a process of discussion, they might *also change their mind*. Ideas might be discarded or improved through the interaction with TMG. The EM's understanding would then also be enhanced by this process. As a result the research problem becomes<sup>4</sup>:

### **The research problem – third version**

*What process can enhance the **EM and TMG understanding** of potential environment-related opportunities or threats?*

The issue of interaction between the EM and TMG, whilst being raised by EMs, has hardly been a concern for the environmental management-related literature. A rare exception is Nadler (1998), who describes the difficulties EMs may encounter in pushing environmental work and suggests ways to overcome them. While he does not specifically focus on the interaction between the EM and TMG, Nadler's approach is very much in line with the one taken in this study in that *'the burden is on the EMs to shape their own destiny'* (Nadler, 1998, p. 16).

While the EM is rather easy to find the current definition of TMG does not help us very much in identifying who *exactly* in an organisation should be considered part of this group. Hambrick remains rather vague on this issue when stating *'the appropriateness of one approach to identifying a top group over another depends on the research question'* (Hambrick 1994, p. 174). However, he also states that while research studies of the past 20 years have defined top management rather differently, three principles seem to uniformly apply:

- (i) It has to include the CEO and COO.
- (ii) It should include line and staff executives.
- (iii) It is defined by hierarchy.

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<sup>4</sup> Note that the research problem wording changes are highlighted in bold.

(Hambrick 1994).

This definition is still too vague as it does not produce useful process prescriptions. If a manager refers to TMG members of his company, who is he talking about exactly? A practical way of identifying TMG members could be as follows: those managers whose opinion the CEO usually calls upon when the highest level decisions have to be taken *as a group*. This definition has the advantage of being both relevant (i.e. regardless of their formal position they are undoubtedly the most important) and easily identifiable.

### **TMG member definition**

*A TMG member: is a manager whose opinion is called upon by the CEO when the most important decisions need to be discussed as a group.*

## **1.3 From enhanced understanding to reduced bias**

If the aim is to *enhance understanding* of TMG members and the EM we also need to provide a definition for it. At individual level the research branch most concerned with how people understand, judge, analyse or learn is called *cognitive psychology*. The Oxford dictionary defines *Cognition* as: ‘*The mental action or process of acquiring knowledge through thought, experience and the senses*’ (Oxford Dictionary, 2004). While there is to date no agreement over the *precise* process through which individuals form their opinion of the world, three sub-processes always seem to be included: *Noticing*, *Interpreting* and *Storing Stimuli* (Corner, Kinicki and Keats, 1994). Focusing on the first two is enough to make the point.

The *Noticing* (or attention) process is one that focuses on the individual on a specific set of data. This process is the one determining what will be analysed and what will be ignored. Individuals notice things due to two distinct processes, one *automatic*, one *controlled*. The *Automatic Process*<sup>5</sup> continuously selects certain kind of data and stores it unconsciously. On the contrary, the *Controlled Process*<sup>6</sup>, usually sparked by some kind of input (e.g. departure of

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<sup>5</sup> *Automatic Process*: Activation of a learned sequence of elements in long-term memory that is initiated by appropriate inputs and then proceeds automatically – without subject control, without stressing the capacity limitations of the system and without necessarily demanding attention (Schneider and Shiffrin, 1977, 84(1), p.1)

<sup>6</sup> *Controlled Process*: Temporary activation of a sequence of elements that can be set up quickly and easily but requires attention, is capacity limited (usually serial in nature), and controlled by the subject (Schneider & Shiffrin, 1977, 84(1), p.1).

a parameter from baseline) is conscious and entails the search for a specific issue geared at decision making. The important piece of information is that both these processes depend, among other things, on individual experiences and previous knowledge. This means that depending on the types of experiences that the person, has s/he is driven to notice certain issues and ignore others.

The *Interpretation* (or encoding) process is the one assigning meaning to data, the individual understands what he is looking at. This process starts from the data noticed through the attention processes and compares this data with the characteristics of a known *category prototype*<sup>7</sup> (e.g. ‘good’ acquisition target). If the comparison yields positive results (i.e. the data matches the category characteristics) then the data will be interpreted, understood and finally stored as being part of that category. Of course, the category prototypes also result from experience. Different people use different category prototypes and, as a result, might understand, filter and store the same data in very different ways (Kelly, 1955).

Furthermore, research has proven that the process of matching data with category prototypes is non-exhaustive. Cantor and Mischel (1979) show that a phenomenon exiting an individual’s encoding process:

- (i) suffices of few of the category prototype characteristics to be positively screened and recognised as belonging to that category type;
- (ii) acquires all the category prototype characteristics, including the ones that were not originally recognised to be part of the observed phenomenon; and
- (iii) is purged of the characteristics that are not included in the category prototype. This profoundly modified and biased version of the original phenomenon is then stored and accessed when needed for decision-making.

In other words, different individuals notice different things, compare them with different category prototypes and *automatically* make mistakes in the interpretation processes. Kiesler and Sproull (1982), as shown in **Table 1.2**, categorise the mistakes generated by the noticing, interpreting, storing processes into *seven* main types. Browsing through the list it is not difficult to imagine that these biases may have a rather heavy influence on decision making. Not surprisingly, empirical work shows that interpreting-related biases influence strategic issue diagnosis (Dutton et al., 1983) and competitive positioning (Porac and Thomas, 1990).

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<sup>7</sup> *Category Prototype*: [A *Category* is a] fuzzy set of equivalent things most often designated by a name like *competitors* or *stakeholders*. Categories encompass prototypes or idealised examples of a category member (Corner et al. 1994, 5(4), p. 298)

As a result it seems that it is more useful to word the research problem in terms of *reducing biases* rather than *increase understanding*<sup>8</sup>.

### The research problem – fourth version

*What process can **reduce** the EM and TMG **biases** related to the potential of environment-related opportunities or threats?*

EMs and TMG members are unconscious victims of the limitations of human cognition processes: their view is *certainly* biased. For example, EMs may be much *too keen* on environment-related projects, while TMG members may be *unwilling* or *insufficiently equipped* to understand them.

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 1.2** Likely errors in problem sensing (Adapted from Kiesler and Sproull 1982, p. 560<sup>9</sup>)

The good news is that such biases are a result of the cognition process of *individuals*. Since different individuals have different types of biases, interaction among them should yield

<sup>8</sup> Note that the research problem wording changes are highlighted in bold.

<sup>9</sup> 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 (*ibid*, p. 557)

better diagnosis and decisions. This premise introduces the issue of groups and their supposedly superior decision-making abilities compared to individuals. It also brings us closer to our research setting where an EM (an individual) will be brought to interact with TMG (a group). It is true that the EM and each TMG member have their own biased view but, by interacting, they also have a chance to reduce each other's biases on environment-related topics.

### 1.3.1 Group-type problems

Sundstrom, De Meuse and Futrell (1990) define a group '*an interdependent collection of individuals who share responsibility for specific outcomes for their organisations*'. The word *inter-dependent* means that the performance of each member depends on the performance of others, which is certainly the case for a TMG. The premise that individual-level cognition problems can be solved by people working in groups is not a novel concept, so much so, that it is today considered as conventional wisdom. However, such a premise is *not always true* because the quality of the decisions taken by a group depend on the way group-type work is carried out. The literature is full of examples showing how badly groups have performed on many occasions (e.g. Janis, 1972). Why is this?

The key phenomenon to keep in mind is that people working in groups do not behave in the same way they would behave if they were on their own. This is true for the way they act, for what they say and for the quality of critical thinking they are capable of performing.

Thompson (2004), in her book '*Making the Team*', indicates a number of group-induced mistakes as culprits of less informed decisions (**Table 1.3**). The commonality among all of these mistakes is that they are made *unconsciously*, that is, they happen without the manager noticing them. These will be referred to as *unconscious group-induced mistakes* because they are not perceived (unconscious), they are induced by the group-type settings (group-induced) and they certainly generate less informed decisions (mistakes).

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

**Table 1.3** Unconscious group-induced mistakes (adapted from Thompson (2004), pp. 96-110 and pp. 126-156).

Unconscious group-induced mistakes are not the only mechanisms that *pollute* group discussion. The flow of information may be prevented by *conscious omissions*. Omissions are *conscious*, as shown in **Table 1.4**, when the manager is perfectly aware of his non-disclosure and the reasons behind it. The trick here is that even though the omissions are conscious they may be based on the *wrong premise* because individual cognition processes are not perfect and may generate wrong perceptions of the situation. For example, a manager may decide to omit a comment because he is worried that it might annoy the director. Even if his perception is wrong (i.e. the director would not have been annoyed), still, the comment is left out meaning that a decision is not as informed as it could have been had this piece of knowledge been included.

Examples of CONSCIOUS omissions
I will omit this comment because...
...my boss might not like it.
...it might show that I am ignorant on the topic.
...it might put a colleague I like in a difficult position.
...it is not the right moment.
...it might generate conflict in the group.

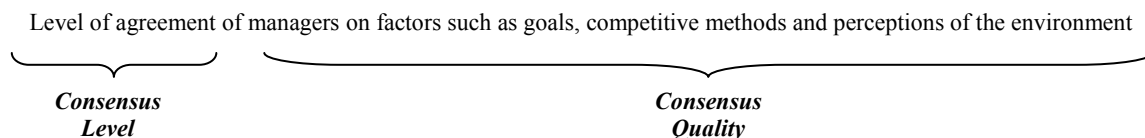
**Table 1.4** Examples of conscious omissions

Similar to the discussion on the individual cognition, *automatic mechanisms* are at play here. If left unmanaged they will certainly occur because of the way humans behave in groups. The task of this study is to investigate a process that reduces the likelihood of these mechanisms from happening.

### **1.4 From reducing biases to increased Consensus**

As discussed in **Section 1.3** all individuals have biases. Interaction among individuals, if well executed, seems to hold the promise of reducing some of these biases. A concept that captures the interactive part of this study well is: *Consensus*. Dess and Priem (1995, p. 402) define it as the ‘*level of agreement of managers on factors such as goals, competitive methods and perceptions of the environment*’. Notably *Consensus*, as defined by Dess and Priem, focuses on the cognitive aspect alone (i.e. what is understood) and the consequent exclusion of emotional aspects such as commitment that are present in other definitions of *Consensus* (e.g. Floyd and Wooldridge 1992, p.28).

#### Definition of *Consensus*



*Consensus*, as defined below, has two basic properties:

- (i) *Consensus Level.*
- (ii) *Consensus Quality.*

*Consensus Level* takes the existing situation as a given (e.g. fixed topics) and simply indicates the level of agreement that the group reached on those fixed topics. In other words, *Consensus Level* is at a maximum when all managers agree and a minimum when they disagree. Notably, this agreement/disagreement compares the views of managers taken separately (i.e. as if asking the same questions to all managers in one-to-one interviews) rather than in a group-type situation where the views expressed may be consciously (or unconsciously) biased.

*Consensus Level* on a task (or problem) seems useful because it is likely to influence the amount of resources devoted to carrying out that task (or solving that problem). For example, let's suppose a group of managers *all agree* (maximum level) that it is important to improve client relationships, and, in parallel, also *all agree* that it is less important to increase the quality of the product. In such a situation it is very likely that *relatively more* resources will go into improving client relationships. The key issue is that this will happen *regardless* of the level of bias of the managers (i.e. the extent to which they are currently mistaken). Managers will be able to assess how wrong they were only at a later stage, by looking at whether the investments made on improving client relationship performed according to expectations.

*Consensus Level* is interesting but it cannot be the only issue of focus. The interest of this study is to increase the environment-related efforts while also increasing an organisation's business performance. One could ignore this problem if higher *Consensus Levels* automatically increase an organisation's performance but, as scholars have shown, this is not always the case. While some of the studies do confirm this tendency (e.g. Dess and Keats 1987), others show that higher Consensus can have a negative impact on an organisation's performance (e.g. Bourgeois 1985). Dess and Priem, in their discussion of these results, suggest that increased *Consensus Level* is '*of minimal benefit if an organisation has incorrectly analysed its internal or external business environment*' and that these studies may have been '*investigating (only) one side of the coin*' (1995: 408).

This is why *Consensus Quality* also needs to be discussed. The word *Quality* relates to the extent to which the goals, competitive methods or business environment evaluations discussed and validated by the group are likely to result in the organisation's *desired performance*. *Consensus Quality*, among other things, will certainly depend on:



- (i) The available information — how rich, complete and relevant is the set of issues available for discussion? (*Content Quality*)
- (ii) The people involved — is information lost because some managers have been excluded from discussions? (*Group Quality*)
- (iii) The quality of interaction — is all the information raised also discussed? (*Interaction Quality*)

As shown in **Figure 1.4** these properties are referred to respectively as: *content*, *group* and *interaction quality*.

The issue of who is involved (*Group Quality*) is not only an issue of knowledge provided but it is also important because, as demonstrated by Wooldridge and Floyd (1990), this will have an influence on the level of commitment to implementation. In other words, this argument suggests that a group of managers agreeing on a course of action will pursue this course of action with more intensity and success if they have been involved in the decision-making process.

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

**Figure 1.4** Definition of *Consensus Level and Quality*

The existence of these properties can be justified with the help of the individual and group-type biases introduced in the previous sections. The need to ensure that all the topics have been discussed (*Content Quality*) is necessary to prevent individuals from filtering out certain issues on the grounds that they are not in line with current ideas. Ensuring that the right type

of managers is involved (*Group Quality*) prevents discussions from being dominated by individuals who concentrate on things that are close to their work and that they deal with on a daily basis<sup>10</sup>. Finally, encouraging interaction among managers (*Interaction Quality*) is important to prevent the group from taking a non-desirable course of action<sup>11</sup>.

### **The research problem – fifth version<sup>12</sup>**

*What process can **increase the EM and TMG consensus level and quality** over the potential of environment-related opportunities and threats?*

The conceptual shift from *Bias* to *Consensus* is key. We are no longer concerned with backing up the EM so that he can show why *he is right* and *they are wrong*. Rather the study shifts to focus, within the realm of environment-related topics, on *Consensus* and *what it is all about* (*Consensus Level* and *Quality*) and how it can be best increased (*Consensus Process*). This latter term, *Consensus Process*, refers to a process that *aims to increase Consensus Level and Quality*. To this realm belong all the rules guiding the choice of contents, mode and length of coverage, number and type of participants as well as the interaction among them.

### **The research problem – sixth version<sup>12</sup>**

*What **consensus process** can increase the EM and TMG consensus level and quality over the potential of environment-related opportunities and threats?*

#### **1.4.1 Towards an evaluation framework**

To wrap up the discussion on the *Consensus* concept it seems useful to summarise in a framework the type of questions that will need to be answered by the empirical part of the study. In **Figure 1.5** the three main constructs introduced in this chapter are displayed. In terms of *Consensus Process* the research should specify the questions at hand, outline the

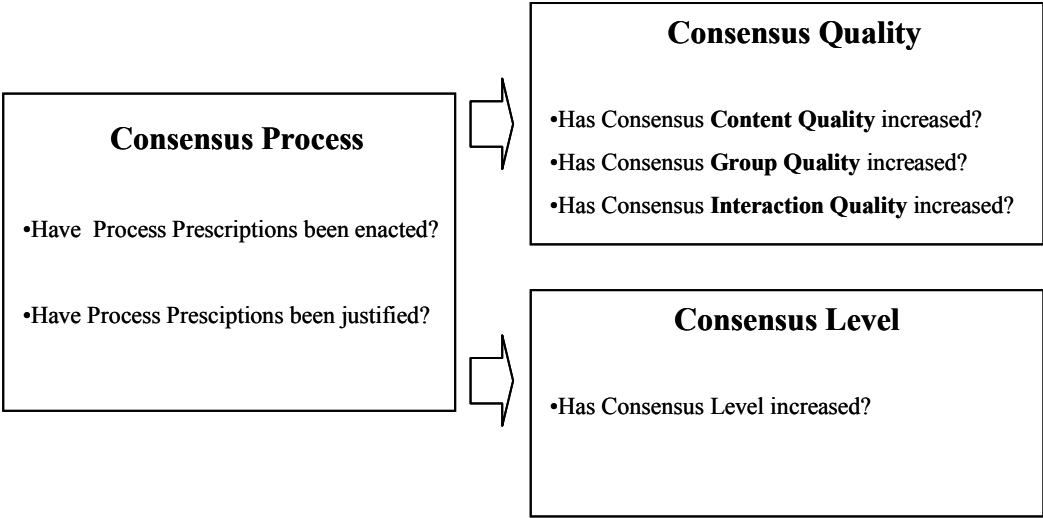
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<sup>10</sup> See Section 1.3

<sup>11</sup> See Section 1.3.1

<sup>12</sup> Note that the research problem wording changes are highlighted in bold.

choices made (i.e. process prescriptions) and explicitly discuss the extent to which these are backed up by the literature, empirical findings or reasoning alone.



**Figure 1.5** The evaluation framework

In terms of *Consensus Level* and *Quality* the ideal situation would clearly be a measurement of their variation throughout the study. Unfortunately, this will not be possible because these concepts were *discovered* during the journey and not hypothesised before-hand. With the support of the empirical evidence, this will be discussed when the case studies are explained. (See Chapters 4 to 9).

**1.4.2 The definition of Content Quality**

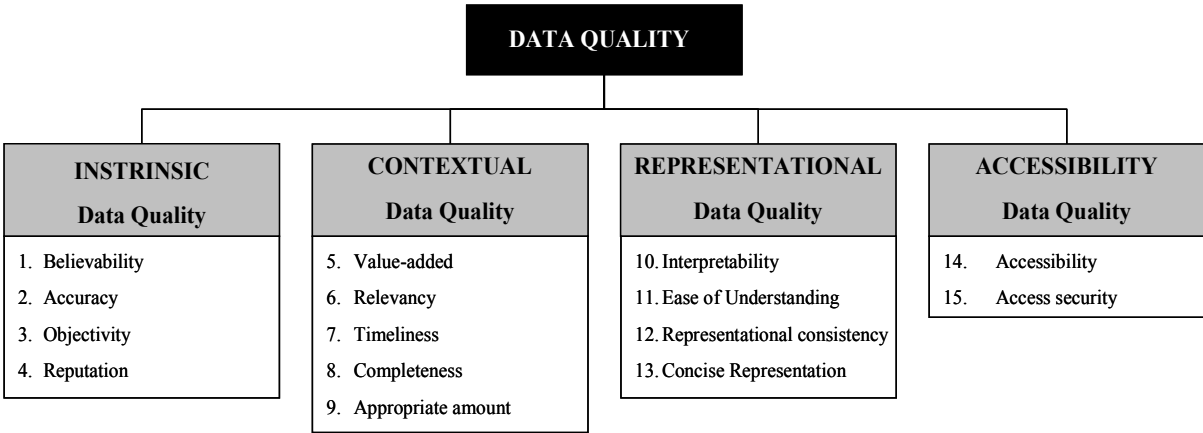
The following chapters discuss in detail whether the process prescriptions applied resulted in a shift in *Content Quality*. It seems then useful to provide a framework for its evaluation. Here we turn to the empirically derived definition for *data quality* proposed by Wang and Strong (1996) (See **Figure 1.6** and **Table 1.5**). The departure point of deriving this definition, and all its listed properties, was the idea that data quality is identified by the overarching and widely accepted criterion of *fitness to use*. This criterion implies that high or low quality is not an absolute feature of the data but that it will differ depending on the use it serves and by the

opinion or the user. By questioning managers, Wang and Strong reduced the concept to fifteen properties.

<b>Data quality (in this study <i>Content Quality</i>)</b>			
<b>INTRINSIC Quality:</b> denotes that data has quality in its own right.	<b>CONTEXTUAL Quality:</b> highlights the requirement that data quality must be considered within the context of the task at hand.	<b>REPRESENTATIONAL Quality:</b> emphasises the role of systems.	<b>ACCESSIBILITY Quality:</b> emphasises the role of systems.
<b>1. Believability:</b> the extent to which data is accepted or regarded as true, real, credible.	<b>5. Value-added:</b> the extent to which data is beneficial and advantageous for users.	<b>10. Interpretability:</b> the extent to which data is in appropriate language and units and definitions are clear.	<b>14. Accessibility:</b> the extent to which data is available or easily and quickly retrievable.
<b>2. Accuracy:</b> the extent to which data is correct and reliable.	<b>6. Relevancy:</b> the extent to which data is applicable and helpful for the task at hand.	<b>11. Ease of understanding:</b> the extent to which data is clear without ambiguity and easy to understand.	<b>15. Access security:</b> the extent to which access to data can be restricted and hence kept secure.
<b>3. Objectivity:</b> the extent to which data is unbiased (unprejudiced) and impartial.	<b>7. Timeliness:</b> the extent to which the date of the data is appropriate for the task at hand.	<b>12. Representational consistency:</b> the extent to which data is always presented in the same format and is compatible with previous data.	
<b>4. Reputation:</b> the extent to which data is trusted or highly regarded in terms of source or content.	<b>8. Completeness:</b> the extent to which data is of sufficient breadth, depth, and scope for the task at hand.	<b>13. Concise representation:</b> the extent to which data is succinct and not overwhelming (i.e., brief in presentation, yet complete and to the point).	
	<b>9. Appropriate amount of data:</b> the extent to which the quantity or volume of available data is appropriate.		

**Table 1.5** *Content Quality* evaluation framework (adapted from Wang and Strong, 1996)

The authors cluster their fifteen criteria into four *quality* categories: intrinsic, contextual, representational and accessibility. *Intrinsic Quality* refers to those characteristics that are intrinsic in the data, accuracy being the classic example. The fact that data is accurate is a characteristic that can be objectively verified and does not depend on the use one will make of that data. *Contextual Quality* has to do with the appropriateness of the data *compared to* the task at hand. For example, data may be accurate but irrelevant for a certain decision, this is why relevancy would be an important criteria. If the information is more relevant to the user it is also of better quality.



**Figure 1.6** Properties and sub-properties of the data quality concept (Wang and Strong, 1996)

*Representational Quality* is the way the data is displayed and refers to the fact that certain displays and formats may be easier to interpret and aid decision-making than others. For example, the criteria of concise representation details how the same data could be of much more help to the decision maker if condensed in one slide with a graph rather than in 100 separate Excel™ spreadsheets. Finally, *Accessibility Quality* refers to the ease with which the data can be retrieved. Data may be accurate, relevant and well condensed but if it takes too much time to find it becomes useless.

### 1.4.3 A word of caution: is *Consensus* enough?

This research has the ultimate aim of making it easier for an EM to receive from TMG the resources needed to improve the organisation's environmental performance. In the end an increase in consensus will only be interesting if, as a result, *TMG* members will decide to dedicate more cash, more resources and/or more time to environment-related projects. The caveat here is that managers' opinions have different weight depending on their *power* (Mintzberg, 1983).

If one considers the influence of power on group decision making it is clear how a higher *Consensus Level* does not *automatically* ensure that a course of action has a higher likelihood of being pursued. For example, if the CEO, usually the most powerful element of a TMG, is the only one disagreeing then the *Consensus Level* is very high while the ultimate decision remains *highly uncertain*. Nevertheless, *Consensus Level* remains interesting for two reasons. First, because regardless of how powerful a disagreeing TMG member is, an increased level of consensus among his colleagues can only make the *pro* decision *easier* and the *against* decision *harder*. The CEO can always decide to go against his top managers' opinions, but not without careful thought and a good dose of pain. Second, because a higher *Consensus Level* is likely to facilitate the implementation of that decision once it is taken.

*Consensus Process* also remains interesting because from a process perspective any situation is only transitory. The CEO still doesn't believe in environmental management as a source of value? A set of well-designed and research-based *Consensus Process* guidelines should suggest some ideas on how to increase TMG *Consensus Level*, including how to bring the CEO to understand, share or at least explain his doubts.

To conclude, a *higher Consensus* on the worthiness of environmental activities is neither necessary nor sufficient but certainly *desirable* because, all things being equal, it can only make environment-related activities more likely to happen.

#### **1.4.4 Consensus over what?**

The final problem to solve is how to define *potential of environment-related opportunities and threats*. In this study both opportunities and threats relate to issues that would allow managers to increase the organisation's value *for shareholders*. The reason for choosing this perspective as the departure point is that in the TMG there will certainly be some environmental enthusiasts, some doubters and some cynics. While some enthusiasts might be ready to take environment-related actions that reduce the organisation's value this can hardly be something EMs should be counting on. A process that solves their problem once and for all should ideally be a process that convinces everybody, cynics included. The role of the joint-stock organisation is to maximise shareholder value and that is the task assigned to the managers. So, at least the departure point would be aligned with that. As Catasús, et al. (1997) have verified this also seems to be the approach generally taken by EMs. When asked to rate the importance and priority they gave to internal actors (i.e. shareholders), external actors and nature they declared more effort was necessary for internal demands.

If TMG knows what ultimate goals (or ends) would satisfy the shareholders and agree on the best possible way of achieving those goals (i.e. means) the types of environmental actions to be sought are the ones that significantly enhance *means* and *ends*.

#### **The research problem – seventh version**

*What consensus process can increase the EM and TMG consensus level and quality over the impact of environment-related issues on organisation means and ends*

### **1.5 In search of a Consensus Process**

The entire TMG means-ends discussion falls squarely into the strategy planning and implementation literature (e.g. Grunig and Kuhn, 2002; Hax and Majluf, 1996; Johnson 1987). Here we use the process connected to the Balanced Scorecard, a management concept launched by Robert Kaplan and David Norton in 1992 (Kaplan and Norton, 1992), for four main reasons:



- (i) The horizon of the tool is of medium to long-term nature. Such horizon increases the potential of environmental issues to be of strategic relevance for an organisation.
- (ii) The exploration and increased weight of what Kaplan and Norton call *the leading indicators of success* (e.g. product quality, employee motivation) might provide EMs with a good framework to show where *exactly* environmental management may add value to the organisation. The supposition here is that it is easier to argue, and measure, that an environmental project will have a positive impact on employee motivation than arguing, and measuring, its final impact on the bottom (or top) line.
- (iii) The BSC appealed to both the audiences of interest for this project: EMs and TMG members. For TMG members to be interested it was necessary to have a process that pertained to strategic decision-making and had the potential to solve some of TMG problems. All the better if it could be sold internally and externally as a tool for best practice. The BSC was a good fit.

The BSC had been conceived with the aim of helping TMG implement their strategy. It promised to provide a set of indicators that would help TMG members by increasing transparency, control and, ultimately, performance too. While no academic work had demonstrated that the BSC had delivered on these promises, the fact that more than 60% of the Fortune 500 companies claimed to be using the BSC by 1996 (Silk, 1998) *seemed* to provide at least partial support to these claims.

This expectation appeared sufficiently robust considering the method used by Kaplan and Norton to actually come up with the idea of the BSC. As Kaplan (1998) thoroughly describes the tool was put together using methods developed by managers. Once the first draft was developed, the BSC tool continued to be modified as a result of being used by a wide range of companies. This issue seemed to guarantee that the tool would be applicable regardless of the companies that would participate in this research.

- (iv) The BSC enjoyed a very high status compared to other multi-indicator systems because of its affiliation with the Harvard Business School and, as such, promised to be a good *Trojan horse* for capturing attention in general.

One might argue that this decision is too much *a priori* and that a more thorough discussion of pros and cons of the BSC approach must be carried out compared to other strategy

implementation process tools existing in the literature. While it is certainly true that comparing the BSC to other approaches is an interesting exercise, it is beyond the objective of this study. The claim here is not that the BSC is the *best* process tool for this study but, more simply, that it is *good enough* to investigate the research problem at hand. There may very well be other process tools that could support this task better, but there is no need to discuss them here. Rather this is an issue that can be left to future investigation.

## **1.6 Setting about the task**

The criterion for choice of the methodological approach was its fit with the type of problem under investigation. The choice fell on *Action Research*:

*'Action Research may be defined as: an [1] emergent inquiry process in which applied [2] behavioural science knowledge is integrated with existing organisational knowledge and [3] applied to solve real organisational problems. It is simultaneously concerned with [4] developing self-help competencies in organisational members and [5] adding to scientific knowledge. Finally, it is an evolving process that is undertaken in a [6] spirit of collaboration and co-inquiry' (Shani and Pasmore, 1985: 439).*

Needless to say this study is, in itself, an emergent inquiry process. Today, there is no answer on the process (or process elements) enabling the EM and TMG to increase Consensus Level and Quality. We are not testing a hypothesis; but instead running a process to *learn* [1]. Of course, in order to have a good starting point literature in different domains was used [2].

The idea of strong involvement of the participants in the process of analysis and solution of the problem [6] is driven by the very objective that had motivated the research in the first place. It was about fostering change in this field. Organisations should be more environmentally aware and proactive. Spending time in organisations without at least trying to bring about such changes would seem to be a waste of time. Besides, the project participants would also need some expected short-term benefits in order to adhere and fund this research project. Whether it is the EM wanting to drive through his ideas or the TMG wanting to build a set of strategic indicators, these are all desires aimed at solving a current organisational problem [3].



For this study, this translates in the situation shown in **Figure 1.7**. The first three chapters, constituting Part I, focus on an overall *Planning* step, comprising of the introduction of the research problem (Chapter 1) and the description of the specific tool used to explore this problem (Chapters 2 and 3). The following six chapters, constituting Part II, include six subsequent action research cycles or, as Coghlan and Brannick (2005) call it, the *spiral of action research cycles*. In this spiral the three steps of *Planning*, *Action* and *Fact-finding* are repeated chapter after chapter. In other words, each chapter describes the activities and the reasons for them (*Planning*), details the actions taken in the intervention (*Action*) and finally analyses and discusses what happened drawing conclusions and implications (*Fact-finding*).

This study entails four process steps in two different organisations with an average of 15 participants per organisation. These steps were carried out over two years totalling roughly 70 hours per organisation, all steps were recorded and transcribed. The results should be considered as case-based evidence.

### **1.6.2 A discussion on *Validity* and *Generalisability***

The *Action Research* approach can be certainly included in the broader category of *Qualitative Research*. *Qualitative Research*, broadly defined, means: ‘*Any kind of research that produces findings not arrived at by means of statistical procedures or other means of quantification.*’ (Strauss and Corbin 1990, p.17). In a qualitative study: ‘*Research design should be a reflexive process operating through every stage of a project*’. (Hammersley & Atkinson 1982, p. 74). In other words, the activities of collecting and analysing data; developing and modifying theory; elaborating or refocusing the research questions; and identifying and eliminating validity threats, are usually going on more or less simultaneously, each influencing each other (Maxwell J.A., 1996). These definitions are perfectly in line with the process discussed in the previous section.

The concept of *Validity* in qualitative research pertains to the correctness or credibility of a description, conclusion, explanation and interpretation of an account (Maxwell, 1996). One of the differences with quantitative studies is that the qualitative researcher must try to rule out the validity threats *after* (rather than before) the research has begun by using evidence collected during the research itself. Practically speaking this approach requires the researcher to rule out the specific threat in question when the threat arises. In this study this means that

the spiral of action research cycles will have to contain also a discussion of *Validity* each time analysis and conclusions are drawn. In coherence with the approach described this will be done on a chapter by chapter basis (Maxwell, 1996).

Maxwell (1996) posits that *Validity* should be pursued in three areas: *Description*, *Interpretation* and *Theory*. *Validity of Description* relates to the risk of inaccuracy or incompleteness of the data. *Validity of Interpretation* relates to the tendency of individuals to impose one's own framework or meaning rather than understanding the perspective of the people studied and the meanings they attach to their words and actions. *Validity of Theory* relates to the risk of not paying attention, not collecting discrepant data or not considering alternative explanations/understandings of the phenomena one is studying.

This study pursues *Validity of Description* by tape recording and transcribing each and every interview with managers. *Validity of Interpretation* has been pursued by involving a second person in the synthesis of the interviews (Chapter 5), by playing it back the contents to the managers for validation (Chapter 7). *Validity of Theory* refers to the discussion of the process steps and process rules proposed. In order to manage this issue four techniques were systematically applied.

**(i) Description of the rules:** First, for each and every process step (Chapters 4 to 9) there is a thorough description of the rules. The aim of this technique was to leave as little space as possible to reader interpretation. This effort seemed important since the main aim of the study is to propose a process to the readers. While this proposal is not meant to be prescriptive, its description should be clear to allow the reader to take what he/she deems most useful. A bad description of the process would carry the risk that readers may take process decisions and actions based on a misinterpretation of the evidence proposed.

**(ii) Discussion on the process step.** There is a discussion on whether the process step is actually necessary (e.g. Section 5.1: Are interviews necessary?). This questioning is necessary to test the process prescriptions coming from the Balanced Scorecard methodology.

**(ii) Results of the process step.** The results of each process step are discussed against theories and definitions taken from the literature (e.g. *Consensus*, *Data Quality*). The theories and definitions were used as an aid to organise the discussion in an orderly manner, basically as checklists of questions to be asked at each process step. This structured approach provided a clear baseline against which the readers can make their own decisions. In other words, they can ask themselves: *'If I was to carry out this process step as suggested would I have the*

same results?', or similarly: 'If I was to carry out this process step in a different way, how would the effects change?'

(iii) **Taking into consideration two *Validity* threats.** The two *Validity* threats that are specific to the researcher: *Bias* and *Reactivity* are fully explored. *Bias* is due to the influence of one's own preconception or values on the developed theory. *Reactivity* is due to the influence this research may have had on the setting or the individuals studied. Again, given the impossibility of eliminating this threat it has been treated in a transparent way with the deliberate and non-deliberate (potential) influences on the process being described thoroughly throughout.

The concept of *Generalisability* relates to how the conclusions of the study could be applied in general. Maxwell (1992) suggests it is useful to distinguish between internal and external *Generalisability*. The words *Internal* and *External* refer to the applicability of the conclusions *within* (the former) or *beyond* (the latter) the setting or group studied. Maxwell posits that normally qualitative research studies are more concerned with *Internal* rather than *External Generalisability*. However, for this study it seems that this distinction is not useful: in any case *Generalisability* as described by Maxwell will be low.

This is certainly true because the settings are extremely specific and time bound. Because of this it is absolutely impossible to define *a priori* who is *in* and who is *out* of the group. The conditions in which the two case studies were carried out are unique and non-replicable. We are unlikely to find the same conditions even in the same organisations if we were to re-do the exercise again now. This problem is not one specific to this study but a general problem of *Action Research*. So much so that there is a heated debate (ongoing) as to what *External Generalisability* (also referred in the literature as *External Validity*) means in an *Action Research* setting (Calder, Lynn and Tybout 1982, Lincoln and Gabe 1985, McTaggart 1998).

The general claim of the *Action Research* scholars is that the concept of *External Validity* cannot be applied as such in *Action Research* because the existence of local conditions makes it impossible to generalise (Lincoln and Guba 1985, p. 123). Rather Lincoln and Guba (1985) propose a different criterion that could be a *substitute* for *External Validity* and that applies also in an *Action Research* context. This criterion is called *Transferability*. The notion of *Transferability* relates to the degree of similarity between the situation described in the study and any other situation to which someone wishes to transfer the findings. It is the reader who is responsible for evaluating this similarity. This entails that the researcher cannot specify the

*Transferability of findings*, the researcher can only provide sufficient information to be used by the reader to decide *whether* and *how* the findings are applicable to the new situation (Lincoln and Guba, 1985, p. 130).

## **1.7 Conclusions and contributions**

This chapter developed as a sequence of subsequent conclusions. Firstly, it has shown what little work has been done on environment-related decision making; how this is an issue of potential relevance to practitioners; and how it unfolds from existing research. Secondly, it introduces and clearly defines the main participants to the group discussions taking place in this study. Thirdly, it focuses on the fact that individuals and groups, by the very nature of their activities and limitations, make mistakes, perceive reality in differing ways and omit issues from discussion. These are some of the issues that have to be overcome in order to create a reliable environmental-decision making process. Fourthly, it introduces the concepts of *Consensus Level* and *Quality* providing a first tentative baseline to evaluate the effectiveness of the proposed process. Finally, it justifies the choice of the Balanced Scorecard as the tool to be used during this study and introduces the research methodology that has been used.

Each time a new concept was introduced the research problem became clearer and more refined. The conclusion of *unveiling* the procedure is such a way brought us to the definition that follows:

### **The research problem – final version for Chapter 1**

*What consensus process can increase the EM and TMG consensus level and quality over the impact of environment-related issues on organisation means and ends.*

#### **1.7.1 Contributions to literature**

The essential contribution of this chapter to the literature has been to bring the literature and findings from individual cognition, group dynamics and TMG decision-making to inform the

quasi-inexistent environmental decision-making literature. While there is a rather large amount of knowledge on analysis *ex post* of the results of certain environment-related decisions, there is a lack of information about the processes that companies follow internally *to get to those decisions*.

This chapter contributes to the investigation of these processes in three ways. First, it shows that this is an issue of managerial concern and as such, worth attention. Second, it proposes and defines a set of actors involved in such decisions (i.e. EMs and TMG). Third, through the introduction of the concepts of *Consensus Level* and *Quality*, it provides a first tentative baseline to measure the effectiveness of any process relating to environmental decision-making.

### **1.7.2 Limitations and future research**

The limitations and the suggestions for future research are strictly linked to each other. This chapter only provides a first brief summary of areas of interest such as individual cognition, group dynamics, strategic decision-making and environmental strategy information for which is so vast. However, now that the logical link has been made, the task to delve into further details must be left to future research.

### **1.7.3 Contributions to practice and its implications**

The main contribution to practice in this chapter is to bring to the attention of both EMs and TMGs that individuals and groups *automatically* make mistakes. This issue is of paramount importance because it changes the starting point of any discussion. An *Automatic Mistake* is a mistake that occurs unless there is a specific process that counteracts it. This means that if a manager cannot spot processes counteracting the mistakes listed in this chapter he can be pretty confident that some of these mistakes will happen and, as a consequence, will also hamper the quality of the decisions taken.

Consequently, after reading this chapter, an EM may more readily reflect on the correctness of his own perceptions before coming to the conclusion that top managers have it all wrong.



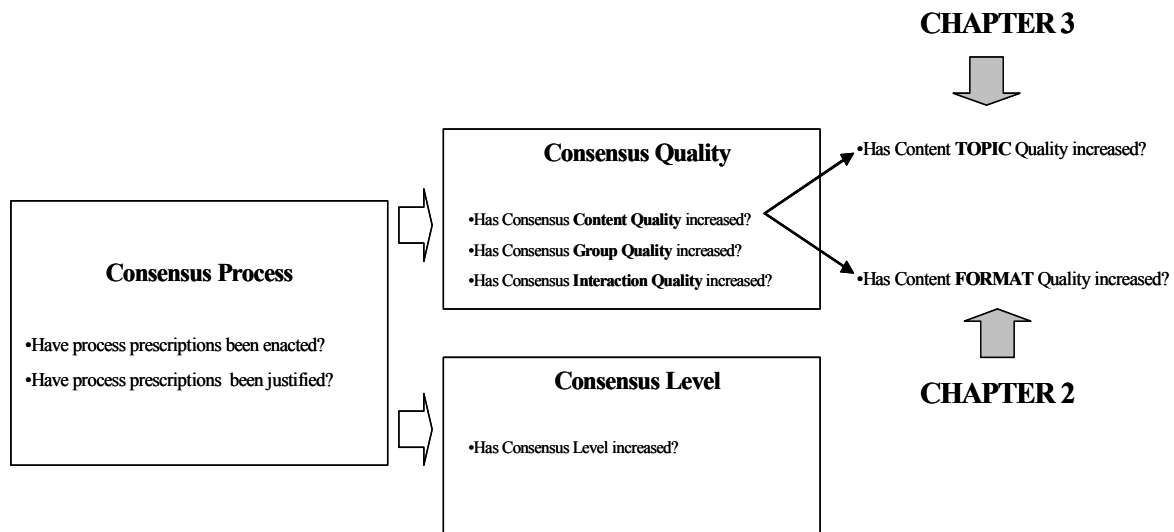
Vice versa, top managers reading this chapter may start to ask themselves whether their background, knowledge, role and interaction with the EM is such that it enables all the important issues to be discussed. Are they missing out on opportunities? How could they ensure they are not?

## 2 The BSC elements

### *The research problem (up to Chapter 1<sup>13</sup>)*

*What process can increase the EM and TMG consensus level and quality over the impact of environment-related issues on organisation means and ends?*

The next two chapters discuss the definition of *Means and Ends*: What are they exactly? How are they described? Can they be measured and if so, how? The definition of *Means and Ends* has a potential influence on *Consensus Quality*, or, more specifically, on *Consensus Content Quality*<sup>14</sup>. The tool inspiring the specification of means and ends is the Balanced Scorecard (BSC)<sup>15</sup>. The description of the BSC contents given by Kaplan and Norton in their publications (1996a, 2001, 2004) propose content to be the result of a combination of *Formats* and *Topics*. The *Format* relates to the way the information is expressed (e.g. objectives, indicators, projects, etc.). The *Topic* relates to the business issues under discussion (e.g. client satisfaction, product quality, employee motivation, etc.). As shown in **Figure 2.1** the format and topic properties of *Content Quality* will be dealt respectively in Chapter 2 and Chapter 3.



**Figure 2.1** Evaluation framework elements defined in Chapters 2 and 3

<sup>13</sup> The research problem will change again further down this study in **Chapter 2**

<sup>14</sup> *Content Quality*, defined as: *the extent to which the information made available for group discussion is sufficiently rich, complete and relevant* is one of the three sub-properties of *Consensus Quality*. See **Section 1.4**.

<sup>15</sup> The reasons for the choice of this tool are explained in **Section 1.5**.

As shown in **Table 2.1**, the BSC comprises eight elements: *Objectives*<sup>16</sup>, *Indicators*<sup>17</sup>, *Targets*, *Projects*<sup>18</sup>, *Cause-Effect Links*<sup>19</sup>, *Responsibility*, *Units*<sup>20</sup> and *Chains*. Kaplan and Norton suggest that managers start by defining a number of goals (*Objectives*) and how they relate to each other (*Cause-Effect Links and Chains*). Then they should decide how to measure them (*Indicators*), what exact level of performance should be achieved (*Targets*) and what type of initiatives would allow to reach those targets (*Projects*).

<b>Means-Ends format: The eight BSC concepts</b>			
<b>N.</b>	<b>Name</b>	<b>Question driving definition of each BSC concept</b>	<b>Kaplan and Norton (1996b)</b>
<b>1</b>	<b>BSC Objective</b>	<i>What type of goals do we want to achieve?</i>	Mentioned at p. 65 Lacks Explicit Definition.
<b>2</b>	<b>BSC Indicator</b>	<i>How should we measure the progress on the BSC Objective?</i>	Mentioned at p. 54 Lacks Explicit Definition.
<b>3</b>	<b>BSC Target</b>	<i>What quantitative indicator value will mean we have succeeded?</i>	Mentioned at p. 54 Lacks Explicit Definition.
<b>4</b>	<b>BSC Project</b>	<i>What actions will enable us to reach the BSC Target?</i>	Mentioned at p. 54 Lacks Explicit Definition.
<b>5</b>	<b>BSC Cause-Effect Link</b>	<i>How are the BSC concepts related to one-another?</i>	Mentioned at p. 65 Lacks Explicit Definition
<b>6</b>	<b>BSC Responsibility</b>	<i>Who is responsible for each of the BSC elements?</i>	Mentioned at p. 54 Lacks Explicit Definition
<b>7</b>	<b>BSC Unit</b>	<i>Brings together all the previous six concepts.</i>	<b>Original to this study</b>
<b>8</b>	<b>BSC Chain</b>	<i>How are the BSC Units related to one-another?</i>	Mentioned at p. 65 Lacks Explicit Definition

**Table 2.1** The eight BSC concepts

The **Sections 2.1 to 2.8** provide an explicit definition for these eight concepts because, as shown in **Table 2.1**, while Kaplan and Norton mention some of these concepts in their publications they do not provide definitions. In order to get to the BSC definitions in each section the research of Kaplan and Norton is used and complemented, when necessary, with additional literature. **Section 2.9** discusses the usefulness of *Environmental Chains*, while

<sup>16</sup> Kaplan and Norton refer to an *Objective* using also the words *goal*, *strategic goal*, *strategic objective*, *performance driver* and *performance outcome*.

<sup>17</sup> Kaplan and Norton also refer to *Indicators* with the word *measures* for the purpose of this study taken as exact synonyms.

<sup>18</sup> Kaplan and Norton to refer to *projects* using also the words *initiatives*, *strategic initiatives*, *actions* and *action programmes*.

<sup>19</sup> Kaplan and Norton refer to *Cause-Effect hypothesis* also using the word *Cause-Effect relationships*.

<sup>20</sup> *BSC Units* is a concept entirely original to this study.

**Section 2.10** draw conclusions, discusses limitations, indicates future research avenues and contributions to literature and practice.

## **2.1 Concept 1: BSC (and environmental) Objective**

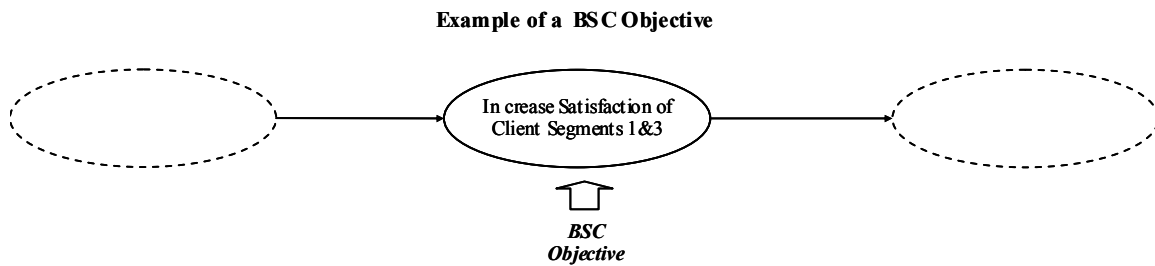
The BSC Objective is a very important concept because failing to build it correctly will automatically damage the quality of all those elements, such as *Indicators* and *Projects*, that refer to that Objective. Kaplan and Norton provide examples of objectives but *no explicit definition*. For instance both *Project Profitability / Hassle-free Relationship* (Kaplan and Norton 1993, p. 135) as well as *Increase Customer Value / Improve Asset Utilisation* (Kaplan and Norton 2001, p. 96) are all referred to as objective examples.

Additionally, but not explicitly, Kaplan and Norton refer to the objectives of the BSC as concepts that *are always linked to at least one other objective*. In their examples it is indeed impossible to find stand-alone objectives. They are always either the expected result (or driver) of another objective. The *Cause-Effect element*, later described in more detail, seems to be at the basis of the definition of a BSC Objective and is therefore included in the definition. (See **Figure 2.2**).

Finally, and again not explicitly, Kaplan and Norton seem to imply that the **BSC Objectives** are a result of TMG discussion. In their first book the steps they suggest for building BSC contents always entail discussion at TMG level (Kaplan and Norton, 1996a, pp. 300-309). Therefore, this has also been included as part of the definition of a *BSC Objective*.

As a result a **BSC Objective** can be described as a set of three or four words that:

- (i) well represents the intended goal;
- (ii) provides a clear indication of trend (e.g. increase of... );
- (iii) is linked to at least one other objective; and
- (iv) has been discussed and validated by TMG members.



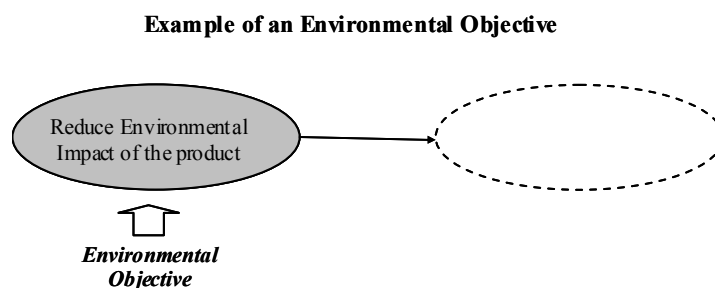
**Figure 2.2** Example of a *BSC Objective*

One key implication of this definition is that the objective concept *does not* include the idea of *measurement*. This is important to keep in mind because in the managerial literature and jargon the word *Objective* may also refer to quantitative indicators and targets which, in this study, are entirely different constructs:

### BSC Objective

*A BSC objective is a set of three or four words that represents well the intended goal, provides a clear indication of the desired future path, is linked to at least another objective, and has been discussed and validated by TMG members.*

Environmental goals are also BSC Objectives (see **Figure 2.3**). For example, if managers agree that *cost reduction* is a BSC Objective and that *reducing environmental impact* contributes to this objective, the latter is, by definition, a BSC Objective as well. However, in order to distinguish them from the others they will be referred to as *Environmental Objectives*.

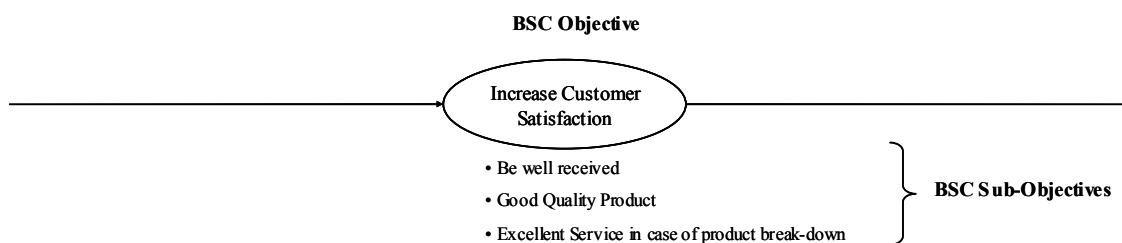


**Figure 2.3** Example of an *Environmental Objective*

## Environmental Objective

*An environmental objective is a BSC objective that is explicitly (but not exclusively) aiming at reducing the environmental impact of an organisations' operations*

The last objective-related concept of relevance to this study is the *Sub-objective*. A related-objective is one of the issues potentially contributing to the performance of another objective. For example, and as shown in **Figure 2.4**, a client *desire for a good quality product* is a related-objective of *Increase Customer Satisfaction*. Similarly to the BSC Objectives, this concept is non-quantitative and requires a clear definition.



**Figure 2.4** Example of *Sub-objectives*

## BSC Sub-Objective

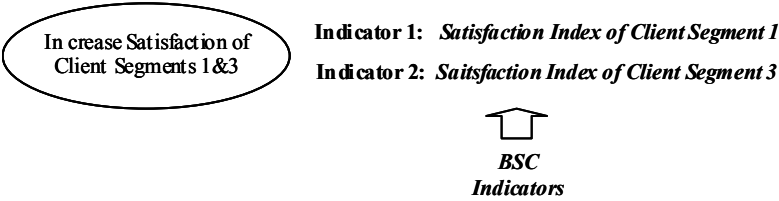
*A BSC sub-objective is a set of three or four words that, according to TMG members, well represents an issue that drives the performance of a BSC objective*

## 2.2 Concept 2: BSC Indicator

The centrality, and even predominance, of the *Indicator Concept* in the BSC-related discussion cannot be overstated. In the early 1980s traditional management accounting principles were heavily criticised. Specifically, the over-emphasis on financial indicators was pointed at as an important source of value-destruction behaviours such as anticipation of earnings to current period, discretionary assignment of overheads to divisions and failure to invest into value-creating projects only to improve reported financial results (Kaplan, 1983).

The solutions proposed to these dysfunctions within the field of management accounting ranged from the *correction* of financial indicators (e.g. EVA) to the use of multi-indicator systems such as the Balanced Scorecard (Ittner and Larcker, 1998). Considering such accounting-based origins of the BSC the original emphasis on the indicators seems to make perfect sense. Perhaps what is important to keep in mind is that the past (and present) focus on this aspect of the BSC may be largely due to historical reasons and not necessarily because it is the most important issue to discuss.

**Example of BSC Indicators**



**Figure 2.5** BSC Indicators and BSC Objectives

In very simple terms *Indicators* are quantitative measures designed to describe the extent to which the organisation is achieving its *objectives* (see **Figure 2.5**). Kaplan and Norton focus very heavily on *Indicators*<sup>21</sup> but do not provide with a clear definition. In **Table 2.2** the prescriptions provided by Neely, Adams and Kennerley (2002) are complemented with the consensus-related one specific to this study. This latter point is not entirely original to this study since Kaplan and Norton do mention issues such as the participation of executives to the process (Kaplan and Norton 1996a, p.305) and employee learning and buy-in resulting from such participation (Kaplan and Norton 1996a, p.8).

<sup>21</sup> Kaplan and Norton also refer to it with the term *measure, strategic measure, performance outcome* and *performance driver*.

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 organisation 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...	...which allows comparison through time by ensuring that calculations are always performed according to the same rules.
4	...have a calculation and reporting frequency...	...which ensures 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...	...which ensures that the data needed to keep the measure <i>alive</i> is entered correctly and timely.
6	...have a target level...	...that forces managers to set expectations and couple with projects.
7	...be fuelled by one or more projects...	...as it is only a waste of time and money to measure progress in an area that no one is working to improve.
8	...have specific managers responsible for projects...	...because someone should be responsible for the actions to improve the indicator.
<i>Additional for this study</i>		
9	...has been discussed and validated by TMG...	...and it is in accordance with this study research problem

**Table 2.2** Indicator definition (Adapted from Neely et al. 2002, p.37)

Interestingly Neely et al. (2002) insert within the indicator concept an explicit link to *Targets* [point 6] and to *Projects* [points 7 and 8]. In doing so they are asserting that a quantitative measure can *claim* an indicator *status* only if management has decided by how much to improve it (*Target*) and by what means (*Projects*).

### **BSC Indicator**

*A BSC indicator is a quantitative measure explicitly representing the performance of a BSC objective or a BSC project with a clear and evocative title, a mathematical formula, a defined calculation and reporting frequency, a codified data gathering process, a target level, fuelled by one or more BSC projects and discussed through a consensus process.*



Neely et al. (2002) provide two sets of detailed checklists. The first checklist (**Table 2.3**) contains the questions needed to build the indicator in the first place. The second checklist (**Table 2.4**) is the one used to test the quality of the indicator once it is built. Both checklists have been used for this research.

### **2.3 Concept 3: BSC Target**

A *BSC Target* is the value that managers would like an indicator to reach within a specified time period. Kaplan and Norton's explanation of the use of having a *Target* is rather clear cut: it provides the members of an organisation with a clear idea of the level of performance that should be sought in a particular domain. The difficulty in target setting is to decide on a value that is stretched yet reachable with the available resources. Over-stretching a *Target* may hamper personnel motivation while under-stretching it might impede the proactive pursuit of better performance (Kaplan and Norton, 1996a, p.226-230). Of course, as with all other BSC concepts used in this study consensus over targets should be reached within the TMG. The advantage of keeping this concept separate gives the possibility to discuss how consensus on targets was achieved and distinguish it from consensus on the other BSC elements.

#### **BSC Target Concept**

*A BSC Target is the value a BSC indicator should reach within a specified time period as agreed by TMG through a consensus process.*

Checklist for Indicator Content Building	
<p><b>Measure:</b></p> <ul style="list-style-type: none"> <li>- What should the measure be called?</li> <li>- Does the title explain what the measure is?</li> <li>- Is it a title that everyone will understand?</li> <li>- Is it clear why the measure is important?</li> </ul>	<p><b>Target Level</b></p> <ul style="list-style-type: none"> <li>- What level of performance is desirable?</li> <li>- How long will it take to reach this level of performance?</li> <li>- Are interim milestone targets required?</li> <li>- How do these target levels of performance compare with competitors?</li> <li>- How good is the competition currently?</li> <li>- How fast is the competition improving?</li> </ul>
<p><b>Purpose:</b></p> <ul style="list-style-type: none"> <li>- Why is the measure being introduced?</li> <li>- What is the aim/intention of the measure?</li> <li>- What behaviors should the measure encourage?</li> </ul>	<p><b>Frequency:</b></p> <ul style="list-style-type: none"> <li>- How often should this measure be made?</li> <li>- How often should this measure be reported?</li> <li>- Is this frequency sufficient to track the effect of actions taken to improve?</li> </ul>
<p><b>Relates to:</b></p> <ul style="list-style-type: none"> <li>- Which other measures does this one closely relate to?</li> <li>- What specific strategies or initiatives does it support?</li> </ul>	<p><b>Source of data:</b></p> <ul style="list-style-type: none"> <li>- Where will the data to track this measure come from?</li> </ul>
<p><b>Metric Formula:</b></p> <ul style="list-style-type: none"> <li>- How can this dimension of performance be measured?</li> <li>- Can the formula be defined in a mathematical terms?</li> <li>- Is the metric/formula clear?</li> <li>- Does the metric/formula explain exactly what data are required?</li> <li>- What behavior is the metric formula intended to induce?</li> <li>- Are there any other behaviors that the metric formula should induce?</li> <li>- Are there any dysfunctional behaviors that might be induced?</li> <li>- Is the scale being used appropriate?</li> <li>- How accurate will the data generated be?</li> <li>- Are the data accurate enough?</li> <li>- If an average is used how much data will be lost?</li> <li>- Is the loss of granularity acceptable?</li> <li>- Would it be better to measure the spread of performance?</li> </ul>	<p><b>Who measures:</b></p> <ul style="list-style-type: none"> <li>- Who – by name, function or external agency – is actually responsible for collecting, collating and analyzing this data?</li> </ul> <p><b>Who acts on the data:</b></p> <ul style="list-style-type: none"> <li>- Who – by name and function – is actually responsible for initiating actions and ensuring that performance along this dimension improves?</li> </ul> <p><b>What do they do:</b></p> <ul style="list-style-type: none"> <li>- How exactly will the measure owner use the data?</li> <li>- What actions will they take to ensure that performance along this dimension improves?</li> </ul>

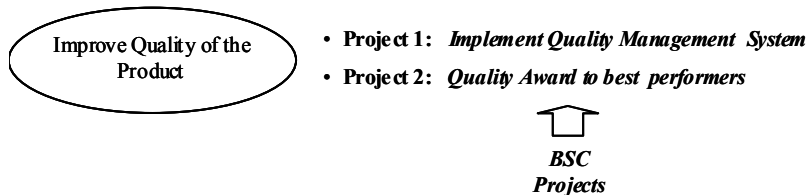
**Table 2.3** Checklist for indicator building (Neely et al. 2002, p.35)

Checklist for Indicator Testing		
Test name	The issue at stake	Rationale and Examples
<i>Truth Test</i>	Are we really measuring what we set out to measure?	Customer Loyalty expressed as % of repeated purchases might be a result of absence of alternatives. The only way to know is to also measure satisfaction and advocacy (the degree to which clients suggest your product to others).
<i>Focus Test</i>	Are we measuring ONLY what we set out to measure?	Sales to existing clients tracks both customer retention and cross selling. You can separate.
<i>Relevance Test</i>	Are we definitely measuring the right thing?	Number of innovations proposed by employees as a proxy of employee strive for bettering firm performance. Not good. Better average number of high ROI suggestions, or, % of employees offering at least one high ROI suggestion per year.
<i>Consistency Test</i>	Is the measure consistent whoever and whenever it is made?	Customer satisfaction at a tourist attraction. You have to decide when in the day you measure it. You get different results.
<i>Access Test</i>	Can data be easily accessed and understood?	Typically you ask whether a smaller data sample would do just as good as a bigger one
<i>Clarity Test</i>	Is there ambiguity in the interpretation of the results?	People that don't want to be measured question the validity and appropriateness of it.
<i>So-What Test</i>	Will the data be acted upon?	If you don't act on measures you might as well not measure them in the first place
<i>Timeliness Test</i>	Can the data be analyzed and accessed rapidly enough for action to be taken?	Sales reports at the end of the month are only historical; you cannot do anything about them anymore.
<i>Cost Test</i>	Is the cost worth the effort?	Some measures will be very costly if implemented all over the company. Sometimes it is best to pilot them in parts of the organization.
<i>Gaming Test</i>	Is the measure likely to encourage undesirable or inappropriate behaviors?	You might need to correct it (if the behavior might be undesired) or balance it. For example level of output balanced with quality. So you measure 'good quality output'.

**Table 2.4** Checklist for indicator testing (Adapted from Neely et al. 2002, p.37 – added Rationale column)

## 2.4 Concept 4: BSC Project

### Example of BSC Projects



**Figure 2.6** An example of visualisation of BSC Projects

There is little doubt about the role of *Projects* and their importance. Quite simply they constitute the engine of the entire strategy. *Projects* are the *loci* of where things happen. Without *Projects* nothing would progress (Kaplan and Norton 1996a, p.244). However, an explicit definition of *Projects* is nowhere to be found in Kaplan and Norton's work. For this study a *Project* should respond to the following four criteria:

- (i) It is explicitly linked to an *Objective* and *Indicator*.
- (ii) It has been assigned adequate resources.
- (iii) Responsibilities and roles have been clearly allocated.
- (iv) TMG has discussed it and validated it.

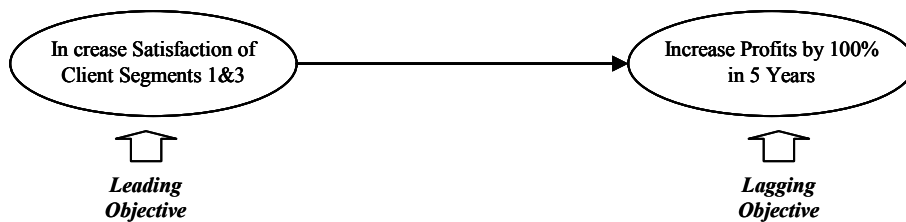
These points are also entirely in line with the issues raised by Neely et al. (2002) in the *Indicator* concept definition. In **Figure 2.6** the relationship among *Objective*, *Indicator*, *Target* and *Project* is further explained.

### BSC Project Concept

*A BSC project is a bundle of actions under a specific name tag, adequately funded, formally given responsibility for and explicitly linked to an objective as agreed by TMG through discussion.*

## 2.5 Concept 5: BSC Link

The *Cause-Effect Links* concept (**Figure 2.7**) is important because it sets the stage for the quality of the analysis the TMG will be able to perform on the extent and reasons for their successes (or failures). Kaplan and Norton refer to *Cause-Effect* relationships as ‘...*hypothesis about cause and effect among objectives...*’ (Kaplan and Norton, 1996a, p.30) but do not specify whether they refer to a single link between two objectives or a series of links among several objectives. To make this distinction clear the *Cause-Effect Link* is referred to as the one between two BSC elements, and *Cause-Effect Chain* for the series of links<sup>22</sup>.



**Figure 2.7** Example of Cause-Effect Link between BSC Objectives

The BSC Cause-Effect Link concept has five main characteristics: *Causality*, *Time delay*, *Hypothetical nature*, *Confidence Level*, *Discussion-based*. While some of these characteristics are more or less explicitly discussed by Kaplan and Norton (e.g. Kaplan and Norton 1996, pp. 30-31, 149, 160-162) there was no attempt by the authors to define them precisely. For the purpose of this study they have been defined as follows. *Causality* refers to the idea that such a link exists only if managers believe that acting on one (leading) concept will affect the other (lagging) concept. *Time delay* refers to the fact that the action on the cause (i.e. leading concept) invariably precedes in time any possible effect (i.e. lagging concept). *Hypothetical nature* refers to the fact that at any given time the link remains an estimate about future events

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<sup>22</sup> See Section 2.8

that can only be proven by empirical investigation, and as such it is invariably uncertain<sup>23</sup>. *Confidence Level* describes the extent to which the link is believed to be a fair representation of reality. Finally *Consensus-based* refers to the fact that the linkage should be agreed upon by the group. The only BSC Links discussed in this study are the ones between BSC Units<sup>24</sup>.

### **BSC Cause-Effect Link**

*A BSC cause-effect link represents a TMG hypothesis about the relationship between two concepts. Such link may or may not be quantitative, it has an inbuilt time-delay, is always hypothetical, it may have varying confidence and it only exists if TMG has discussed and validated it.*

## **2.6 Concept 6: BSC Responsibility**

Kaplan and Norton (1996a) do not talk about responsibilities, at least not explicitly referring to them as a building block of the BSC. Who should be responsible for each of the elements of the BSC? Clearly this is a relevant gap in the information which would be useful in enabling the BSC contents to be used properly. For the purpose of this study responsibility for a BSC element can fall into two categories: *Championing* and *Analysing*. *Championing* stands for those activities needed to push the organisation to progress in that area of performance. *Analysing* stands for the activities related to tracking the efforts, analysing them and proposing what to do next.

In this study, *Responsibilities* refer to the following BSC elements: *BSC Units*, *Indicators*, *Projects* and *Cause-Effect Links*. The responsibility for BSC Units is used instead of BSC Objectives because these include *Projects*, *Indicators* and so on. BSC Objectives are only concepts and cannot be *analysed* without their measurements (*Indicators*) and their drivers (*Projects*).

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<sup>23</sup> The only exception to this rule, as Norreklit rightly points out (2000, p. 72), is for the links between *financial indicators* in the shareholder perspective because they don't need to be proved or disproved by empirical data. They simply rely on pre-defined accounting rules and mathematical formulas.

<sup>24</sup> BSC Unit is a concept original to this study. This concept definition is discussed in Section 2.7

Another novelty of this study is the idea of BSC Link responsibility. If the link is an important BSC element and if no element progresses without responsibility the link will need to have a responsible person as well. The progress for a link is only in terms of analysis: is the *Cause-Effect* phenomenon happening? Is it happening in the way it was imagined? These questions are important and they become inescapable (i.e. someone will surely spend time thinking about them) only if someone is specifically responsible of the *Cause-Effect*.

**BSC Responsibility**

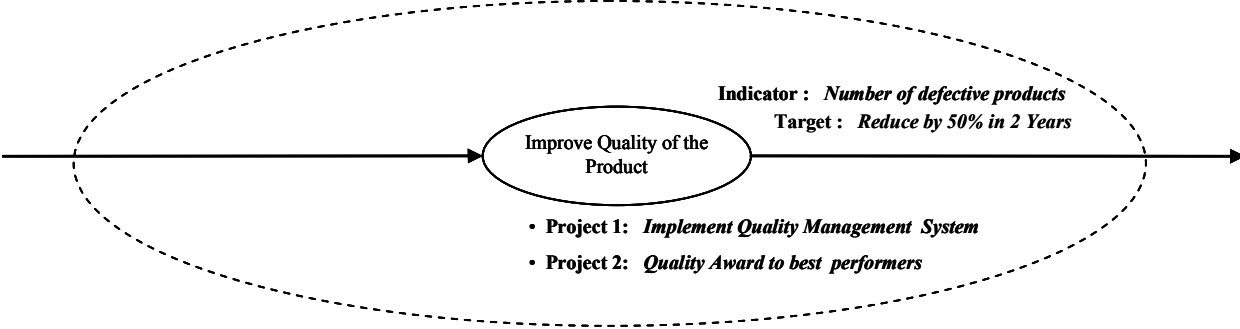
*A BSC Responsibility is identified by being responsible for championing and analysing performance of one or more of the following elements: BSC unit, BSC project, BSC indicator, BSC link.*

**2.7 Concept 7: BSC (and Environmental) Unit**

The *BSC Unit* is a concept entirely original to this study. As shown in **Figure 2.8**, a *BSC Unit* includes one objective, all its related-objectives, indicators, targets, projects and responsibilities. A *BSC Unit* is different from a **BSC Objective** because:

- (i) It may contain several objectives.
- (ii) It contains *Indicators, Targets, Projects* and *Responsibilities*.

In other words, a *BSC Unit* contains all the elements that relate to a given topic.



**Figure 2.8** Example of *BSC Unit*

## BSC Unit

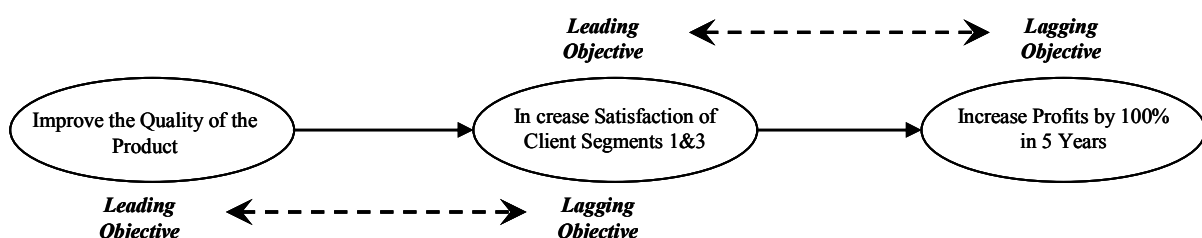
*The BSC Unit carries the exact same name as its ultimate lagging objective; it is composed of one or more BSC objectives, its related indicators, targets, projects and Cause-Effect Links.*

## Environmental Unit

*An Environmental Unit is a BSC Unit that explicitly (but not exclusively) aims at reducing the environmental impact of an organisation's operations*

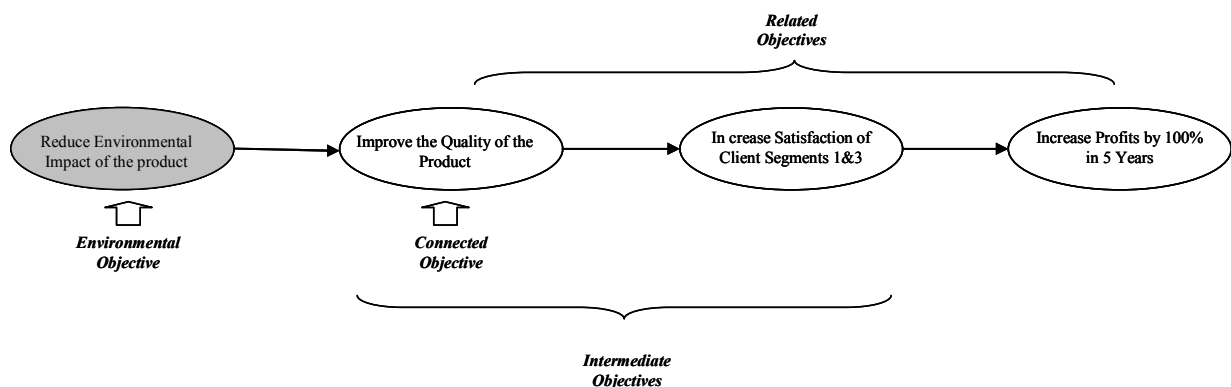
## 2.8 Concept 8: BSC (and Environmental) Chain

A BSC Cause-Effect Chain is defined as a series of at least three interlinked BSC Units where the final one is financial. It is an important concept because it clearly shows what set of management hypothesis links any BSC Objective — environmental ones included — to the financial objectives. For example, the *Cause-Effect Chain* in **Figure 2.9** details how (from left to right) improving the quality of the product is of utmost interest for the Client Segments 1 and 3 and how these are the segments that will enable the organisation to increase profits by 100% in the following five years. An *Environment Cause-Effect Chain* (**Figure 2.10**) differs only in that it includes one or more environmental units. Finally a *Strategy Map* is a *Cause-Effect Chain* that contains all of the organisation's BSC Units.



**Figure 2.9** Example of a BSC Cause-Effect Chain

The issue of *Cause-Effect Chains* facilitates the introduction of the idea of leading and lagging objectives. The respective position of an objective compared to another defines whether the objective should be called *Leading* or *Lagging*. A *Leading Objective*<sup>25</sup> is the one that relevant managers believe will provoke improvement of the *Lagging Objective*. In **Figure 2.9** an increase in customer satisfaction (*Leading*) is believed to provoke increase in profits (*Lagging*). Similarly, increased product quality (*Leading*) is believed to provoke increase customer satisfaction (*Lagging*). In other words, the concept of *Leading* and *Lagging* only makes sense when discussing two specific objectives and the specific Cause-Effect Link between them (Kaplan and Norton 1996a, p.31).



**Figure 2.10** Example of an *Environment Cause-Effect Chain*

There are some additional ways to refer to a BSC Objective that are best introduced at this stage: *Driven*, *Intermediate*, and *Connected*. These words are always used referring to one objective under discussion. In **Figure 2.10** the objective under discussion is the environmental objective (grey). *Driven Objectives* are all the objectives that are driven by the **BSC** Objective under discussion. *Intermediate Objectives* are the ones separating the objective under discussion from the financial objective. *Connected Objectives* are a smaller sub-set, they are only the ones that the BSC Objective under discussion is *directly connected to*. Furthermore, a Cause-Effect Chain awaiting TMG approval is referred to as *potential* and *validated* after the approval.

<sup>25</sup> Kaplan and Norton use the word *drivers* although they seem to refer mainly to indicators (e.g. Kaplan and Norton, 1996a, p.56).



### **BSC Cause-Effect Chain**

*A BSC cause-effect chain is a series of at least three connected BSC units where the final one is financial*

### **Environmental Chain**

*An environmental cause-effect Chain is a BSC cause-effect chain that includes an environmental unit*

### **BSC Strategy Map**

*A BSC strategy map contains all the BSC units of the organisation.*

## **2.9 Does the use of environmental chains improve Content Quality?**

Kaplan and Norton (1996a) posit that organising information as described in this chapter is useful because it details explicitly the relationships between what the organisation wants to do (the *Objectives*) to the dedicated resources (*Projects*); to the champions and analysts (*Responsibilities*); to the measurements (*Indicators*); to the pace of improvement (*Targets*); and to the relationships of cause and effect between them all (*Cause-Effect Links/Chains*). For the purposes of this study, their hypothesis would be that *content format quality*<sup>26</sup> does increase compared to contents not organised in this format.

This study, however, is not concerned with *Content Quality* in general, but exclusively in those contents allowing for a more informed business versus environment discussion. To this end, the key concept of *Environmental Chains* have been introduced. This concept represents the link between business and environmental work<sup>27</sup>. Although at this stage this hypothesis cannot be proven, it seems that the mere introduction of the concept of *Environmental Chains* has the potential to increase *Content Quality*. The following analogy explains why:

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<sup>26</sup> See Intro section in Chapter 2

<sup>27</sup> See **Section 2.8**.

Let us imagine that I need to fetch a coconut at the top of a tree. The tree is about 10 meters tall and I know I have a reach of about 2.5 meters. In order to reach the top of the tree I will need to go from branch to branch. While observing the tree trying to evaluate the difficulty of the task the key question is whether or not the intermediate branches will *hold my weight*. With no information about the quality of those branches I *will not know* if I can succeed until the coconut branch is within my reach. At any time I could realise I cannot go any further. If however, I *do know* in advance that there are three good intermediate branches distanced by no more than 2.5 meters in the *exact moment* I climb the first branch I *already* know I will get to the top of the tree.

Environmental managers (EM) are also looking up to the tree. At the top there are the business unit financial results. Without a validated Cause-Effect Chain if they want to prove that an environmental action is relevant they would need to reach the top of the tree with little or no assistance of the intermediate branches. Each top manager that they encounter and pitch with their idea may not be a *strong enough branch*, it may not hold. However, if the entire Top Management Group (TMG) has agreed on what are the key objectives and their relationships the path to the top is clear, the intermediate branches are solid. All EM's have to do is then to climb the first branch. The EM will not need to argue that a specific environmental project is the one to bring the highest financial return. More simply he needs to show that it is one of the best contributors to employee motivation, or product quality, which might prove an easier task.

In this study *Content Quality* is defined by the criteria fit-for-use<sup>28</sup>. In the case of the EM the content is of high quality if it facilitates the discussion of how environmental work brings value to the organisation. *Environmental Chains* seem to do that for at least three reasons. Firstly, because they explain through the Cause-Effect Links the reasoning of why ultimately environmental work pays off. Secondly, because they provide quantitative data (*Indicators*) organised to facilitate analysis and discussion. Thirdly, because Environmental Chain content building requires, by definition, discussions with and among TMG members.

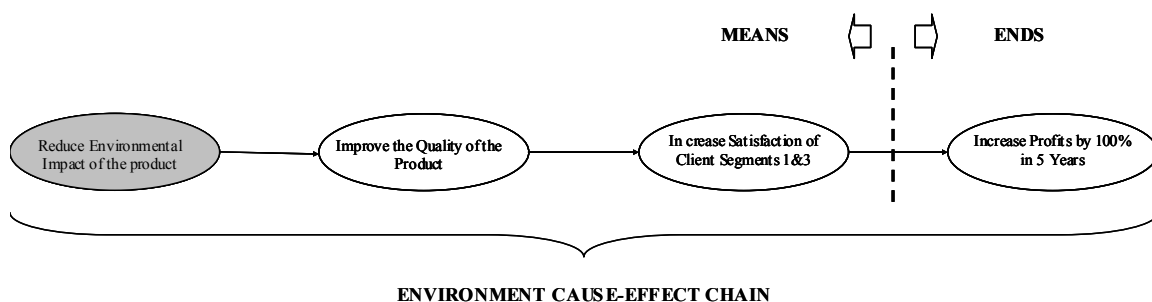
While the first two reasons are pure format issues the latter is a matter of process. In other words, yes, the *Environmental Chains* seem to have potential for increasing *Content Quality* but the extent of this increase will probably depend on the process used to build these contents. The discussion of the process side of contribution to *Content Quality* will take place, on a step-by-step basis, in **Chapters 5, 6 and 7**.

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<sup>28</sup> See **Section 1.4.2**

## 2.10 Conclusions and contributions

The objective of this chapter was to present the *Means-ends Format* that will be used in the action part of the research. To this end Balanced Scorecard (BSC), a tool introduced to the management field by Kaplan and Norton in 1992, has been used. The format part of this tool was described through the definition of eight key elements: *Objectives, Projects, Indicators, Targets, Responsibilities, Cause-Effect Links, Cause-Effect Chains* and *Units*. While most of these elements are based on current literature and use the authors' way of describing the BSC, the definitions as well as the concept of *BSC Unit* are entirely original to this study. Definitions were needed because if one wants to base scientific research on the BSC then its building blocks must be unambiguous. Introducing the BSC Unit, the only entirely new element, serves to bring together all the items (i.e. *Objectives, Projects, Indicators, Targets* etc.) relating to one single topic (e.g. client satisfaction).



**Figure 2.11** Means-Ends versus Environment Cause-Effect Chain

As shown in **Figure 2.11** these definitions have an effect on the wording of the research problem. Firstly, the concepts of BSC Units and *Means-Ends* can be treated as synonyms. The logic of this assumption is that company *Ends* can be equated to the financial-related BSC Units while *Means* (i.e. the ways by which the organisation will reach its ends) to all the other

BSC Units. Secondly the concept of environment chains provides a simple way of referring to the *Cause-Effect Link* between business issues and environment-related work. As a result the research problem becomes:

### **The research problem – Final for Chapter 2**

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

#### **2.10.1 Contribution to the literature**

This chapter's aim was to specify means-ends format through the use of an existing tool called BSC. In doing so, it contributes to the BSC-related literature in three ways. First, it extracts from Kaplan and Norton's work what seem to be the key BSC elements. As we have seen, while these concepts can be found in Kaplan and Norton's work, they were never presented together as the building blocks of the BSC framework. Whether these really are the building blocks or not is for future discussion. This study contributes to clarify a possible starting point.

Secondly, definitions for the BSC elements have been provided. This may seem like a very basic contribution yet Kaplan and Norton have in some cases failed to provide them. Now that this *tidying-up* has been performed, future work could look at how the literature on each of these different topics relates to these definitions (e.g. literature on indicators, target-setting, project management, etc.).

Thirdly, and in some way as a consequence of the work on definitions, a new BSC element has been proposed: the *BSC Unit*. As explained in **Section 2.7** the necessity to define the concept of *BSC Unit* came from the ambiguity around the concept of BSC Objective. Does the objective include indicators or not? No, it doesn't. How to call then a cluster of BSC elements all relating to the same topic? The answer: the *BSC Unit*. The concept seems useful because in a *Strategy Map* it is not the BSC Objectives but the BSC Units that are normally

displayed. They are sort of *drawers* within which *Objectives, Indicators, Projects* and other elements relating to that topic can be found.

This chapter represented also a contribution to the BSC and Environmental literature since the few authors covering this topic explicitly (Brown 1996, Johnson 1998, Epstein and Wisner 2001, Figge et al. 2002; Schaltegger and Dyllick 2002) have focused on the discussion of the perspective, the process and the indicators which, as it was shown, is only one of the elements of the BSC framework. As this study demonstrates (see **Chapters 5,6 and 7**) this is not a trivial issue since the starting point of linking environmental work with business urgencies is not the discussion of BSC Indicators but the one carried out around BSC Objectives.

### **2.10.2 Limitations and future research**

The discussion of existing literature on the BSC is basically absent from this study. This was a deliberate choice because an extended discussion would have taken us away from the real aim of this chapter, which was to provide solid definitions that could be used in the action part of the study. In doing so, there was a realisation that Kaplan and Norton had not put much effort into providing clear definitions and that the concept of *BSC Unit* could prove useful, but this was only a side-effect. It was not the intention to find the perfect definition of an *Objective* or of an *Indicator* and this is why the literature on these issues does not appear. Of course, this means that the definitions used are limited to this study and that it will be up to future research to evaluate their usefulness and contribution to the existing body of literature on strategic decision-making tools and concepts.

### 2.10.3 Contribution to practice

The objective of this study, this being an action research project, is eminently practice orientated: ultimately it is supposed to inform practitioners on how to improve their way of working. As described in **Section 2.9**, introducing the idea of *Environmental Chains* seems to be useful to EMs in at least three ways. Firstly, because they explain through the Cause-Effect Links why environmental work pays off. Secondly, because using them provides quantitative data about this contribution. Thirdly, because *Environmental Chain* content building requires, by definition, discussion with and among TMG members, a discussion that many EMs seem to be asking for.

#### TO-DATE and FORWARD

Chapter 1 introduced the research problem. This chapter was dedicated to the definition of format quality, the part of the content that relates to the format of information (e.g. *Objectives, Indicators*, etc.). The next chapter will be dedicated to topic quality, the part of content that relates to what the information is about (e.g. client satisfaction, product quality, etc.).

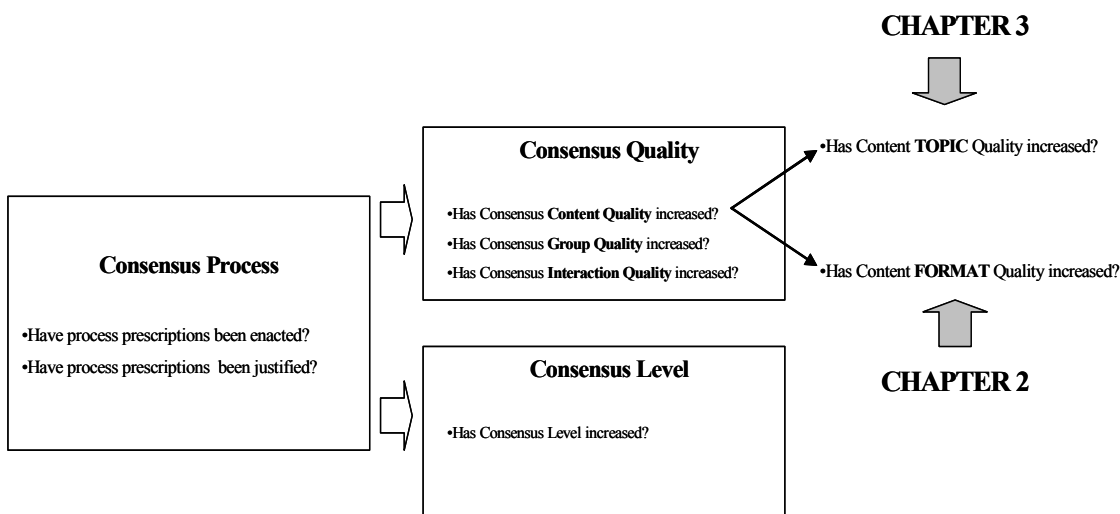
### 3 The BSC Framework

#### The Research Problem – Final Version

*What consensus process can increase the environmental manager and TMG **consensus level**<sup>29</sup> and **quality** over the environment chains?*

This chapter explains the issue of *Content Topic Quality* (See **Figure 3.1**) through the use of Kaplan and Norton’s work on the Balanced Scorecard (BSC). In addition to the format presented in the previous chapter, the authors also suggest the possible range of topics that a company might want to address when designing the contents of a BSC. For the purposes of this study all of these suggestions are referred to as the *BSC Framework*.

The discussion on the BSC Framework seems important because it defines the type of issues that managers might raise when putting together a company-specific plan. It is, in fact, widely agreed that failing to raise a question on a given topic will significantly reduce the possibility of considering the issue for discussion (Srull and Wyet 1980; Higgins, Bargh and Lombardi 1985). For example, including revenue growth in the BSC Framework ensures that questions about the desire and the rhythm of growth are discussed by the top management group members (TMG). To this end, each time a topic is introduced throughout this chapter it is linked to question (Question Q1; Q2 ecc.). At the end of the chapter, as shown in **Table 3.9**, there will be a checklist of questions which should be used in the interviews with managers.



**Figure 3.1** Evaluation Framework elements defined in Chapter 2 and Chapter 3.

<sup>29</sup> The words in **bold** are the ones that are analyzed in this Chapter.

The quality of the content is therefore important in determining how comprehensive the BSC Framework checklist will be. Kaplan and Norton's efforts to routinely update it seem to reinforce this fact (Kaplan and Norton 1996a, 2001, 2004). The problem is that the authors do not devise any particular rule for updating the BSC Framework. While it is unlikely that anyone will ever be able to design a definitive all-encompassing BSC Framework (or any other framework), if one needs to have a discussion over its contents these contents need to be clearly defined. In that respect Kaplan and Norton (1996a, 2001) fall somehow short of the target. They often refer to the same concepts with different names, they do not always clearly define the topics they propose and they rarely connect these topics to the management literature.

Similar to the previous chapter, the approach in this study is not to be exhaustive and to work on all the gaps Kaplan and Norton may have left. Rather, about it, highlights the topics that are relevant for the discussion of *Environmental Chains*. For these specific topics (e.g. customer value proposition, risk) clear definitions are provided that link them to the relevant management literature. Furthermore, there are also suggestions as to which topics may have an impact on environmental work.

It is important to keep in mind that the philosophy behind the use of all these topics is to provide managers with a number of alternatives rather than tell them the right course of action. For instance, a topic such as *Improve Cost Structure* does not necessarily mean that an organisation should pursue it, but before discarding the issue managers should investigate whether an improvement in the cost structure is desirable and feasible for their particular organisation.



### 3.1 The BSC Perspectives

Kaplan and Norton use the concept of *BSC Perspectives* to suggest that an organisation performance can be assessed according to four different view points which include:

- *Financial/Shareholder Perspective:*

Managers should ask themselves about their shareholder desires as this also has an impact on the financial success of the organisation.

- *Customer Perspective:*

Secondly managers have to find out what customers want so that they can meet their needs and the company can achieve its desired financial targets and satisfy its shareholders.

- *Internal Process Perspective:*

Thirdly, managers need to ensure that their internal processes are capable of delivering what both shareholders and customers want.

- *Development and Growth Perspective:*

Finally, managers should structure the organisation in such a way that learning is made possible and encouraged through time.

See **Table 3.1** for the checklist of questions that managers should ask themselves

The four BSC Perspectives	
<b>Financial (or Shareholder)</b>	To succeed financially, how should we appear to our shareholders?
<b>Customer</b>	To achieve our financial objectives, how should we appear to our costumers?
<b>Internal Process</b>	To satisfy our shareholders and costumers, what business processes must we excel at?
<b>Development and Growth</b>	To achieve our vision, how will we sustain our ability to change and improve?

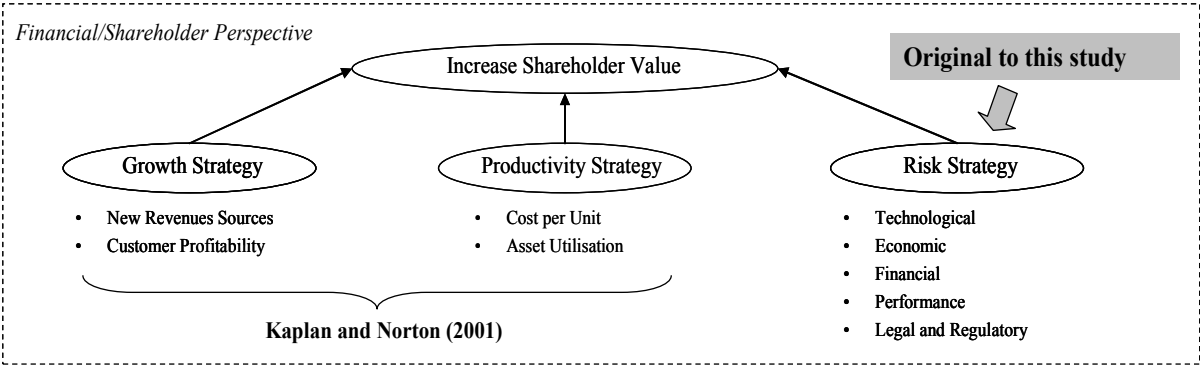
**Table 3.1** The four BSC Perspectives (Adapted from Kaplan and Norton 1992)

The key characteristic of the *BSC Perspectives*, as suggested by Kaplan and Norton, is that they should always start with the *Shareholder (or Financial) Perspective* as this is the classic mainstream view of what for-profit organisations and their managers, should be concerned with. However, it is not the purpose of this study to enter into debate as to whether or not this is a correct view point. The concern of this study is to take a view that is as conservative as

possible so that the environmental cynics in the TMG would agree with the soundness of the approach and, consequently, agree also with the relevance of the approach outcomes.

### 3.2 The Financial/Shareholder Perspective

The *Financial/Shareholder Perspective* is the starting point of the reasoning. It opens the discussion about *ultimate ends*: what will satisfy the shareholders? As shown in **Figure 3.2**, in their 2001 revision of the BSC Framework, Kaplan and Norton propose two main financial themes (or strategies): *productivity* and *growth*<sup>30</sup>. *Productivity* defines those actions aimed at producing the same (or better) product at a lower cost, while the *growth* is mainly concerned with increasing sales. As Kaplan and Norton put it: “*any programme – customer intimacy, knowledge management...- creates value for the company only if it leads to selling more or spending less.*” (Kaplan and Norton 2001, p.96) (**Questions Q1, Q2 – Table 3.2**)<sup>31</sup>.



**Figure 3.2** Revisited *Financial/Shareholder Perspective* (adapted from Kaplan and Norton 2001)

The *growth strategy* has two sub-topics: *new revenue sources* and *increased customer profitability*. Seeking *new revenue sources* means looking for new markets, new customers or new products while *increasing customer profitability* relates to activities aimed at increasing volume of spend for the existing customers. As for the productivity strategy the two sub-

<sup>30</sup> The 2001 version of Kaplan and Norton’s BSC Framework is used as the starting point of the discussion because this is the one that served the basis of this research.

<sup>31</sup> These questions Q1 and Q2 are also contained in the overall interview guideline in **Table 3.9**.

topics are cost per unit and asset utilisation. *Reducing the cost per unit* includes the idea of doing the same (or more) with less. *Improving asset utilisation* pertains to activities aimed at reducing the working and fixed capital needed to support a given level of business by better utilisation, acquisition and disposal of portions of the current fixed assets (Kaplan and Norton, 2001a, pp.84-85).

The main problem in the description of this perspective in these terms is that it seems to be rather restrictive on what the shareholder actually wants. For example, Neely et al. (2002, p.183) propose that shareholders are after four main things: *Return*, *Reward*, *Figures* and *Faith*.

*Return* relates to the desire of the shareholders to make an adequate amount of money out of their investment. *Reward* indicates that shareholders also want to be recognised for the faith they had in the organisation through dividends. *Figures* relate to adequate information about past and future performance. Finally, *Faith* relates to the need for trust in the management team.

In other words, shareholders do not only care about the level of expected financial returns (i.e. *Return* and *Reward*), like Kaplan and Norton propose, but also about having a sense of the *probability* that those expectations will turn into outcomes (i.e. *Figures* and *Faith*). The discussion of probability (or lack of predictability) of an outcome, is normally associated with the concept of *Risk* (Doherty 1985, p. 1).

Evidence that *Risk* is an important topic comes from the attempts investors make to measure it both quantitatively (e.g. beta factor<sup>32</sup>) as well as qualitatively (e.g. quality of the management team, quality of strategy) (Mavrinac and Siesfeld, 1997). Furthermore, a rather large body of literature examining *Risk*, and *Risk Management* started in the mid-1970s to transpose the lessons learnt in the insurance industry into practices that could be of more general use (Doherty 1985, p.4)<sup>33</sup>.

Today some finance scholars (Triantis 2000, Meulbroek 2002) explicitly suggest that *Risk* should also be explicitly managed at company level rather than solely by asset managers

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<sup>32</sup>*Beta factor* is a measure of volatility of a company share relative to the market. It is a basis or yardstick against which the risk of investments can be measured.

<sup>33</sup>There are several journals solely dealing with risk-related topics. Some examples are *Energy Risk*, *Energy and Power Risk Management*, *The International Journal of Risk & Safety in medicine*, *Credit*, *Journal of Computational Finance*, *Journal of education for students placed at Risk*, *journal of Insurance*, *journal of Risk Research*, *Risk*, *Risk analysis and International Journal*, *Risk Analysis: an official publication of the Society for Risk-Analysis*, *Risk Management and Insurance Review*, *Risk Measurement Service*, *Treasury and Risk Management*.

through diversification. For example, Meulbroek (2002) discusses in detail how company-level *Risk Management* has the potential to:

- (i) facilitate risk management by its stockholders;
- (ii) reduce financial distress costs;
- (iii) reduce the risk faced by key undiversified investors;
- (iv) reduce taxes;
- (v) reduce monitoring costs by improving performance evaluation; and
- (vi) provide internal funds for investment.

If *Risk* is an important topic and if there is some evidence that managers should be the ones acting on it then probably it deserves some space on the BSC Framework (**Figure 3.2**). Given the topic is of specific interest to the shareholders the *BSC Risk Strategy* has been placed in the *Financial Perspective*. According to risk management best practice – as well as in line with the rest of the BSC Framework philosophy – such insertion does not imply that *Risk* should necessarily be minimised, only that it should be managed by looking at the best possible minimisation option (i.e. identified, assessed/measured, acted/not acted upon – Doherty 1985, p.7). The checklist of questions used to prompt managers (**Table 3.2**) is the combined result of the *risk* items provided by Triantis (2000), Kleindorfer (2001) and Yazihhi (2004) (see **Table 3.3**).

Take for example the risk-item *defective products*. Triantis (2000) states that if a product does not perform according to expectations the company is liable. However, for Kleindorfer (2001), *production risk* relates to all steps throughout the product's lifecycle (i.e. from sourcing to disposal) where production has an impact on people's health and safety. Yazihhi (2004) goes even further by saying that the company will be held liable if at any step of the lifecycle the product has a detrimental impact on the values of concerned stakeholders. As a result, in this study the definition of *defective product* includes all three views.

Kaplan and Norton actually mention risk management in one of their publications (Kaplan and Norton 2004, pp.73-76). The difference with the definition proposed in this study is twofold. Firstly, they place the risk topic only in the *Internal Process Perspective*, while here it has been placed at the very top of the BSC Framework in the *Financial/Shareholder Perspective*. The reason for doing so is that risk is a financial issue of interest to shareholders.

Secondly, they do not provide a clear checklist for a company to browse through its own risks as is the case in **Table 3.2 (Question Q3, Q4)**.

To conclude, with reference to **Figure 3.2**, Kaplan and Norton (1996a, 2000) do not get into the discussion of how to measure shareholder value (i.e. the indicators that allow overall measurement of value created) which has been an open debate since the early 1980s (see Rappaport 1983, 1986). Kaplan and Norton (1996a, 2000) do not justify the reason why they skip a thorough argument of these issues. A discussion is not included in this study because the Balanced Scorecard is the starting point and that in relevant literature the discussion on the measurements of shareholder value is not carried out. The BSC rather focuses on the drivers of shareholder value and while discussing these drivers attention has shifted to *risk* as a driver alongside *productivity* and *growth*.

Now, the drivers of shareholder value actually depend on the measure that managers will choose to monitor it. This means that to ensure that the *only* drivers of shareholder value are the ones proposed in this section, one would need to review the entire literature on models for shareholder value measurement and have a discussion on the drivers of each and every potential measurement (e.g. Earnings per Share, ROI, Future Free Cash Flows, etc.). However, this is not the claim of this study. This study does not claim to be exhaustive. The only claim in this section is that *risk* should be added as a driver. This means that additional drivers, if properly justified, will inevitably be added to the BSC Framework in the future.

### **3.2.1 The environment and the Financial/Shareholder Perspective**

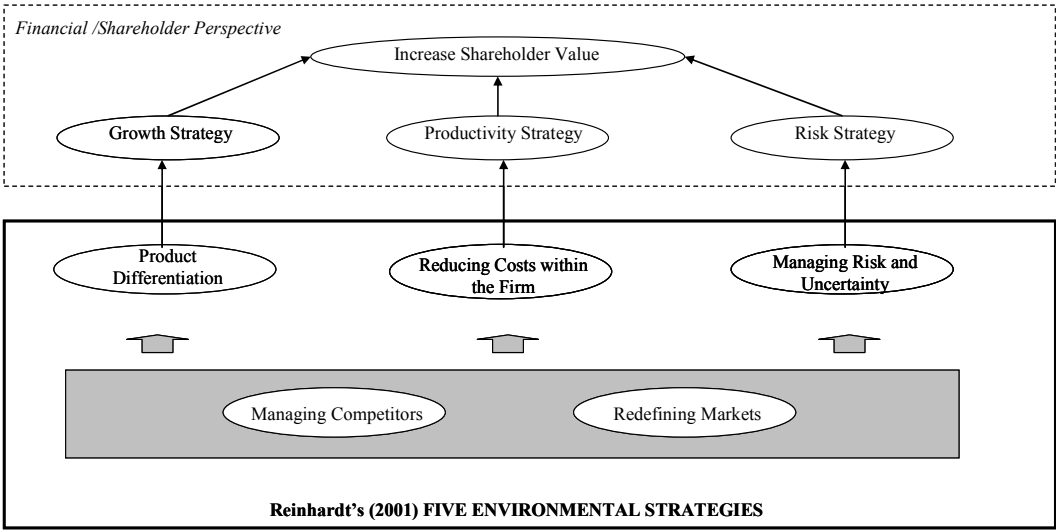
Reinhardt (2001) presents five distinct approaches for reconciling shareholder value and environmental performance: *environmental product differentiation*; *managing competitors*; *reducing costs within the firm*; *redefining markets*; and *managing risk & uncertainty*. *Environmental product differentiation* exists if the raised production costs of a more environmentally friendly product are (at a minimum) compensated by a price premium or a market share gain.

*Managing competitors* relates to the issue of companies pursuing good environmental behaviour and trying to get competitors to follow them while retaining the advantage of being the first mover.

*Reducing costs within the firm* is straightforward and linked to the idea that lower resource consumption leads to lower unit costs, i.e. produce the same with less.

*Redefining markets* is when a company redefines its market trying to create situations where cost, differentiation and environmental improvement can all be simultaneously obtained by redefining the market in which the company is competing.

*Managing risk* is about situations when a decision maker: “confronts events that are contingent: events, that is, whose occurrence is possible but not certain.” (Reinhardt 2000, p.133). Reinhardt claims companies may carry out environmental activities only to reduce risks.

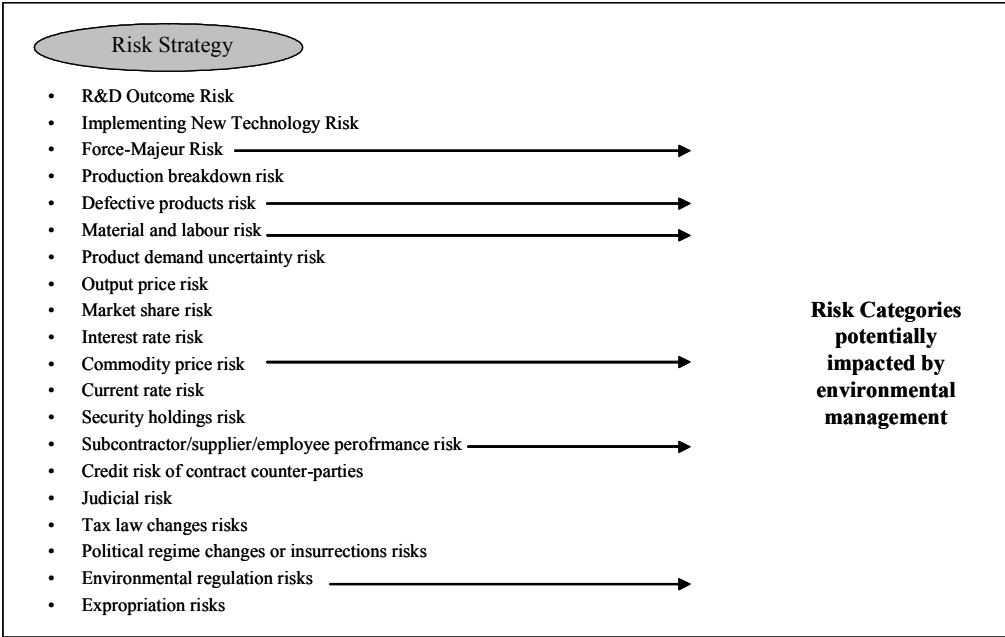


**Figure 3.3** BSC Financial/Shareholder Perspective vs Reinhardt’s (2000) environmental strategies

In **Figure 3.3** the five environmental strategies proposed by Reinhardt are reconciled with the BSC *Financial/Shareholder Perspective* as revisited in this study. The objective is to show that the two frameworks are compatible. *Reducing costs* has an impact on productivity, succeeding in *product differentiation* has an impact on revenue growth and better *managing risk and uncertainty* reduces risks. For the remaining two strategies the link to the BSC *Financial/Shareholder Perspective* is less direct. In fact while *managing competitors* and *redefining markets* are described by Reinhardt as possibly having multiple outcomes, these outcomes are still cost reduction, risk reduction and revenue growth. These three seem thus

sufficient to describe the ultimate aims of a company while, at the same time, including all the possible (ultimate) outcomes of corporate environmental action.

While there is no conclusive evidence to suggest that that environmental work can reduce any of the above-mentioned risks there are, as highlighted in **Figure 3.4** and **Table 3.3**, at least six of them for which the potential link certainly exists: *force-majeur*; *defective products*. *material resources*; *commodity price*. *subcontractor/supplier/employee performance*; and *environmental regulation*.



**Figure 3.4** Risk Categories potentially impacted by environmental management

*Force-majeur* risks due, for example, to floods could be reduced by preserving wetlands and forests. *Defective products* risks are reduced by proactively managing the lifecycle of the product. *Material resource* and *commodity price* risk is reduced by using less input resources, which is one of the main objectives of any environmental management programme. *Subcontractor/supplier/employee* risk can be reduced by involvement and motivation resulting from common pro-environment related work (that is, in the case that environmental work motivates these people). Finally, it is within the interests of most companies nowadays to ensure that they are up to date with *environmental regulation*; think about upcoming

regulations before-hand; and get ready for regulatory compliance as necessary. (**Question Q5– Table 3.2**).

<b>Financial/Shareholder Perspective Questions</b>
<b>Q1.</b> What do Shareholders want from your firm?
<b>Q2.</b> Should you improve your performance in terms of new revenues sources, profitability, cost per unit, asset utilisation and cash flow?
<b>Q3.</b> What are the financial impacts of your risks?
<b>Q4.</b> How about the technological, economic, financial, performance, legal and regulatory risks?
<b>Q5.</b> How does Environment and Corporate Social Responsibility work influence the chosen risk items?

**Table 3.2** Financial/Shareholder Perspective questions

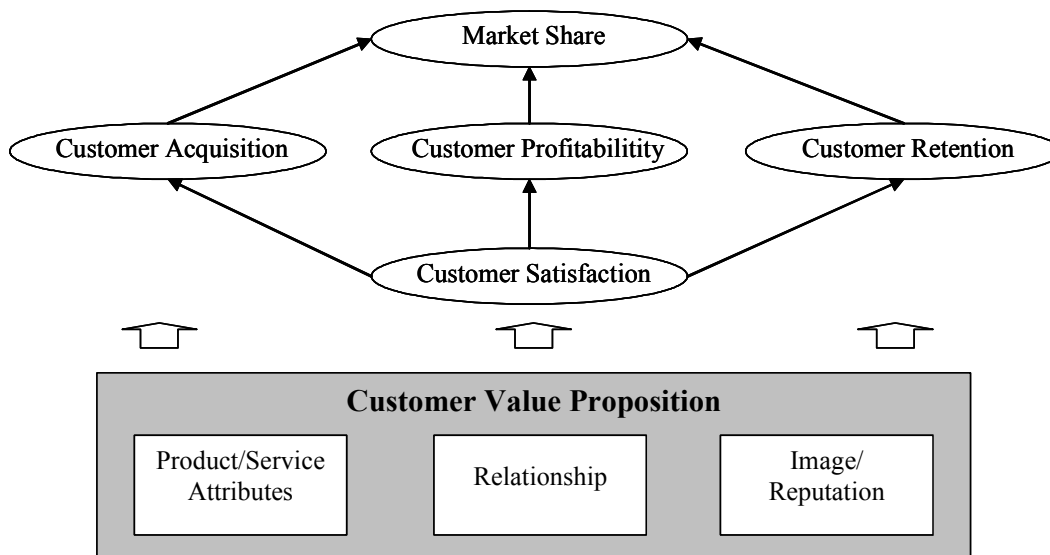


Risk Category	Generic Question	Risk Sub-Categories	Should I reduce the uncertainty of... ...and if so, how?	Source
<b>Technological Risk</b>	<i>What are the risks arising from the R&amp;D and the Operations?</i>	R&D outcome risk	...R&D investment outcome?	Triantitis
		Implementing New Technology Risk	...operational problems related to implementation of new technologies?	Triantitis
		Force-Majeur Risks	...consequences of major natural catastrophes on supply, production or delivery?	Triantitis
		Production Breakdown Risk	...having catastrophic accidents and fires?	Triantitis
<b>Economic Risk</b>	<i>What are the risks arising from fluctuations in supply, demand and competition?</i>	Defective Products (Triantitis) Production Risk (Kleindorfer)	...liability suits (or other undesired action) as a consequence of product design or production that impact negatively the health or the values of suppliers, employees, contractors, customers, citizens or other interested parties?	Triantitis, Kleindorfer, Yazilhi
		Material and Labour Costs	...consequences of fluctuations of material/labor costs?	Triantitis
		Product Demand Uncertainty	...consequences of fluctuation of product demand?	Triantitis
		Output price Risk	...consequences of fluctuation of price?	Triantitis
		Market Share Risk	...consequences of fluctuations in market share?	Triantitis
		Interest Rate Risk	...consequences of fluctuation of interest rates?	Triantitis
		Commodity Price Risk	...consequences of price fluctuation of basic resources (e.g. petrol)?	Triantitis
		Current Rate Risk	...consequences of fluctuation of currency rates?	Triantitis
		Security Holdings Risk	...consequences of fluctuation of securities value?	Triantitis
		<b>Performance Risk</b>	<i>What are the risks related to failure of contracting counter party to fulfil obligations?</i>	Subcontractor/Supplier/Employee Performance Risk
Credit Risk of Contract Counter Parties	...consequence of client failure to pay within given time			Triantitis
Judicial Risk	...my ability to collect damages from breaching party?			Triantitis
Tax Law Changes Risks	...consequences of tax law changes?			Triantitis
<b>Legal and Regulatory Risk</b>	<i>What are the risks of changing regulations and regulatory environments?</i>	Political Regime Changes or Insurrections Risks	...consequences of regime changes or insurrections risks?	Triantitis
		Environmental Regulation Changes	...consequences of environmental regulation?	Kleindorfer
		Expropriation	...consequences of expropriation?	Triantitis

**Table 3.3** Risk Items listed in grey are sample risk categories where environmental issues could potentially have an impact - Triantitis (2000), Kleindorfer (2001); Yazilhi (2004)

### 3.3 The Customer Perspective

The *Customer Perspective*, as described by Kaplan and Norton (1996a, 2001), is the first drill-down step of the *Revenue Growth Strategy*. As shown in **Figure 3.5**, Kaplan and Norton distinguish this perspective's contents in drivers and outcomes (Kaplan and Norton, 1996a, p.68). The focus of this section will be on the *customer value proposition* because it represents the management decision of what to propose to the customer or client depending on the business. That is where the decision to include (or not include) environmental issues will be taken. Kaplan and Norton break down the *customer value proposition* in three main elements: *product/service attributes*; *customer relationships*; and *image/reputation* (Kaplan and Norton, 2001, p. 96).



**Figure 3.5** The Customer Perspective contents (Kaplan and Norton, 1996a, pp.68-73)

*Product/service attributes* include issues of product price, quality, time and functionality<sup>34</sup>.

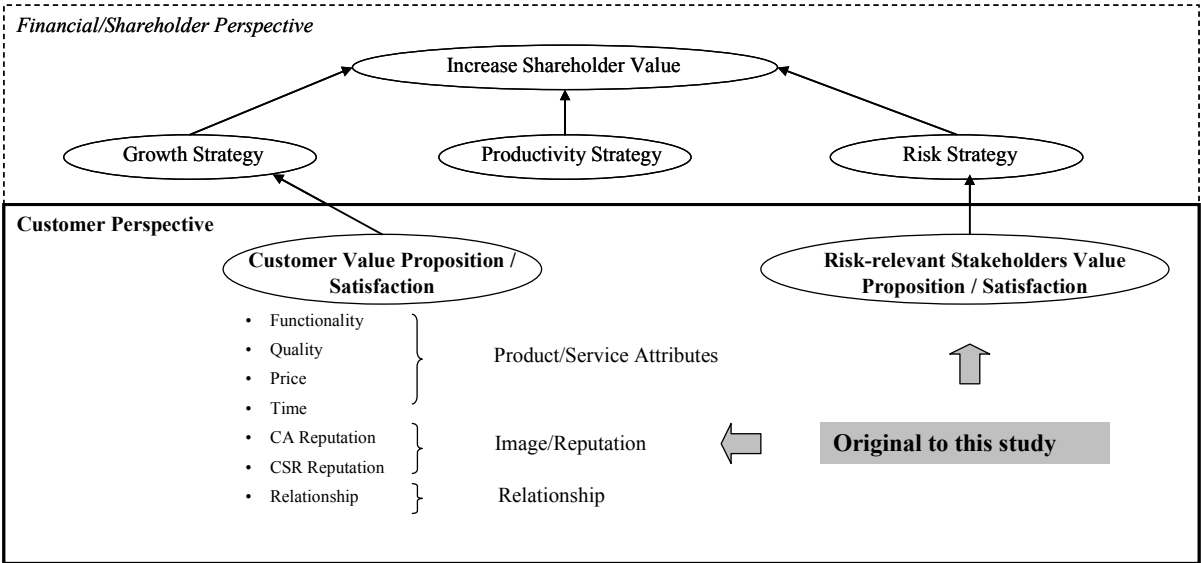
*Customer Relationships* is about the quality of the processes that entail a direct contact between the organisation and the customer. Issues such as delivery time; quality; timeliness of response to customer demands; and courtesy play an important role in this perspective.

According to Kaplan and Norton, *Image/Reputation* reflects: *'the intangible factors that*

<sup>34</sup>*Functionality* includes the 'functions' that the product is capable of performing. If two products are exactly the same but one can perform one or more additional task this latter one is likely to be preferred (e.g. a car with air conditioning, air bag and stereo compared to the same car without these features).

attract a customer to a company.’ (Kaplan and Norton, 2001, p.75). However, the description the authors provide is somewhat too loose and unclear (ibid., pp.75-77) (**Questions Q6, Q7, Q8 – Table 3.5**).

A corporate reputation is: ‘a set of attributes ascribed to a firm inferred from a firm’s past actions.’ (Wiegler and Camerer, 1988), or, more simply put, what a person knows about a company. Brown and Dacin (1997) propose that reputation for a company’s customer has two distinct categories: *corporate ability (CA)* and *corporate social responsibility (CSR)*. *CA reputation* concerns the information that the customer has on the company's ability to produce a certain type of product/service. *CSR reputation*, on the other hand, relates to the information that the customer has on the behaviour of the firm as a corporate citizen, i.e. towards society at large (Brown and Dacin, 1997, pp.68). The use of this definition, as shown in **Figure 3.6**, modifies the definition of customer value proposition compared to what Kaplan and Norton have proposed.



**Figure 3.6** Revisited *Customer Perspective*.

Another necessary modification of the *Customer Perspective* derives from the introduction of the *Risk Strategy* in the *Financial/Shareholder Perspective*. Risks exist (at least partly) as a function of a stakeholder deciding to take, or not to take, action. For example, regulatory risk will be influenced by the decision of the *government* to pass a bill. Another example may be a company wanting to keep technological risks low. This may require the *local community* to be fairly happy about having a manufacturing plant in their surroundings. Not all risks can be

dealt with by working on stakeholder value propositions, but some certainly can, so it seems worth to make the issue explicit (**Questions Q13, Q14 – Table 3.5**).

By discussing the stakeholder value this study is not suggesting that companies must attend to the specific needs and desires of all stakeholders but simply that the satisfaction of some stakeholders may have an impact on the firm's risks. It is best, to be conservative, to keep the notion of stakeholder as encompassing as possible. To this end the Freeman's definition of 'wide sense of stakeholder' seems the most suitable: *any identifiable group or individual that can affect the achievement of the organization objectives or is affected by the achievement of the organization's objectives* (Freeman, 1983, p.91).

Neely et al. (2002) explicitly discuss the issue of stakeholders within a performance management framework. The argument they put forward is in itself not new. They simply state that a firm needs *stakeholder contributions* in order to operate correctly and that, in order to obtain them, it needs to decide how to satisfy stakeholder needs. It is the same idea that Freeman expressed almost twenty years earlier. What is new, however, is that they systematically list these needs and, in so doing, provide a neat and well-organised checklist for going through them (**Table 3.4**).

Their work however, is not aimed at integrating the stakeholders in the BSC Framework. The advantage of keeping stakeholders in a BSC Framework is that one can always relate their needs and contributions to business objectives. On the contrary, if the departure point of reflection is a stakeholder need, the link is lost. The existence of *Risk-relevant Stakeholders* is thus a concept original to this study, *they are the stakeholders who's actions will influence the risk-profile of an organisation*.

One critique of the way Kaplan and Norton present the BSC Framework is that it is communicated as a useful tool to implement a predefined course of action while, in fact, during the process of building its contents the course of action itself may require significant modifications. For instance, how could a company define a *customer value proposition* without first scanning and understanding the business environment? Moreover, how can a company update the value proposition without continually scanning the environment? To solve this problem some questions on competitors using Porter's Five Forces (Porter, 1980) and on the wider business environment using PEST analysis (Strasler, 2004) (i.e. **Questions Q9, Q10, Q11 – Table 3.5**).

Stakeholder wants and needs		Stakeholder contribution	
<b>Investors</b>	<p><b>Return</b> – capital appreciation or other tangible evidence of money well spent in non-profit sector.</p> <p><b>Reward</b> – dividend distributions for loyal investors.</p> <p><b>Figures</b> – data review progress and to assess future prospects and risks</p> <p><b>Faith</b> – confidence in the management team to consistently deliver on its promises.</p>	<p><b>Capital</b> – so that it has enough working capital to operate and make value enhancing investments.</p> <p><b>Credit</b> – access to adequate borrowing facilities, e.g. bank loans.</p> <p><b>Risk</b> – to be taken by investors in exchange for providing capital or credit.</p> <p><b>Support</b> – continued investor loyalty (and, where appropriate, relevant advice on direction).</p>	
<b>Employees</b>	<p><b>Purpose</b> – work interest, job design, pride of accomplishment, essential support elements.</p> <p><b>Care</b> – respect, fair and decent treatment, physical environment, policies, morale, prospects.</p> <p><b>Skills</b> – portable skills, availability and quality of training, access to knowledge and advice.</p> <p><b>Pay</b> – total comparative compensation package for joiners, incumbents and leavers.</p>	<p><b>Hands</b> – headcount, skill-sets inventory, productivity, flexibility.</p> <p><b>Hearts</b> – loyalty, commitment, experience, morale</p> <p><b>Minds</b> – qualifications, knowledge workers, project teams.</p> <p><b>Voices</b> – suggestions, team contribution, diversity, culture.</p>	
<b>Suppliers</b>	<p><b>Profit</b> – reasonable margins (to reinvest in improved products and services=</p> <p><b>Growth</b> – increase in sales volumes over time</p> <p><b>Opinion</b> – feedback on performance and suggestions as to ways to improving products and services</p> <p><b>Trust</b> – access to key information in order to aid supply chain efficiencies and to establish longer-term collaborative ventures.</p>	<p><b>Fast</b> – rapid reliable delivery of products and services offered</p> <p><b>Right</b> – high quality products and services</p> <p><b>Cheap</b> – reasonable priced products and services (that offer value for money)</p> <p><b>Easy</b> – low-hassle transactions (easy to do business with).</p>	
<b>Alliance Partners</b>	<p><b>Profit</b> – reasonable margins (to reinvest in improved products and services)</p> <p><b>Growth</b> – increase in sales volumes over time</p> <p><b>Opinion</b> – feedback on performance and suggestions as to ways to improving products.</p> <p><b>Trust</b> – access to key information in order to aid supply chain efficiencies and to establish longer-term collaborative ventures.</p>	<p><b>Skills</b> – access to specialist skill-sets and expertise not easily recruited internally.</p> <p><b>Technologies</b> – access to leading product, process or information technologies.</p> <p><b>Networks</b> – access to customers via successful sales networks (contacts, mailing lists, websites, etc. )</p> <p><b>Channels</b> – access to vital large-scale distribution channels too costly to replicate.</p>	
<b>Regulators</b>	<p><b>Legal</b> – companies must comply with the laws of the legal jurisdiction in which they reside.</p> <p><b>Fair</b> – companies must not behave in ways that are monopolistic or anti-competitive.</p> <p><b>Safe</b> – companies must not allow their customers, employees or the local community to be endangered.</p> <p><b>True</b> – companies (and their products) must say what they do and do what they say they do.</p>	<p><b>Rules</b> – companies want rules to be applied that ensure they will not be competitively disadvantaged.</p> <p><b>Reason</b> – companies want rules that have a sound purpose and which are reasonable to implement</p> <p><b>Clarity</b> – companies want unambiguous rules that cannot be misconstrued by competitors/authorities.</p> <p><b>Advice</b> – companies want advice from regulators about implementing new and existing rules.</p>	
<b>Communities</b>	<p><b>Jobs</b> – communities need employment for the people who reside in the geographical area.</p> <p><b>Fidelity</b> – they want companies to sustain and preferably grow their employment with local people.</p> <p><b>Integrity</b> – they want companies to behave in an open, honest, responsible and charitable manner.</p> <p><b>Wealth</b> – they want firms to contribute towards making their community a healthy and prosperous one.</p>	<p><b>Image</b> – companies want to have a strong and positive image within the communities they reside.</p> <p><b>Skills</b> - companies want availability of the specialist skill-sets they need within the local community.</p> <p><b>Suppliers</b> – companies want availability of local vendors with the particular capabilities they need.</p> <p><b>Support</b> – companies want the community in which they reside to be supportive of their aims.</p>	

**Table 3.4** Stakeholder wants and needs vs contributions (Adapted from Neely et al. 2002).

One might argue then that the presence of additional risk-related stakeholders which are clearly not customers in any way should influence the name of the perspective. Indeed it could. There is no right answer in this respect. I have chosen to leave the wording ‘Customer Perspective’ mainly because, although the other stakeholders are also important, the managers will be dedicating the largest part of their time and effort thinking of their customers. In this respect a business framework that does not have the word ‘client’ or ‘customer’ may end up looking less appealing and of immediate understanding. Having said that, the issue is, like all other decisions taken in this study, up for discussion.

### **3.3.1 The environment and the Customer Perspective**

The logic of designing a Strategy Map requires that managers first think of a financial objective and then discuss its drivers. The first set of drivers is found in the *Customer Perspective*. The discussion of these drivers is a potential locus of links between the organisation's strategy and the environmental issues.

Now, hypothetically speaking, all customer value proposition sub-topics may be impacted by environmental-related work. It is, in the hypothesis stage, better to leave all the possibilities open. However, for some elements, it seems relatively easy to imagine some practical examples. For the customer value proposition the link to *CSR reputation* is extremely explicit, but environmental work could also contribute to *product quality* if customers would include environment in their definition of *quality*. Also, such work could contribute to the customer *relationship* if the environmental projects require strict collaboration with the customer/client (**Question Q12 – Table 3.5**).

**Figure 3.7** The link between environment and business objectives in the Customer Perspective

Similarly, for the risk-related stakeholders, environmental projects could reduce risk of local communities disliking the idea of having a manufacturing plant close to their houses or the risk of government passing an overly restrictive legislation on environmental matters (e.g. legislation that reduces the company's flexibility without necessarily decreasing the environmental impact). In other words, while the general categories are now set, it will be up to the managers to find the right mix of actions that allow environmental efforts to create maximum value (i.e. **Question Q15– Table 3.5**).

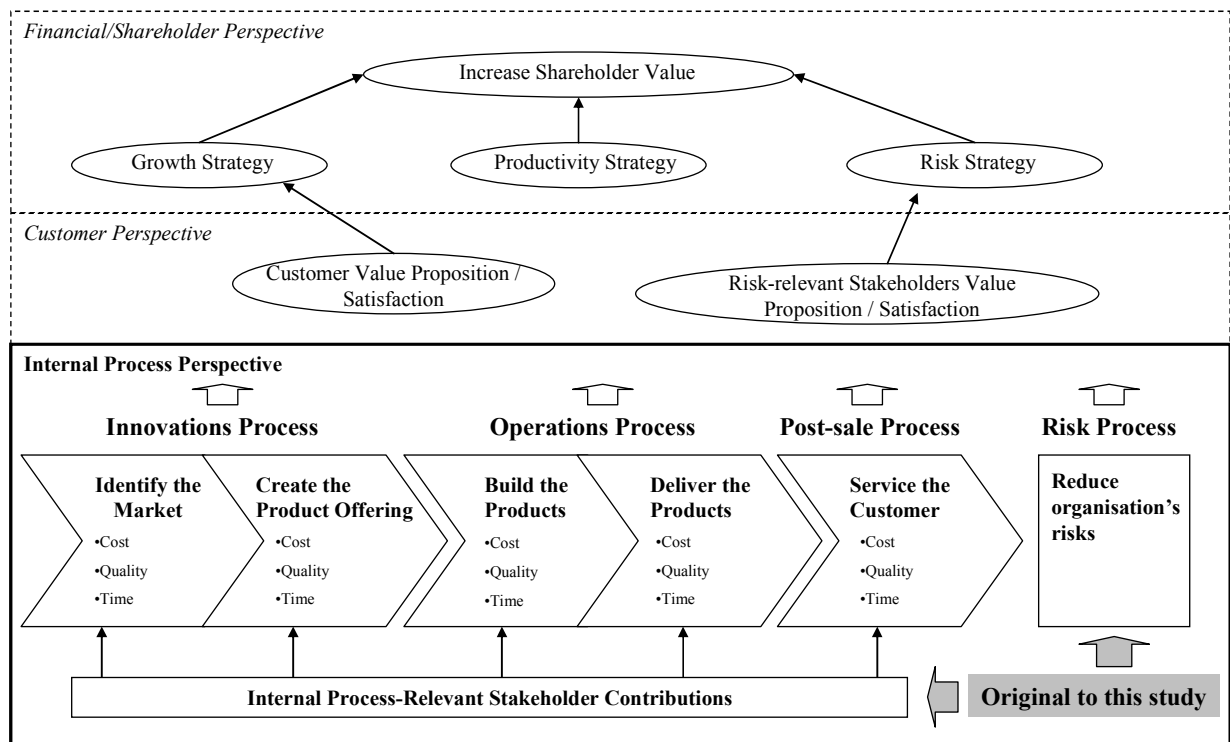
The key point at this stage is that while in introducing the *risk* topic in the shareholder perspective there was no real innovation in understanding the links between environment and the organisation's strategy now the situation seems to have advanced. The environmental work is not only generally linked to a growth objective but is explicitly put in relation to the value proposition to one or more customer segments (**Figure 3.7**).

<b>Customer Perspective Questions</b>	
<b>Q6.</b>	Who are your clients?
<b>Q7.</b>	What do your customers want?
<b>Q8.</b>	What do customers want in terms of product attributes, customer relationship, image & reputation?
<b>Q9.</b>	Why is your value proposition superior to competitors/substitutes?
<b>Q10.</b>	How do you protect yourselves from new entrants to the market?
<b>Q11.</b>	How will Political, Economical, Social and Technological trends influence your business in the next five years?
<b>Q12.</b>	In what way environmental issues do/may impact on the customer-related objectives?
<b>Q13.</b>	Which stakeholders influence the risk-related objectives?
<b>Q14.</b>	What do these stakeholders want?
<b>Q15.</b>	Can Environmental and CSR impact on the desires of these risk-related stakeholders?

**Table 3.5** Customer Perspective Questions

### 3.4 Internal Process Perspective questions

The *Internal Process Perspective* is the place where things start happening, it is the perspective where managers think about what they have to improve within the border of their operations in order to fulfil customer and shareholder needs. As shown in **Figure 3.8** the key conceptual element of this perspective is the *value chain*. This concept describes succinctly the way an organisation creates value through the different steps of the product development (*innovation process*), production/distribution (*operations process*) and service the customer during product use phase (*post sale process*) (Kaplan and Norton, 1996a, p.92) (**Questions Q16, Q17, Q18 - Table 3.6**). The performance of a company on each of these process steps can be assessed by looking at their *quality, cost and cycle time* (Kaplan and Norton, 1996a, p.116). Of course, not all the process steps have to improve in these three dimensions at the same time. Again, the trick is for managers to choose how exactly these should improve to fulfil the demands of the customer and stakeholders.



**Figure 3.8** Revisited *Internal Process Perspective*



The *Internal Process Perspective* now includes two main additions. First, the *Risk Process*, that is, those processes aimed at reducing the risk issues detailed in the *Financial/Shareholder Perspective* and at satisfying the risk-related stakeholders (**Question Q21 – Table 3.6**).

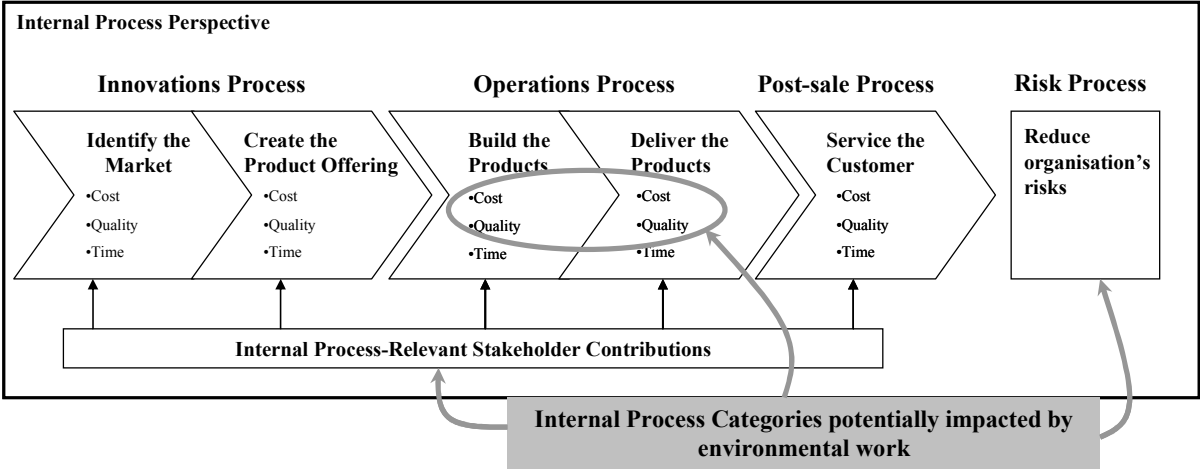
Second, the internal process-relevant stakeholder contributions that may influence an organisation's value chain (See **Table 3.4**). For example, excelling in *operational processes* may require improving the collaboration with suppliers, or with sub-contractors, or with government. While the addition of *risk processes* does not raise any new issue compared to the ones discussed for the financial and customer perspectives the issue of internal process-relevant stakeholder contribution does because environmental activities may be instrumental in improving them. For example, one could imagine that an effort to reduce the environmental impact of a product over the lifecycle would need to include an organisation's suppliers. Such a project would thus encourage (or force) collaboration and, if used properly, increase the quality of the relationship firm-supplier, a possible driver for improving operational processes (**Question Q23 – Table 3.6**).

Concerning the issue of risk process Kaplan and Norton had, already in 2001, mentioned the need to add a topic in the *Internal Process Perspective* which they referred to as: '*be a good corporate citizen – regulatory and environmental processes*.' (Kaplan and Norton, 2001, p.96). In their 2004 publication they switched to the more general definition of *managing risk* (Kaplan and Norton, 2004, p.73). In other words, it seems that the modifications of the BSC Framework made in 2001 and used for this action research project have somehow converged with the latest revision Kaplan and Norton made of their own work. Currently two key differences remain. The first is that this study places the risk-related discussion in the financial perspective because *risk* is an item of great interest to shareholders. The second is the risk sub-topics list that has also been added (See **Table 3.3**).

### **3.4.1 The environment and the *Internal Process Perspective***

The *Internal Process Perspective* is the place where the objectives describe precisely the type of improvements that a company has to do *internally*. Needless to say, if the company has chosen to pursue a *growth strategy* and to do that also through the contribution of environmental product differentiation one should find, within the *Internal Process Perspective* actions aimed at improving the environmental quality of the product lifecycle. As

shown in **Figure 3.9** these actions would typically pertain to the *quality* issues (**Question Q20**). This rationale is valid as such also for the risk issues discussed for the *Financial/Shareholder Perspective*, that is, if an issue was deemed relevant some internal processes must be worked upon to improve it. (**Question Q22 – Table 3.6**).



**Figure 3.9** Internal Process Perspective categories potentially impacted by environmental work

In addition to the issues included in the *Customer Perspective* there are at least two types of environment-business links that one would typically discuss for the first time when tackling the *Internal Process Perspective*. The first is the issue of *cost*. The cost of each value chain step is a parameter that could be improved and environment, as Reinhardt points out (2001), could have a potential impact by decreasing any of the following: the use of material resources; transportation; energy consumption; and/or waste (**Question Q20 – Table 3.6**).

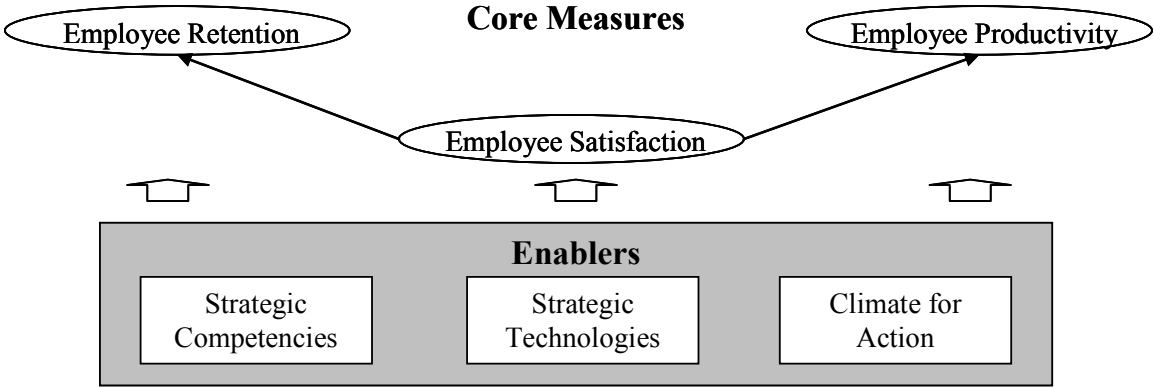
The second issue is linked to the *Internal Process-relevant Stakeholder Contributions* that have been added as part of this study. Pro-bono type of activities, such as environmental voluntary programs, may be used to increase the quality of collaboration and trust with suppliers. If suppliers are a strategic asset of the company and if the relationship with them is key to improve their contribution then there might also be a good reason to build an environmental project. Again, at this stage, it seems best to keep the range of possible solutions as wide as possible and to check the idea of environmental relevance once a stakeholder has been validated as important, whoever that stakeholder turns out to be (**Question Q24 – Table 3.6**).

<b>Internal Process Perspective Questions</b>	
<b>Q16.</b>	What do you think are the main issues the company should do better to fulfill the previously discussed value proposition ?
<b>Q17.</b>	How about quality/cost/time of innovation processes?
<b>Q18.</b>	How about quality/cost/time of operational processes?
<b>Q19.</b>	How about quality/cost/time of post-sale processes?
<b>Q20.</b>	Can environmental work foster any of the quality/cost/time issues you have already mentioned?
<b>Q21.</b>	What risk processes do you need to improve the previously chosen risk items?
<b>Q22.</b>	Can environmental work contribute to reduce risk? How?
<b>Q23.</b>	Which external stakeholder contributions does the company performance depend on? How?
<b>Q24.</b>	Can environmental and CSR activities assist in improving such contributions? How?

**Table 3.6** Internal Process Perspective questions

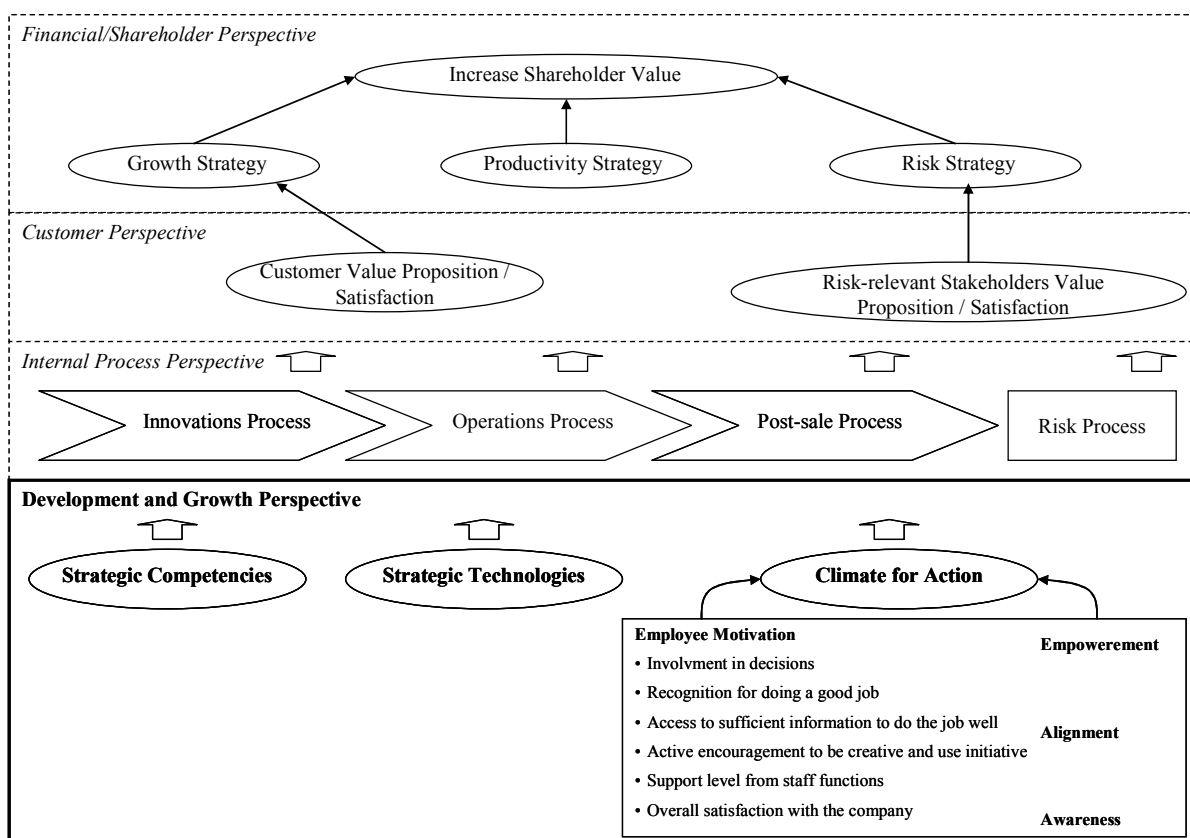
**3.5 The Development and Growth Perspective**

The rationale behind the Development and Growth Perspective is that employee motivation and organisational learning are key for sustained success and thus need to be formalised in the Strategy Map. As shown in **Figure 3.10**, Kaplan and Norton distinguish this perspective’s contents in three core measurements (Kaplan and Norton, 1996a, p.129) and three enablers: *strategic competencies*; *strategic technologies*; and *climate for action* (Kaplan and Norton, 2001, p.93).



**Figure 3.10** Enablers and measurements (adapted from Kaplan and Norton, 1996a, p.129; 2001, p.93).

As shown in **Figure 3.11**, attention focuses on what Kaplan and Norton call the ‘enablers’ because that is where the issues that can be driven by environmental work can be found. In other words, if managers believe environmental work can have a positive impact on climate for action consequently it will also impact employee satisfaction and retention alike. The idea of the importance of *strategic competencies*<sup>35</sup> is that the business environment-wide changes require companies to re-skill employees with increasing speed and efficacy. Strategic competencies are defined as: ‘those skills and knowledge required by the workforce to support strategy’(ibid. 2001, p.93) (**Question Q25 – Table 3.7**). The idea behind the importance of *strategic technologies*<sup>36</sup> is that even the best skilled employees will have a hard time taking high-quality decisions with low-quality information (ibid, 1996a, p.134). *Strategic technologies* are defined as: ‘the information systems, databases, tools and network required to support the strategy’(ibid. 2001, p. 93) (**Question Q27– Table 3.7**).



**Figure 3.11** The *Development and Growth Perspective*

<sup>35</sup> Until 2001 Kaplan and Norton refer to *strategic competencies* also with the terms *employee capabilities* and *staff competencies*. In 2004 they switch to the term *human capital*.

<sup>36</sup> Until 2001 Kaplan and Norton refer to *strategic technologies* also with the terms *information systems capabilities* and *technology infrastructure*. In 2004 they switch to the term *information capital*.

Finally, on the issue of *climate for action*<sup>37</sup> the rationale is that even skilled employees with great information will hardly contribute to the success of an organisation if they:

- (i) are not motivated;
- (ii) are not given some freedom to take decisions;
- (iii) are not rewarded in line with the company strategy; and
- (iv) are not aware of the company strategy.

Kaplan and Norton summarise these three sub-items as *motivation, empowerment*<sup>38</sup>, *alignment* and *awareness* (ibid. 2001, p.93) (**Questions Q29, Q30, Q32, Q33, Q34 – Table 3.7**). *Employee motivation* is further defined by the introduction of the six elements suggested by Kaplan and Norton: *involvement with decisions; recognition for doing a good job; access to sufficient information to do the job well; active encouragement to be creative and use initiative; support level from staff functions; and overall satisfaction with the company* (ibid. 1996a, p.130).

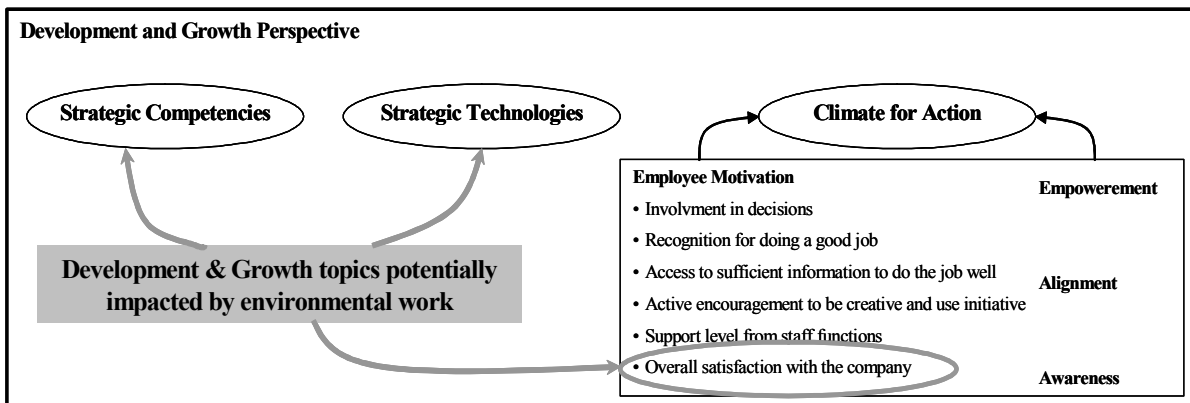
### **3.5.1 The environment and the *Development and Growth Perspective***

The *Development and Growth Perspective* is the place where a company sets and revises the basic foundations for its long-term survival. Similar to the other perspectives there may be some environment-business links that are derived from the previous perspectives. For example, looking at a *growth strategy (Financial/Shareholder Perspective)* for which a value proposition, including environmental quality, has been defined (*Customer Perspective*) and where an environmental management program has been activated (*Internal Process Perspective*) one might find the implementation of an environmental management software in this perspective (**Question Q28, Q35 – Table 3.7**).

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<sup>37</sup>In 2004 they switch to the term *organisational capital* and also seem to change its contents quite significantly.

<sup>38</sup>In the 2001 publication there is actually a category called *readiness* (see Kaplan and Norton, 2001, p.93). For the purposes of this study it has been disregarded because it is not clearly defined. However, this study includes *empowerment* because it is mentioned in the same page as one of the main elements of *climate for action*.



**Figure 3.12** Development and Growth Perspective topics potentially impacted by environmental work

In addition to the issues that automatically derive from previous decisions there is at least one area where environmental issues could possibly play a role: *overall satisfaction with the company*. Kaplan and Norton do not go into the details of what this concept actually includes but one area could probably be corporate reputation. Contrary to the discussion in the *Customer Perspective*, what is of interest here is the reputation as an employer (i.e. what an individual knows about the company HR management policies) and its CSR reputation. The latter being a potential link to environmental issues.

<b>Development and Growth Perspective Questions</b>	
<b>Q25.</b>	What type of capabilities should your employees develop in order to improve the internal processes as desired?
<b>Q26.</b>	Can environmental work assist in increasing the desired employees capabilities?
<b>Q27.</b>	What IT systems/technologies could enable employees to perform better and learn faster?
<b>Q28.</b>	How can IT systems support the environmental work defined in the previous perspectives?
<b>Q29.</b>	What motivates your employees?
<b>Q30.</b>	How about involvement, recognition, access to relevant info, responsibility, support, positive perception of corporate image, belonging to a team?
<b>Q31.</b>	Can environmental work contribute to improve the image employees have of the company?
<b>Q32.</b>	How do you empower your employees?
<b>Q33.</b>	How do you make sure their actions are aligned with overall strategy?
<b>Q34.</b>	How do you make sure they are aware of the company strategy?
<b>Q35.</b>	Can environmental and CSR activities assist in empowerment, alignment and awareness?

**Table 3.7** Development and Growth Perspective questions

A company main asset are its people . By way of an example let us assume that people are particularly concerned about the environment and would dislike working for a company that is known to pollute. Then, environmental work could be pursued as a consequence of this realisation and actually be more effective (and cheaper) than offering its employees alternative incentives (e.g. increasing bonuses) (**Question Q31 – Table 3.7**).

### **3.6 Does the BSC Framework improve Consensus Content Quality?**

Kaplan and Norton, while providing a BSC Framework and taking care of updating it every 3-4 years do not make any specific claim about its quality. However, if such a framework is used, as it is in this study, as a checklist guiding the managers' interviews, its quality seems important because it influences the Content Quality Property of *Completeness*<sup>39</sup>. This happens because of a phenomenon called *priming effects* that identifies how failure to do question a topic reduces the likelihood of that the topic will be sufficiently analysed (Wyer and Srull 1980; Higgins, Bargh and Lombardi 1985). In practice, this means that failing to raise a question (or raising the wrong one) has consequences on the *Completeness* (or *Quality*) of the final result.

However, this study is not concerned with increasing content quality in general but exclusively in those contents allowing for a more informed business versus environment discussion. To this end the BSC Framework proposed by Kaplan and Norton has been modified as shown in **Table 3.8**. These modifications have been transformed into questions, to be used during the interviews with managers. Given the existence of priming effects it seems likely that by making these topics more explicit better *content quality* could be obtained compared to using the BSC Framework as it was.

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<sup>39</sup>The definition used for the property of *Completeness* (See Section 1.4.2) is: the extent to which data are of sufficient breadth, depth, and scope for the task at hand.

<b>The changes made in this chapter to the BSC Framework</b>		
<b>Perspective</b>	<b>Modifications / Additions</b>	<b>Literature based?</b>
<b>Financial</b>	Addition of the Risk Theme	<b>YES</b>
	Specification of the Risk categories and sub-categories	<b>YES</b>
	Specification of possible connections risk / environment	NO
<b>Customer</b>	Addition of the Risk-related stakeholders	NO
	Addition of the Stakeholders wants / needs table	<b>YES</b>
	Modification of the definition of reputation	<b>YES</b>
	Specification of possible connections customer perspective / environment	NO
<b>Internal Process</b>	Addition of Risk processes	NO
	Addition of Internal process-related stakeholders	NO
	Specification of possible connections internal process / environment	NO
<b>Development &amp; Growth</b>	Insertion of CSR reputation in Climate for Action	NO
	Specification of possible connections Development and Growth / environment	NO

**Table 3.8** Changes made in this chapter to the BSC Framework.

### **3.7 The revisited BSC Framework versus the BSC and environment literature**

To give an idea of the type of discussion carried out in the literature of BSC and the environment and how the revisited BSC Framework proposed here relates to that, this section includes comments on the following four papers: Johnson (1998), Brown (1996), and Epstein and Wisner (2001), Figge et al. (2001). These papers were chosen because they are the only ones published in peer reviewed journals.

Johnson's main contribution is to add stakeholders to the *Customer Perspective* arguing the need to do so in order to:

- i. better integrate environmental issues; and
- ii. be consistent with modern stakeholder theory (1998, p.36).

These arguments do not seem to be related enough to shareholder interests. Stakeholder theory is not the dominant business paradigm, whereas shareholder value is. Since the BSC was in fact designed to better serve shareholders, Johnson's proposals seem to go against the



original aim and objective of the tool. Similarly, the fact of being easier to *place* environmental issues does not seem like a sufficient justification for adding an item to the BSC Framework. An item should be added only if it ultimately relates to shareholder value. Compared to Johnson's proposal, this study constitutes an advance because it includes environmental issues without the need of exiting the shareholder value (dominant) paradigm. Brown (1996) also does not resist the temptation of separating out environmental issues from the business-related discussion. He suggests that various Environmental Performance Indicators (EPIs) could form one *aggregated* indicator<sup>40</sup> of the Scorecard at the corporate level. Such a choice seems again to contradict one of the fundamentals of the BSC concept, which is aimed precisely at linking financial with non-financial performance.

An aggregated EPI may inform the top management about the company's environmental performance but it will not demonstrate to what extent it contributes to financial results of the firm. Such 'missing links' are present in the management of many of today's organisations. For instance, an environmental management system (EMS) provides managers with a set of environmental indicators. However, these indicators are not explicitly linked to financial performance. Now, while it would still be possible to do so at a disaggregated level (i.e. calculate the cost of water management inefficiencies or waste costs) an aggregated environmental indicator would preclude this possibility succeeding possibly in creating the distance between environmental work and business results even more dramatic in the eyes of the managers. The aggregated indicator may be interesting, but solely for environmental communication and not for understanding the link between environment and business.

Epstein and Wisner leave the option of how to integrate environmental topics in the BSC to the managers and claim this will depend on the critical drivers of value creation in the company at that moment in time and in how environmental issues impact on these drivers (2001, p.6). This view is in line with the approach taken in this study. However, they also discuss the possibility of a fifth environmental (and social<sup>41</sup>) perspective. Their argument seems to be that since they have seen it applied in the practice it must be of some use.

In an attempt to explain practice they propose four reasons why companies might prefer to use a separate environmental perspective. Firstly, if environmental responsibility is seen at the core of strategy through factors such as image, reputation and product differentiation as

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<sup>40</sup>An aggregated EPI is usually calculated by multiplying each EPI (used in a firm) by a weighted factor (measure of its relative importance) and adding the results.

<sup>41</sup>Epstein and Wisner talk about environmental and social issues together without making any specific distinction between them.

opposed to being only a means to increase operational efficiency. Secondly, the environmental perspective becomes a tool to focus managerial and employee attention on environmental responsibility as a key corporate value. Thirdly, for companies whose activities have a high environmental impact it helps to highlight the importance of these issues. Finally, for companies that have relatively large expenditure on environmental issues because it highlights the link between the use of those resources and company strategy (Epstein and Wisner, 2001, p.8).

There are two ways of looking at Epstein and Wisner's propositions. The first is to imagine that the environmental issues have been included in the BSC solely for communication purposes to both internal and external stakeholders. If this is the case, these measures should not be on a BSC because this tool is not just a communication tool but a means to assist managers in decision making. In other words, if the company wants to communicate about its superior environmental performance it might as well use an environmental report, no need to include this in the BSC. On the other hand, if the issues are included because they really drive a BSC Objective then there is no need to add an entire perspective. An environmental objective (or more than one), as the framework proposed in these chapters would suggest, seems to be more sufficient and desirable. It is sufficient because it would satisfy the four reasons put forward by the authors for the need of an environmental perspective. It is desirable because it would retain the explicit link between the environmental objective and its related BSC Objective.

Finally, this brings us to the work of Figge et al. (2002), which is probably, to-date, the most far-reaching and comprehensive. They propose three different ways by which environment and social issues may be included in a BSC. The first is to include them in the standard (i.e. Kaplan and Norton) four perspectives. The second is to add what they call a *non-market perspective*. The third is to build a scorecard dedicated to the environmental department. The focus here will be on their second option because it is the only one that seems not to be in line with what is proposed in this chapter.

The *non-market perspective* should contain items related to the interactions between the organisation and those social actors whose contributions to the firm have not yet been recognised by the market. There are two main criticisms of this approach. Firstly, the insertion of the *non-market perspective* is difficult to apply in practice because it is difficult to argue what is *in* the market and what is *out*. Secondly, adding a perspective called *non-market*

seems to go against the whole idea of using the BSC to integrate environmental issues with business issues.

The addition of the risk topic in the Financial/Shareholder perspective and of stakeholders in the others seems to have the advantage of acknowledging the existence of these non-market mechanisms (i.e. interaction with stakeholders), while keeping them within a business framework. To clarify how this might work let us take the example used by Figge et al.: the issue of '*child labour*'. As presented by Figge et al. (2002) *child labour* is an *issue* and not a stakeholder of the company. The stakeholder would be the person or the group that makes claims and demands on the company because of its child labour practices (e.g. media). This means that the *non-market perspective* proposed by Figge et al. (2002) differs from the one proposed in this study in that they include *issues* while this study includes (more generally) *stakeholder needs*. Nevertheless, on a practical point of view, this difference may be only apparent since, in the end, the *issue* is the final focus of attention in both cases.

While for Figge et al. the issue of child labour is a *non-market perspective* item in the BSC Framework proposed in this study, this issue could have a detrimental impact on the company in at least three different ways. It could impact the image that the customers have of the company and therefore decrease sales (Customer value proposition item). Or it could impact the image that the employees have of their employer and therefore reduce the retention of valuable collaborators (climate for action item). Also, it could hit the bottom line if law suits were brought against the company or regulation became more stringent (Risk item). In the example provided by the authors, the company is willing to manage the issue of child labour because of *image to the customers*. The question is, to do so, or to discover the existence of such issue, is a *non-market perspective* necessary?

This chapter argues that a topic (or a perspective) may be needed if its exclusion could reduce the chances of a strategic aspect being raised. This seems to be the same approach taken by Figge et al., (2002). They seem to add the *non-market perspective* because they expect some issues to be missed out if one was only to use the standard four perspectives as a checklist. In this respect, given the amount of modifications proposed in Chapter 3, they might very well be right. However, it would seem that adding issues to the current four perspectives may be a better approach for two reasons. First, because it is easier for managers to follow because they do not have to understand what *is* a market mechanism and what *is not*. Second, because, in so doing, the issue will be linked more precisely to the related business driver (e.g. customer value proposition, climate for action or risk).

### **3.8 Conclusions and contributions**

The objective of this chapter was to explore the concept of *Content Topic Quality* defined as the extent to which the important topics for the firm at that point in time have the opportunity of being voiced and raised. This opportunity is provided through the definition of a set of questions that assure the coverage of a wide range of topics. The 2001 version of the Balanced Scorecard was taken as the departure point, that is, the framework from which the questions have been derived. While it is hard to imagine a completely exhaustive framework, scientific discussion must rely on clear definitions and links to management literature. The BSC Framework as presented by Kaplan and Norton seems to have some deficiencies in this respect and therefore the suggestions in this chapter aim to improve it in three ways.

Firstly, there is a more detailed definition of those BSC Framework topics that seemed relevant for designing environmental chains. Secondly, the chapter highlights the ways in which environmental issues could have an impact on these topics. Thirdly, the topics are linked to some relevant literature. Furthermore, as shown in **Table 3.9**, the chapter transforms the now-modified BSC Framework into a set of questions to be used in the intervention part of the study.

#### **3.8.1 Contribution to the literature**

The contribution to the literature of this chapter is limited to the modifications of the Kaplan and Norton BSC Framework topics as shown in **Table 3.8**. Out of the twelve modifications only *four* were justified through explicit links to the management literature. The chapter includes a more in depth discussion only for risk, stakeholder needs and reputation because these may very well be driven by environmental work.

Compared to the latest work on the BSC and environment there are at least four new elements introduced by this study. Firstly, this is the only work where the BSC topics have been defined. Figge et al. (2002) take the BSC Framework as it is without questioning (nor explicitly defining) its building blocks. Secondly, it seems that it is possible to include all environmental issues inside a business framework without the need to stretch it to non-

business paradigms (e.g. stakeholder theory). Thirdly, it quickly points to some specific areas where environmental work may be found to drive performance.

<b>Financial/Shareholder Perspective Questions</b>	
<b>Q1.</b>	What do Shareholders want from your firm?
<b>Q2.</b>	Should you improve your performance in terms of new revenues sources, customer profitability, cost per unit and asset utilization?
<b>Q3.</b>	What are the financial impacts of your risks?
<b>Q4.</b>	How about the technological, economic, financial, performance, legal and regulatory risks?
<b>Q5.</b>	How does environmental work influence the chosen risk items?
<b>Customer Perspective Questions</b>	
<b>Q6.</b>	Who are your clients?
<b>Q7.</b>	What do your customers want?
<b>Q8.</b>	What do customers want in terms of product attributes, customer relationship, image & reputation?
<b>Q9.</b>	Why is your value proposition superior to competitors/substitutes?
<b>Q10.</b>	How do you protect yourselves from new entrants?
<b>Q11.</b>	How will Political, Economical, Social and Technological trends influence your business in the next 5 years?
<b>Q12.</b>	In what way environmental issues do/may impact on the customer-related objectives?
<b>Q13.</b>	Which stakeholders influence the risk-related objectives?
<b>Q14.</b>	What do these stakeholders want?
<b>Q15.</b>	Can environmental activities impact on the desires of these risk-related stakeholders?
<b>Internal Process Perspective Questions</b>	
<b>Q16.</b>	What do you think are the main issues the firm should do better to fulfill the previously discussed value proposition ?
<b>Q17.</b>	How about quality/cost/time of innovation processes?
<b>Q18.</b>	How about quality/cost/time of operational processes?
<b>Q19.</b>	How about quality/cost/time of post-sale processes?
<b>Q20.</b>	Can environmental activities foster any of the quality/cost/time issues you have already mentioned?
<b>Q21.</b>	What risk processes do you need to improve the previously chosen risk items?
<b>Q22.</b>	Can environmental activities contribute to reduce risk? How?
<b>Q23.</b>	Which external stakeholder contributions does the company performance depend on? How?
<b>Q24.</b>	Can environmental activities assist in improving such contributions? How?
<b>Development and Growth Perspective Questions</b>	
<b>Q25.</b>	What type of capabilities should your employees develop in order to improve the internal processes as desired?
<b>Q26.</b>	Can environmental work assist in increasing the desired employees capabilities?
<b>Q27.</b>	What IT systems/technologies would allow employees to better perform and learn faster?
<b>Q28.</b>	How can IT systems support the environmental work defined in the previous perspectives?
<b>Q29.</b>	What motivates your employees?
<b>Q30.</b>	How about involvement, recognition, access to relevant info, responsibility, support, positive perception of corporate image, belonging to a team?
<b>Q31.</b>	Can environmental activities contribute to improve the image employees have of the company?
<b>Q32.</b>	How do you empower your employees?
<b>Q33.</b>	How do you make sure their actions are aligned with overall strategy?
<b>Q34.</b>	How do you make sure they are aware of the company strategy?
<b>Q35.</b>	Can environmental activities assist in empowerment, alignment and awareness?

**Table 3.9** Set of questions stemming from the revisited BSC Framework

### 3.8.2 Limitations and future research

Similarly to the previous chapter, the aim of the literature-related discussion here was to prepare the tool for its usage in the action part of the study. Contributions from literature focused on some (but not all) authors in order to cover topics such as risk, stakeholder needs and company reputation. Future research could enrich the discussion by bringing in ideas and definitions proposed by other authors on the same topics or delve into other topics not covered in this study.

### 3.8.3 Contribution to practice

This chapter provides managers with a checklist of items that can be used to unveil the links between environmental work and business issues. The fact that it is presented as a list of questions makes it easier for managers to use (See **Table 3.9**). For example, they can try to answer the questions themselves (probably) realising that there are some gaps in their knowledge and that they will need to go out to the functional managers for clarifications. They could also try to answer these questions by directly involving the functional managers, as will be done in this study in the following chapters.

There are two distinct advantages of using this list. The first advantage is that every element has a clear definition. A concept used in practice without definition is likely to be twisted and misused. Secondly, they are logically linked in a sequence, as prescribed by the Balanced Scorecard methodology. This list will not only generate a set of answers, but these answers will contribute to an overall picture of what the organisation wants to do, how it will be done and what activities have an influence.

#### **TO DATE and FORWARD**

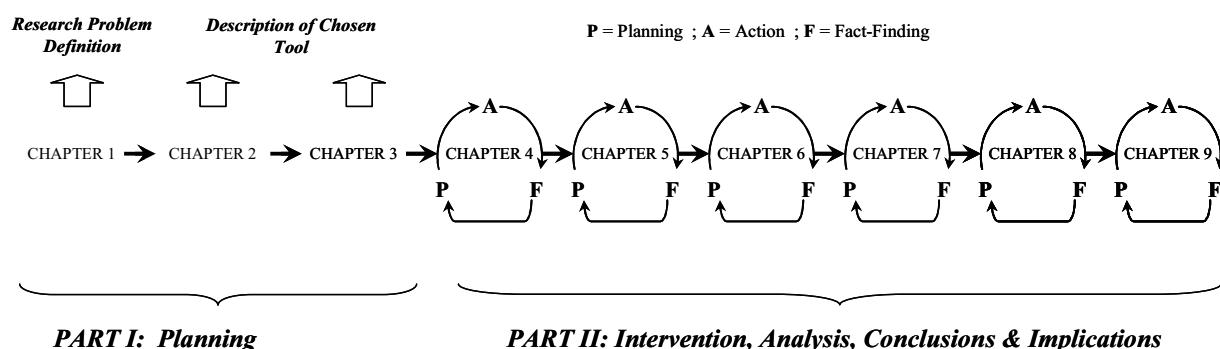
The previous chapters have dealt with the definition of the Research Problem (Chapter 1) and of *Content Quality* (Chapters 2-3). With this chapter the planning part of the research is over. Part II, including Chapters 4 to 8 will detail four steps of the content building process and, on a step-by-step basis analyse the findings, conclusions and implications for literature and practice. Specifically, the next chapter will describe the two research partners; give some details about the process of business unit choice; describe the business units; and the reasons why they decided to join the project.

# PART II – INTERVENTION

## The Research Problem

*What **consensus process**<sup>42</sup> can increase the environmental manager and TMG consensus level and quality over the environment chains?*

As introduced in **Section 1.6.1** the general approach followed in this study comprises three conceptual steps: *planning*, *action* and *fact finding*. In the *planning step* the researcher should justify the reasons for the relevance of the research problem and make a plan on how he is going to go about it. In the *action step* the researcher should implement what was planned. Finally, in the *fact finding step*, he should analyse the results of that step and propose conclusions. Then, the researcher should plan for an additional cycle if deemed relevant.



**Figure II.1** Contents of Parts I and Part II of this study

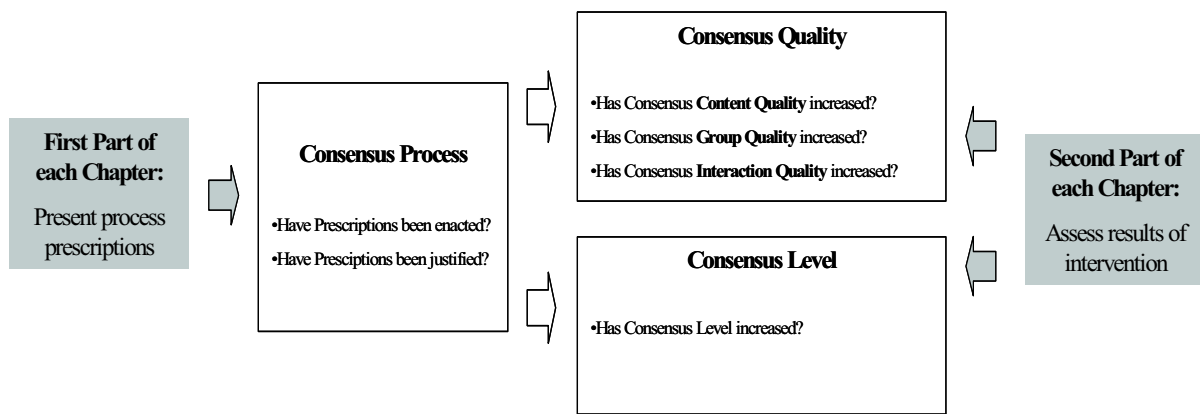
As highlighted in **Figure II.1**, this study consists of nine chapters. The first three chapters, constituting Part I, focus on the *planning step*, comprising of the introduction of the research problem (Chapter 1) and the description of the specific tool used to explore this problem (Chapters 2-3). The following six chapters, which we are about to explore and which constitute Part II, include six subsequent action research cycles. In this sequence of research cycle the three steps of *planning*, *action* and *fact finding* are repeated chapter after chapter. Put more simply, each chapter describes what will be done and why (*planning*), then it is

<sup>42</sup> The words in **bold** are the ones that are analyzed in this Part II of the study.



carried out (action) and finally the results are analysed and discussed drawing conclusions and implications (*fact-finding*).

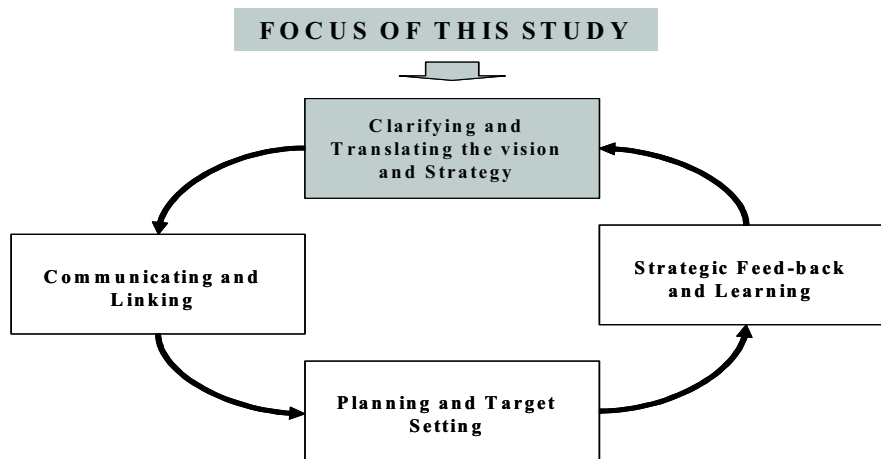
While Part I essentially prepared the ground for the intervention, this part of the study is where the *action actually takes place* (i.e. consensus process). More specifically, as shown in **Figure II.2**, it describes what type of action managers were *forced* to carry out (*Consensus Process*) as well as the results of this action (*Consensus Level and Quality*). The information revealed in this intervention will be used as the basis of the *Consensus Process Prescriptions*, or the general rules to be followed by TMG and environmental managers to optimise their interactions.



**Figure II.2** What type of discussion is taking place in the next chapters?

The starting point for the *Consensus Process* is, in line with the rest of the study, the one proposed by Kaplan and Norton for the BSC. As shown in **Figure II.3** Kaplan and Norton (1996a, 291) divide what they call the ‘*strategy implementation processes*’ into four steps.

1. The first step is supposed to formalise what the TMG wants to do.
2. The second step entails communicating the TMG's intentions to the rest of the organisation and then aligning departmental as well as individual goals.
3. The third step is concerned with building (or re-focusing) projects in line with the communicated intentions, while establishing clear and quantitative targets.
4. The fourth and final step is where discussion, analysis and decisions take place.



**Figure II.3** The BSC process adapted from Kaplan and Norton (1996, p. 291) vs focus of this study

The intervention exercise focuses on the *first step* of the Kaplan and Norton process which, as shown in **Table II.1**, comprises ten *tasks*. After choosing an appropriate organisational unit (i.e. SBU<sup>43</sup>) (Task 1) the architect, or facilitator, will conduct a few interviews with key corporate executives to learn about corporate-level issues that impact on the chosen organisational unit (Task 2). At this point the exercise in the chosen organisational unit can begin with the first round of interviews with the top management (Task 3). Following the interviews the members of the scorecard design team will discuss the results of the interviews and try to cluster them into a Strategy Map (Task 4). In a workshop executives will have the chance to discuss and validate this drafted view of their plan and brainstorm a first list of indicators (Task 5).

<sup>43</sup>SBU = Strategic Business Unit. An SBU is a part of the organisation that is responsible for the production and delivery of a given product or product mix to specific customer segments.



<b>N.</b>	<b>Task Kaplan and Norton</b>	<b>Task Activities Kaplan and Norton</b>	<b>PHASE This Study</b>
<b>1</b>	Select the appropriate SBU	Select the appropriate SBU	<b>Preparation</b>
<b>2</b>	Identify SBU/Corporate linkages	Identify what are the corporate level demands on the SBU	
<b>3</b>	Conduct first round of interviews	Gather contents for strategy map building	<b>Environmental Chains Drafting</b>
<b>4</b>	Synthesis session	Draft the strategy map	
<b>5</b>	Executive workshop: first round	Approve the strategy map Brainstorm indicators	<b>Environmental Chains Validation</b>
<b>6</b>	Sub-group meetings	Refine objectives definitions and indicators	<b>Indicator Definition</b>
<b>7</b>	Executive workshop: second round	Validate sub-groups proposals Propose Targets	-
<b>8</b>	Develop the implementation plan	Validate Targets Indicator implementation plan	-
<b>9</b>	Executive workshop: third round	Validate all contents Build projects	-
<b>10</b>	Finalize the implementation plan	Integrate BSC in management process	-

**Table II.1** Kaplan and Norton tasks vs steps of this study

At this point the original group splits into three or four sub-groups each of which will be responsible for refining the definitions of the objectives and indicators proposed in the previous plenary session (Task 6). When each sub-group is satisfied with the result (it may take more than one meeting) a second plenary session is organised to validate the sub-groups' proposals and start proposing targets (Task 7). Then, in a following session, targets are validated and an implementation plan for the indicators is developed (Task 8). When the executives meet for the third workshop they will have to reach a consensus on the entire contents of the BSC, as well as draw up an implementation plan, define projects and assign resources (Task 9). Finally, a clear agenda for discussion and revision of the BSC's contents should be defined in a way that it is totally integrated in the organisation's management systems (Task 10) (Kaplan and Norton, 1996a, pp 302-308).

In this study, as shown in **Table II.1** and **Figure II.4**, the intervention focuses on the first six tasks and re-clusters them into *four Phases as follows*:

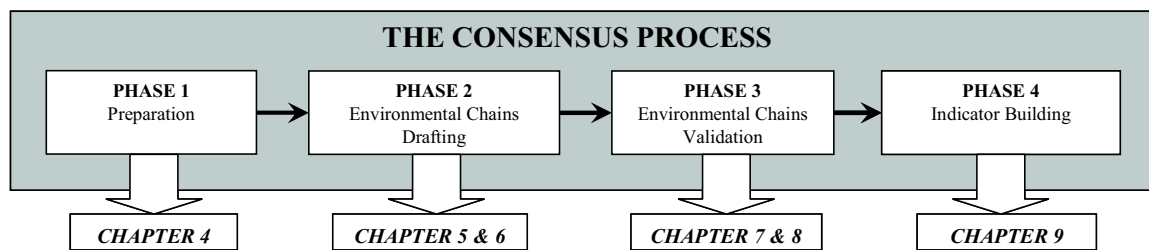
**Phase 1: Preparation**

**Phase 2:** *Environmental Chains Drafting*

**Phase 3:** *Environmental Chains Validation*

**Phase 4:** *Indicator Building*

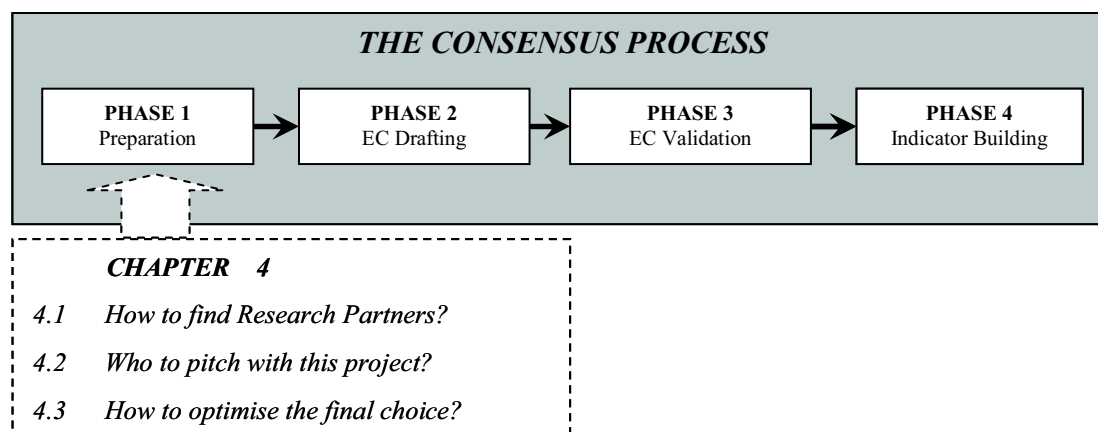
This re-clustering has no specific advantage, it is just a useful way of calling the various steps of the intervention. These phases are described and discussed in the following six chapters as shown below in **Figure II.4**.



**Figure II.4** *Phases and chapters of this study*

## 4 Preparation (PHASE 1)

The aim of this chapter, as shown in **Figure 4.1**, is to define the general process rules that will help the environmental manager in choosing the first pilot within his organisation. The chapter starts by describing how the research partners were found and how the business units were then selected. Based on the empirical evidence, the chapter then provides an overview of the general process rules. **Section 4.1** describes the process rules; comments on the companies found; describes the reasons that persuaded the companies to participate; and comments on the commonalities and differences between them. **Section 4.2** includes similar information for the business units. **Section 4.3** contains the conclusions, the contributions to literature and practice as well as the limitations and suggestions for future research.



**Figure 4.1** The sections in Chapter 4

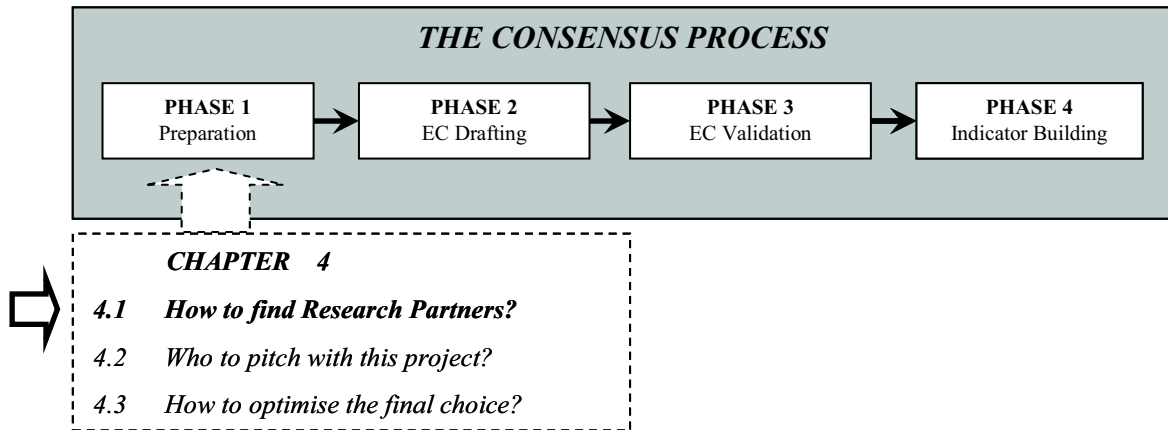
### 4.1 How to find research partners?

The fund-raising and search for partners started back in May 2001. The question at hand was: how many companies would participate in the research? How many would be prepared to:

- i. fund the research?
- ii. stay the course and get to the end of the process?
- iii. be different enough to generate a rich discussion through comparison?

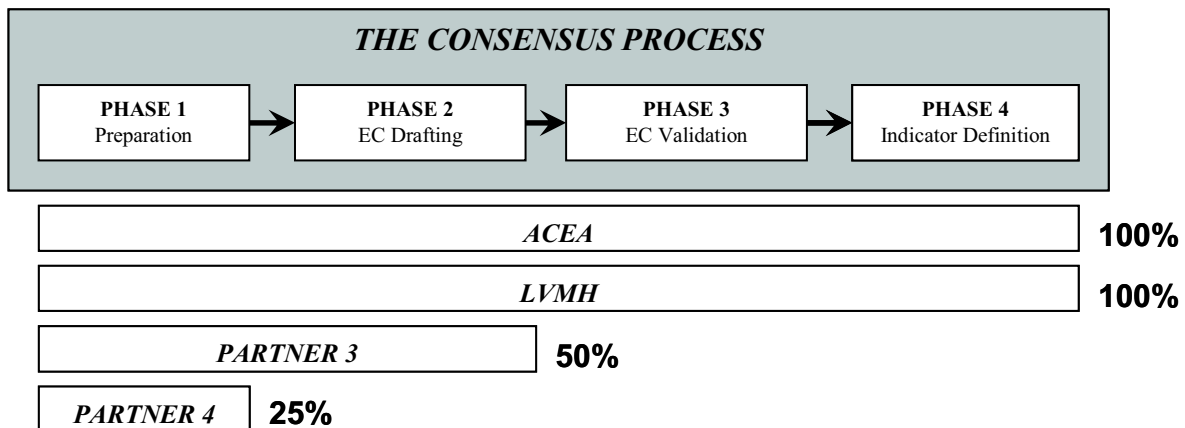
iv. be similar enough to be comparable?

In order to avoid information overload and taking too much time carrying out interviews and analysing the data without leaving enough time for reading and reflection, it seemed that *four* case studies would be enough to provide the required results.



The choice to seek funding directly from the companies that would actively participate in the research had a strong methodological implication: it justified the very choice of those four companies as the most suitable candidates for investigating the research problem. In fact, only the companies that felt they needed to address the problem covered by this study would accept the time and resources that would be needed to participate in the 2 year-long research. Furthermore, the act of sponsoring the research seemed to give more certainty over the actual work that the managers in those firms were going to carry out.

Given the nature of the research problem the entry point to the potential research partners was the environmental manager (EM) at the corporate level. The *pitch* was straightforward: 'you (the EM) suggest to the TMG an exercise that will enhance the performance measurement system (of interest to them) while, at the same time, showing where environmental issues may contribute to reaching the desired results (of interest to you)'.



**Figure 4.2** Portions of the process completed by the four research partners

The process from the first phone contacts to the signature of the last contract took six months in total. Out of about 50 prospective candidates and 30 initial telephone contacts *four companies* came to the kick-off meeting on 14 November 2001 to become our research partners: ACEA<sup>44</sup>, ALPHA<sup>45</sup>, Partner3<sup>46</sup>, and Partner4<sup>47</sup>.

As shown in **Figure 4.2**, ACEA and ALPHA carried out the maximum (and equal) amount of process steps while Partner 3 and Partner 4 stopped earlier in the process. The study therefore focuses on ACEA and ALPHA because the other two partners stopped the activities too early in the research to provide conclusive evidence for this study.

#### 4.1.1 Environmental management in ACEA

In 1909 the company AEM (Azienda Elettrica Municipale) was created by the municipality of Rome (Italy) to provide the city with electricity and street lighting. The first wholly owned power plant dates back to 1912. In 1945 AEM changed its name to ACEA (Azienda Comunale Elettricit  e Acque) and added the management of the city's water resources to its

<sup>44</sup>ACEA is a multi-utility company providing the city of Rome (Italy) with water, energy and street lighting services.

<sup>45</sup>ALPHA is a large holding company with numerous brands acting in the luxury goods industry.

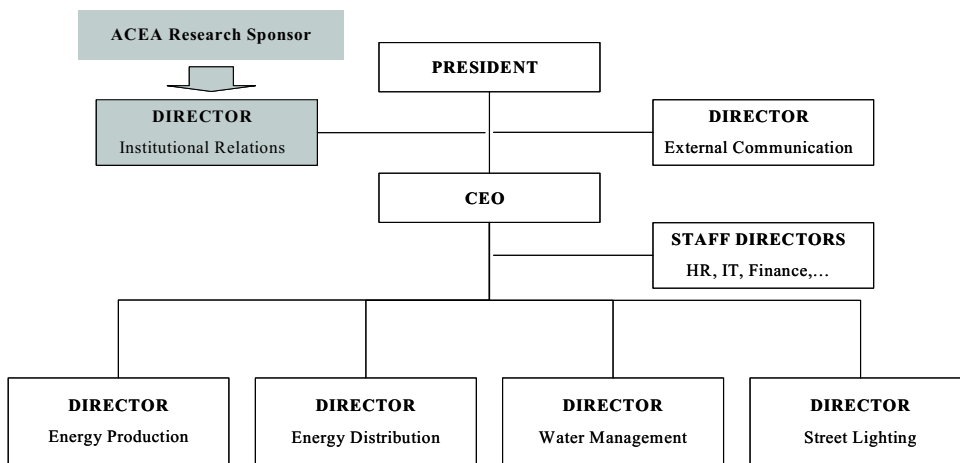
<sup>46</sup>An energy production and distribution company.

<sup>47</sup>An electronic equipment consumer goods company.



portfolio. In 1965 ACEA added water distribution to its responsibilities followed by water treatment in 1985. In 1999 ACEA took its place on the stock market becoming 49% public-owned. At the time this research project kicked-off the company had four main strategic business units each one with its own management team and director. These included: water management, electricity production, electricity distribution and street lighting. The company counted a total of 5000 employees and totalled over 700 million euros in turnover.

It was the Corporate Institutional Relations Director who decided to participate in this project. As shown in **Figure 4.3** his role entailed a very close relationship with ACEA’s President. In ACEA the role of the President is to manage the relationship with the municipality while the CEO is more in charge of focusing on the operations as well as on customers. This position gave him a very high positioning within the company. The Corporate Institutional Relation Director knew personally all the key players in ACEA and could simply decide to call them at his will. This meant it was a lot easier to choose a business unit.



**Figure 4.3** Research sponsor role in ACEA

The Corporate Institutional Relations Director is referred to in this study as the Corporate Environmental Manager (CEM) because of his responsibilities in ACEA. According to him, the attention on environmental issues in ACEA has traditionally gone hand in hand with improving the efficiency of the organisation. When he was hired ten years ago this attitude was already there. Managers were actively encouraged to search for and implement cost-saving and energy-efficient programmes (e.g. L to reduce water and electricity losses). Such programmes obviously had a positive impact on the environmental profile of the organisation.

This mind set was facilitated by the fact that ACEA was fully owned by the municipality which acted as a political, more than a managerial entity and, as a consequence, was more interested in increasing the quality of the service than in turning a profit. Also, according to him, between the municipality-owned companies in the various cities there was sort of a competition as to who would implement the latest technology, sort of: 'they have it, we must have it!' or, 'they don't have it yet, let's do it;' The CEM added that: *'It was perhaps for these reasons that in 2001, when all the Italian multi-utilities were required by legislation to pay for energy and water losses, we found out that we were doing much better than our competitors.'* (ACEA Corporate Environmental Manager, 15 March 2002, personal interview).

The year 1996 saw an acceleration of ACEA's environmental and social efforts because of the arrival of a new president. The new president had enjoyed a long career in the trades unions and was therefore extremely sensitive to the relationship between the organization and its stakeholders at large. He wanted ACEA to be proactive in the field of environmental and social management. Reporting was seen as the first step in this direction. In 1999 ACEA was listed on the stock market. This gave the company fresh impetus to publish its first Environmental and Social Report completed in 1998. The final motivating factor to publish the first environmental and social report in 1998 was given by the 1999 entrance of ACEA in the stock market (ACEA Corporate Environmental Manager, 15 March 2002, personal interview)

This report was key in that it gave two reasons for ACEA's continued environmental work. The first related to the risk factor and concerned the progressive tightening of environmental legislation especially at local level. For ACEA, which has production plants in the immediate vicinities of the city, there is a high risk that its operations could be disrupted especially when considering that the city is expanding. The second reason was that as a member of the corporate environmental management team ACEA had a vested interest in capitalising on all opportunities to cut costs. (ACEA Environmental Report, 1998). Three years down the line from the first environmental report the pace of environmental achievements in ACEA had somewhat slowed down. This is how the manager responsible for drafting the first report describes the situation:

*'...While putting the environmental report together I had the strong feeling that in reality ACEA had not really been pursuing a specific environmental strategy. Our behaviour seemed to be totally random. The fact that we have a good system that manages environmental issues is due to the fact that some people with a high sensibility on these issues are working here...a lucky strike! The next step will be to transform these lucky strikes in projects, in courageous strategic choices; this is the objective of*

*the Environmental Management System...*' (ACEA corporate environmental management team member, 14 January 2002, personal interview, English translation).

He is frustrated by the current situation and looks back wistfully to the time of the first Environmental Report in 1998 when ACEA was at the forefront of environmental management in Italy. The organisation was unable to keep its lead in the market as it failed to follow-up with additional organisational improvements. In 1999 the Environmental Management System had already been proposed. But three years on the project was still stuck, still waiting for the seal of approval from the corporation's TMG, and all the while other cities were moving ahead with the implementation of such systems. One year after its entrance on the stock market, ACEA began to lose its grip on the leading position giving way to similar companies in Italy.

While external communication seemed to work rather well generating media attention for its environmentally sound policies, internally ACEA was moving rather too slowly. However, it is not that surprising that the company generated so much positive attention when we consider that the environmental management team member had control of all external communications. He could draft the reports after internal audits requiring little or no involvement of the business unit's top management. However, getting internal backing from the TMG for *additional* environmental work that could have significant business advantages was an altogether different matter.

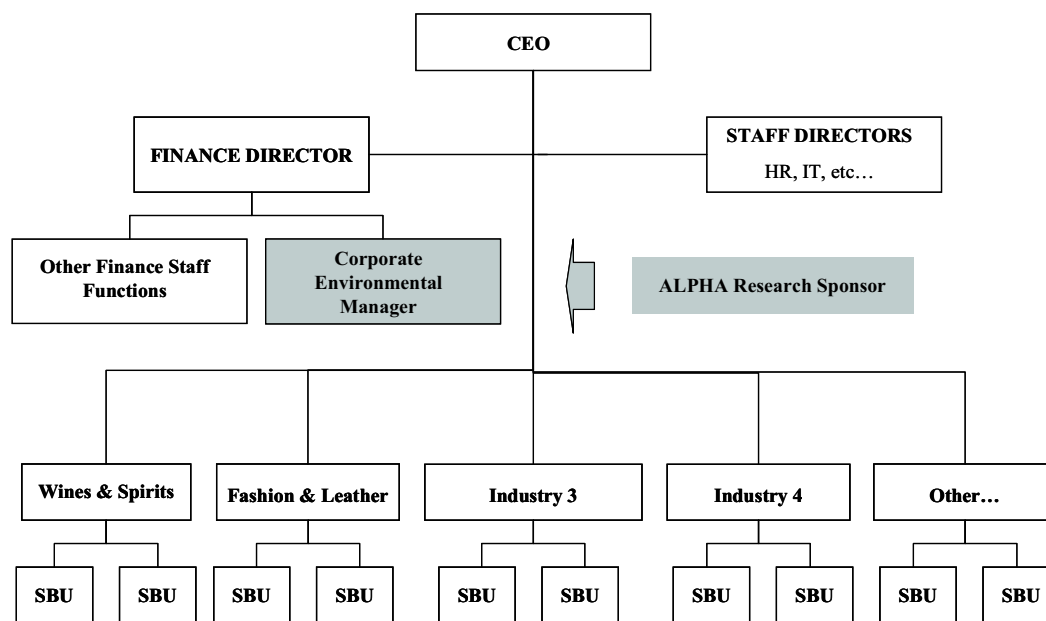
The CEM's interest in this research project was four fold:

1. fleshing out the business-unit specific advantages in doing environmental work; motivating business units to implement the (possibly) upcoming environmental management system work;
2. benchmarking with competitors;
3. improving the internal and external image of the company by its affiliation with INSEAD.

(ACEA Corporate Environmental Manager, 15 March 2002, personal interview).

## 4.1.2 Environmental management in ALPHA

ALPHA, with its numerous prestigious brands, a turnover of roughly 11.5 billion euros (in the year 2000), 1250 stores worldwide and 53,000 employees is one of the largest luxury goods companies in the world. In the year 2001 the ALPHA group acted mainly in several different industries such as wines & spirits, fashion & leather goods etc.



**Figure 4.4** Corporate Environmental Manager in the organizational structure (2001)

In ALPHA the research sponsor was the Corporate Environmental Manager (CEM) (See **Figure 4.4**). She reports directly to the Chief Financial Officer, a member of ALPHA TMG. She had founded the corporate environmental department in ALPHA in 1992 by explicitly asking to be in charge of these activities within the group:

*'...at the time nobody trusted me they thought I was crazy. They also didn't think we needed a full time person to deal with environmental issues. But I persisted and eventually persuaded the TMG to let me give it a go. Two years later they agreed it was the right move.'* (ALPHA Corporate Environmental Manager, 25 June 2003, personal interview).

In other words, in the early stages ALPHA set up the environmental department as a result of the initiative of a single respected and motivated individual and not as a response to perceived pressures from the business environment. This is also the reason, according to her, that she

was left a rather large margin of flexibility concerning the initiatives she was able to undertake in the following years. Although she mentions *cost cutting* as a possible driver for environmental management, certainly the most important corporate driver for environmental management in ALPHA is the one related to *Brand Risk*.

*'...our main products come from nature. Our clients want the best from our products and they have to be the best in environmental terms just like they are best in terms of quality. We don't want the consumer to start asking questions about the impact of our products on the environment, before we have already looked into it. In one product range, for instance, we had some questions on animal testing...brands are very easy to kill with an environmental issue...'* (ALPHA Corporate Environmental Manager, 5 June 2002 personal interview).

In her view a luxury goods company, should incorporate environmental quality into all of its products as a precautionary approach. The fact that consumers do not ask for environmentally friendly products does not mean that it would be easy to explain why one of those very expensive products would be responsible for polluting the environment. She believes that failing to recognise such issues could have a negative impact on the company's image. As a luxury goods company ALPHA should lead the way and teach its brands to manage environmental issues proactively.

In 1996, four years into her mandate, she had developed a network of environmental managers, one for each subsidiary, which was formally recognised within ALPHA as the *environmental committee*. Together they worked on a draft environmental policy that would go hand in hand with the company's guiding principles, which included encouraging creativity and innovation; striving for excellence. increasing brand image; having a strong corporate identity; aiming to be the best (ALPHA Environmental Report, 2002). According to her, these principles are used by the environmental committee as a screening tool to evaluate the relevance of each new environmental project.

The issue of target setting at business unit level is especially dear to the ALPHA Corporate Environmental Manager (CEM). The overall rationale of her internal strategy has always been not to force subsidiaries into environmental work but rather to tease them in through proposing exercises and assessments.

*'...I am not entitled to ask the business units to do things...but I can ask them to be transparent with me about their environmental goals that sometimes I participate in setting. They have to comply with regulations...no questions about that...but if they want to go further it tends to be a personal preference. I usual work with them to find the right indicators and targets. If I were to just tell them to get on with it would not work. Already it works better if I tell them I want them to do something and that I will pay for it. Of course, if I set targets at group level and cascade them to the business units it would be a lot faster, but I think they might hide the truth from me and that's not my way of working. I want to foster a culture of mutual trust. Therefore, I don't impose anything. For example, when*

*auditing is needed we meet ten consultants and pre-select three , then the business units choose who to audit their unit.'* (ALPHA Corporate Environmental Manager, 5 June 2002, personal interview).

There seem to be two motives behind her strategy. The first is that one of the guiding principles of the ALPHA group is to ensure a high level of independence of the brands. The second is more related to the idea that once a business unit decides to carry out a project they have not been forced to do, they are more likely to take ownership and perform it with much more enthusiasm and success. In this particular case the corporate environmental department has the role to propose and facilitate the use of the latest tools and foster reflection of managers on issues. They fulfil this role by proposing ideas to the business units' environmental managers. Once one business unit has worked with a tool and communicates its positive results it is much easier for the CEM to foster its use across the entire organisation.

However, this way of working is not without its pitfalls. While periodically launching, communicating and pushing new environmental themes (or support tools) of corporate interest, the CEM cannot establish any overall targets on environmental aspects because she has no power to enforce them. This would be less of a problem if each brand would fix its own targets because corporate offices could then collate them into a corporate-wide plan. Unfortunately, the CEM cannot even enforce the idea that there *should be such targets*. As a result, until 2002, only two of ALPHA's 50 brands had a formal environmental management system (ISO 14001 certified) and consequently were *able* to make plans to reach future targets. The only way the CEM can proceed in her work is to convince the TMG of each subsidiary of the positive results of an effective environmental management. When she was approached in May 2001 to participate in this research she was already scanning the market for possible solutions.

*'...To have an effective tool that would be easy to use and help convince the TMG to address environmental and sustainable development issues; to guide them and help them know what to do and how to do it would be fantastic. But currently I don't have such a tool and as far as I could tell there is nothing available on the market that responds to this need. The problem is that everybody agrees sustainable development is a big issue, but no one knows where and how to start. When I talk to top managers they say: "Ok, no problem, I'll do it, but concretely what do I have to do?"'* (ALPHA Corporate Environmental Manager, 25 June 2003, personal interview).

#### **4.1.3 Commonalities and differences between the two research partners**

The two companies chosen for this study couldn't be more different. ACEA has a municipality as its major shareholder; acts in a space still rather closed to competition (e.g. water services). provides a service instead of a product; its services are seen as commodities and its clients are captive and local.

On the other hand, ALPHA has no government entities among its shareholders; acts in a worldwide industry completely open to competition; and provides its customers, spread all over the world, with hundreds of products that are everything but commodities.

While in their environmental management efforts they are also at different stages (i.e. ALPHA has started earlier and already has a few business units that are ISO 14000 certified) their problem seems to be very similar: their environmental managers have difficulties in impressing upon their business units the importance of carrying out environmental work as a value-added activity.

In 2003, a conference was organised in order to present the results of this research. The conference title was: *BSC & Sustainability*. **Table 4.1** reports what 10 managers answered to the question:

**Question: What is the organisational problem that brought you to this conference?**

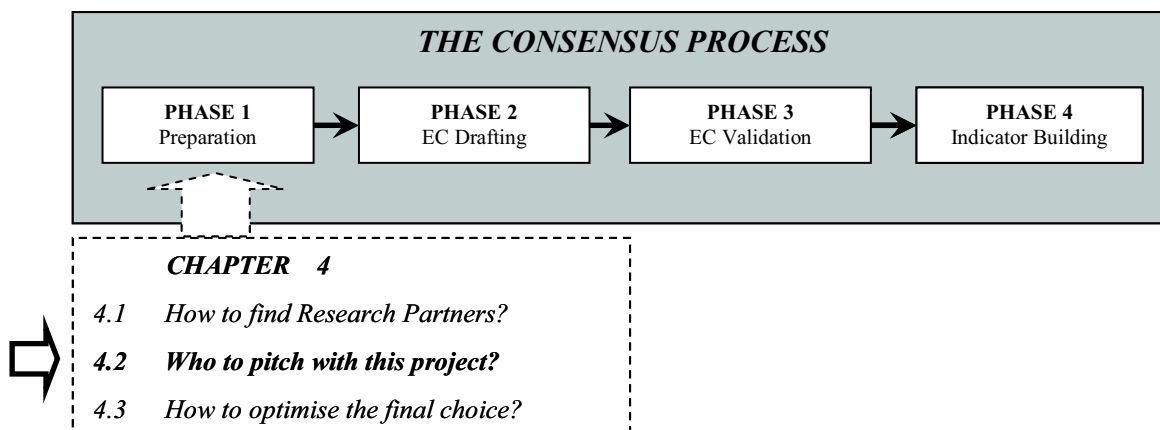
The answers show that the problem that the two research partners were experiencing was deeply felt by other managers as well.

Environmental and CSR		What is the organisational problem that brought you to this conference?	
Company	Role		
<i>RIO TINTO</i>	Corporate CSR Director		We have already digested the fact that we need to work on CSR issues, everybody here is convinced about that. What we need to work on is in strengthening the link to value and to measure. This will convince us that these activities are worthwhile.
<i>SB MINERALS</i>	Corporate CSR Director		I am interested in how to integrate social and environmental issues in the business strategy. We definitely believe that these things are important and crucial for our long-term viability. But this is an issue of long-term strategy. The problem is how to integrate, how to include these things in every day management?
<i>SB MINERALS</i>	Corporate Environmental Director		It is key to find ways to link sustainability with the general business issues. It is hard because businesses prefer to look at the short-term benefits. The attitude is to abide to legislation but that's it.
<i>DOW CORNING</i>	Corporate Environment Health and Safety Director		How do you bring in environmental and social issues while still maintaining the economic aspect? This is a difficult thing to do.
<i>ENI</i>	Corporate CSR Manager		We have a hard time integrating sustainability issues in the business.
<i>NOVOZYMES</i>	Corporate Environmental Manager		We are trying to find ways to better integrate sustainability in the daily work, it is not easy to do.
<i>FRANCE TELECOM</i>	Corporate Environmental Manager		We want to find ways to measure the contribution of sustainability to the business.
<i>TOYOTA</i>	Corporate CSR Manager		We are trying to find a way to link CSR to corporate planning. We need to make sure that in the strategic plans the Environmental and Social issues are also taken into considerations. Otherwise the planning decisions are taken and we come after-the-fact.

**Table 4.1** What organisational problem brought you to the conference on BSC & Sustainability?



## 4.2 Who to pitch with this project



There were two factors that contributed to choosing business units<sup>48</sup> as a starting point. The first was that Kaplan and Norton, as well as Niven (2001 p.42), explicitly suggest the BSC work should begin at business unit rather than at corporate level because ‘*most corporations are sufficiently diverse and constructing a corporate-level scorecard may be a difficult first task*’ (Kaplan and Norton, 1996, p.301). Since the author of this study had no prior experience with the methodology it was decided that their advice would be followed. Secondly, from the Corporate Environmental Managers points of view, this also seemed to be a desirable approach. As detailed in the previous section they were craving for the buy-in of operational managers. The buy-in of a business unit manager was, in this respect, a more desirable target than a functional director because he normally has more power and resources.

Nevertheless, during the *Focusing Sub-Phase*<sup>49</sup>, it seemed clear that this approach is applicable regardless of the contents or responsibilities of the group involved. A BSC can be developed by business units, business functions (e.g. marketing, finance) or even by groups working on cross business unit themes (e.g. developing a geographical market). All of these groups have to develop a plan that will profit from the BSC approach. Also, all of these groups may need to integrate environmental issues in their strategy. This means that, while in

<sup>48</sup>A business unit is a part of the organisation that is responsible for the production and delivery of a given product or product mix to specific customer segments. For example a utility company providing citizens with water and electricity services may have two different business units in order to satisfy the different client needs.

<sup>49</sup> See **Section 7.1.2**

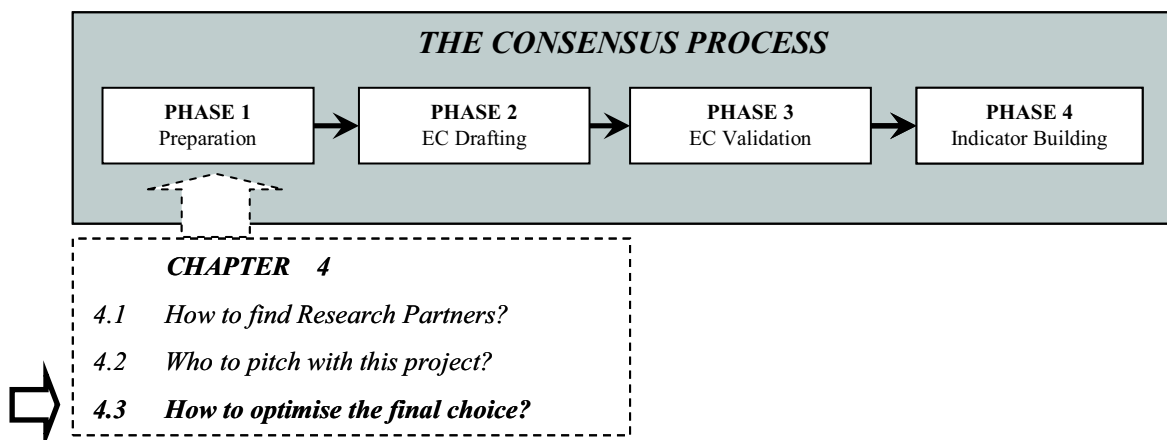
this project we were all looking in only one direction, several other options existed. **Table 4.2** shows the questions needed for listing all the available options.

<b>Who can I pitch with this project?</b>
Which are the business units in my company?
Which are the functions in my company?
Which are the thematic groups in my company?
<b>Suggestion:</b> List the Business Units first and go to next step. If no Business Unit is available come back to this process step.

**Table 4.2** Who to pitch with this project? (Suggestions for managers)

Since for large corporations this list may be rather long and confusing it may be better to think of the business unit first, go to the next step of the process and come back to functions and thematic groups only if the environmental manager realises that it would be too hard to convince business unit directors. After all, the empirical evidence does point to the fact that for corporate environmental managers the business units directors are preferential targets.

### 4.3 How to optimise the final choice?



This stage of the research involved choosing business units that would be likely to see the research through to the end of the project (Finalisation); provide interesting findings for the research and for practice (Usefulness); and have a high chance of being replicated within the organisation (Replicability). To reduce room for error a list of criteria was discussed with the corporate environmental managers. As detailed in **Table 4.3** these criteria were enriched as an outcome of the discussions with managers in ACEA.

<b>Criteria used for choosing the Business Unit - January 2002</b>			
	<i>N.</i>	<i>Criteria name</i>	<i>Rationale</i>
<b>Replicability</b>	1	<b>Not too small</b>	I thought that very small business units would have little credibility within the organization.
	2	<b>Innovative Curricula</b>	I thought that a business unit that was known to try innovative management practices that are then implemented in the rest of the organisation would increase the credibility of our exercise within the company.
<b>Usefulness</b>	3	<b>No shared services</b>	I thought that it would be best not to do the exercise in a shared service because it would not link environmental issues to the operations.
	4	<b>Environmental and Performance Measurement Existence</b>	I thought it would be preferable to implement this project in business units that already gathered some quantitative data because I considered as a desirable outcome to obtain a quantitative relationship between environmental issues and business.
	5	<b>Possibility to communicate the business unit strategy</b>	I wanted to ensure that we would be able to communicate the results of the project.
	6	<b>Competitive Market*</b>	I thought that the discussion would be more interesting if we chose business units working in very competitive markets rather than monopolistic situations because that is where, at least in theory, there should be more interest for differentiation.
	7	<b>Existence of environmental impacts</b>	I needed to check upon this criterion to be sure there would be something to discuss at a later stage.
	8	<b>Relevance of environmental impacts</b>	I thought it would be preferable to work with business units for which environmental managers are convinced that environmental work could significantly improve their business performance.
<b>Finalization</b>	10	<b>Available Time*</b>	I thought that if the managers are already involved in other large improvement projects they will have no time for this one.
	11	<b>Too large*</b>	I thought that carrying out this project would be harder if the business unit had more employees.
	12	<b>Logistical Ease*</b>	I thought the project would be easier to implement for those business units whose managers are already working close to one another. This is, in light of the idea of organizing workshops where they would be required to attend.
*These Criteria were added during the first workshop in ACEA			

**Table 4.3** Criteria used for choosing the business unit

### 4.3.1 The business unit recruitment process in ACEA

The process followed in ACEA to find the appropriate business unit is detailed and described in **Table 4.4**. The first meeting in ACEA took place on 8 January 2002 when, together with the CEM and two of his team members, the business units were shortlisted according to the criteria. As shown in **Table 4.5** the preferred choices were the Energy Production and Street Lighting business units.

<i>ACEA business unit recruiting process</i>	
<i>N.</i>	<i>Activities performed by the Corporate Environmental Manager</i>
1	Preselect some business units based on <b>Table 4.3</b> Checklist criteria
2	Personally meet the two Business Unit Directors to briefly pitch the project. Get idea of interest.
3	Invite them in his office for a presentation of the project objectives and to listen them explaining their interest in the project.
4	Take a decision and sign an informal letter of agreement detailing the roles and duties of both players.

**Table 4.4** ACEA business unit recruiting process

<i>Reasons for elimination of Business Units - ACEA</i>	
<i>Criteria name</i>	<i>Rationale for exclusion</i>
<b>Post-sale services</b>	It had mainly a shared service role. Too small.
<b>Water Management GENOVA</b>	Managers were in Genova.
<b>Water Management ROMA</b>	Too many ongoing projects. Too large.
<b>Electricity Distribution</b>	Too many ongoing projects.
<b>Electricity Transmission</b>	Too small, non-competitive market.
<b>Electricity Production</b>	RETAINED
<b>Public Illumination</b>	RETAINED

**Table 4.5** Rationale behind elimination of business units.

Both of the chosen business units had pros and cons. On one hand, the Energy Production had an environmental management system up and running, while Public Street Lighting had never worked on environmental management. On the other hand, Public Street Lighting was a real business unit while Energy Production was basically a production function. However, none of these criteria were relevant for the final choice. The CEM decided to work with the Public Street Lighting business unit (also known as ACEAIP) because, at the time, it appeared that ACEA was going to invest in public street lighting much more than in energy production. Therefore it had more strategic interest. This criterion was not originally on the list, so it was added to the final checklist in **Table 4.8 (Criterion 9)**.

#### **4.3.2 The business unit recruitment process in ALPHA**

The process followed in ALPHA is described in **Table 4.6**. The first meeting in ALPHA took place on 29 January 2002. Similarly to ACEA, this meeting was attended by the CEM and two of her team members with the aim of running through the list of criteria to short-list the possible business units. Since the corporation had over 50 business units we started by listing the business units with headquarters and production facilities in France. This brought the number down to six possible business units. We then discussed the other criteria on the checklist. However, these six options were all open when the CEM launched the remaining steps of her recruiting process.

<i>LVMH business unit recruiting process</i>	
<i>N.</i>	<i>Activity Description</i>
1	Pre-select some business units based on <b>Table 4.3</b> Checklist criteria
2	Present the project to all the Business Unit Environmental Managers
3	Shorten the list to the Business Units whose environmental managers showed interest for the project
4	Present the project to the CEO of these environmental managers, get idea of interest
5	Double check with the Business Unit environmental manager that he is willing to champion the project
6	Write a letter to formally ask the CEO for her engagement in the project
7	Get buy-in and signature of her boss, the corporate financial controller, before sending it to the Business Unit CEO

**Table 4.6** ALPHA business unit recruiting process

BETA, a prestigious Champagne house was the final choice. It was the CEM who communicated that she had found a business unit that was interested in participating in the research, but there were still two issues that had to be overcome. Firstly, the CEM did not know personally the CEO before involving her in this project. Secondly, that her explanation of the project was very brief and general, and therefore the CEO had not completely understood what it was all about. At a later stage, the CEM explained that this was the only way to get the project pushed through. In her opinion a more detailed explanation would probably have resulted in rejection to participate (ALPHA Corporate Environmental Manager, 25 June 2003).

### **4.3.3 ACEA Public Lighting (ACEAIP)**

At the time of the intervention the Public Street Lighting business unit (ACEAIP) had a 40 million euro turnover, 250 employees, 500 people to manage as contractors, 157,000 lights and, as the director liked to say, over 3 million *customers* (i.e. Rome's citizens). There were three main activities: maintenance, construction of new lighting systems and artistic illumination. The maintenance activity concerned the existing lights. The construction of new lighting systems concerned the new areas of Rome that still needed lighting. Finally, the artistic illumination activities aimed at spotlighting the city's monuments.

Environmental management in ACEAIP was an unknown topic and of peripheral interest. The director was mainly drawn to the project for five business-related reasons. Firstly, he was interested in the idea of leading indicators. He was pressured for results and a set of indicators showing that results ‘will come’ was of interest. Secondly he wanted the different organisational functions to work more together as one company. Thirdly, he would like to check whether his own organisational structure had all the right roles and responsibilities, he expected this project to indicate the existence of such gaps. Fourthly, he was interested in the team building aspect because he had taken his post only one year earlier and most of his managers were also new. Finally, he looked for a device that would help the business unit to focus efforts and to keep the focus through time.

#### **4.3.4 BETA**

BETA is, worldwide, among the most famous and prestigious Champagne brands.

Environmental work was not an unknown concept in BETA. In fact, one of the reasons that the CEM chose this company as a research partner was that this area of work was rather developed. Key environmental aspects had been identified and acted upon within the framework of an ISO 14001 certification process which had to be completed soon.

The main challenge facing BETA's Environmental Manager (EM1<sup>50</sup>) was that most of the environmental work was taking place in the part of the company more connected to wine production (i.e. vineyard management) while very little was done in the other areas (e.g. marketing, bottling, etc.). EM1 thought that the reason for the low interest in this area was that the TMG members were not directly connected to the vineyard and therefore it was harder for them to see how environmental management, or the ISO 14000 certification stated above, could possibly help them in their jobs. In retrospect this is how he explains his interest in the project:

*‘...I wanted to get the TMG to understand the meaning and positive impact of environmental activities , especially those not working directly with vineyards. Of course, we are all convinced that environmental issues are strategic, but I think something must be missing if the only people that show up to our environmental management system review are the ones directly involved in those activities. I had the idea that building a set of top management indicators for environmental issues could be of use in this respect. Without top management interest, the environmental management system will never progress because improving BETA environmental profile requires*

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<sup>50</sup> I call it **EM1** because in BETA there are two environmental manager. The second one will be called **EM2**

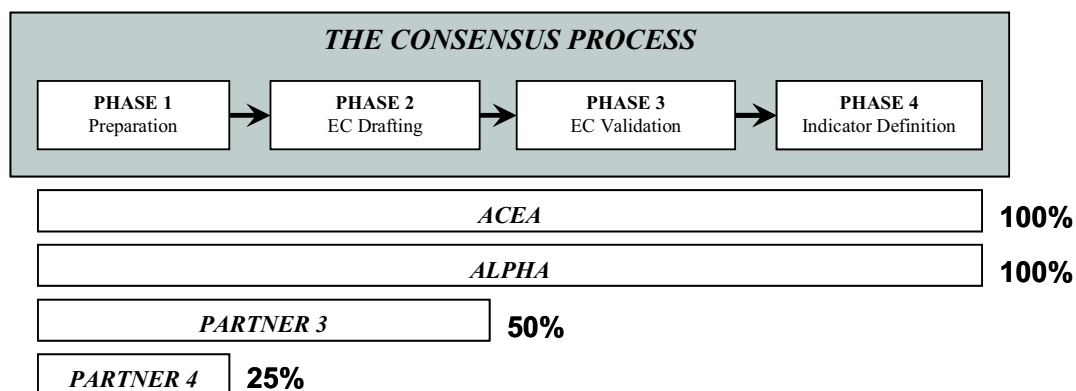
*input and effort from all functions;*' (BETA Environmental Manager, 12 April 2003, personal interview, English translation).

#### 4.3.5 Differences in motivation between ACEAIP and BETA

The reasons for joining the project for the two business units are substantially different. In ACEA IP the project champion is the director. He is interested in the strategic planning side of the project, the process, the indicators, the environmental portion being a nice-to-have. On the contrary, in BETA the project champion is the environmental manager. He is interested in getting environmental issues on the top management agenda or, in other words, to make top management further understand the link between environment and strategy. The BETA CEO in this respect had a 'blessing' more than 'championing' role in the project. She approved that top management would take part in it but was in no way the driving force of the project.

#### 4.4 Can the recruitment process be improved?

Improving the recruitment process in this case means using the empirical evidence to make it more successful. However, discussing the success of these processes is not an easy task because this assessment will depend on how *success* is defined. *Success* can be proportional to how far the business unit has gone in implementing the process steps. As shown in **Figure 4.2** (already discussed in Section 4.1) ACEA completed the entire process and was, therefore, the most successful of the four cases. Why?



**Figure 4.2** Portions of the process completed by the four research partners



Comparing ACEA and ALPHA two differences struck me as significant. Firstly, ACEA's CEM had very quick and easy access to the business unit directors, which he knew personally. This was certainly not the case for ALPHA's CEM, which forced her to take a longer route. The consequences of this different departure point enabled ACEA's CEM to launch the project (i.e. Phase 2) four months before ALPHA's CEM. This four-month head start partly explains why in ACEA it was possible to run more process steps than in ALPHA (**Criterion 2**). As shown in **Table 4.7** the importance of this criterion is also confirmed by the experience in Partner 3 where the project champion was several management layers below the business unit directors. It took them an additional six months compared to ALPHA's CEM to find a business unit director willing to participate.

<b>Company</b>	<b>Business Unit Director Access Quality</b>	<b>Lag time to Kick-off</b>
<b>ACEA</b>	<b>High</b> - Personally knows all the directors, can simply pick up the phone and call them.	<b>2 months</b>
<b>ALPHA</b>	<b>Medium</b> - Does not know CEO's personally, needs an occasion to contact the directors, but eventually manages to talk to them directly.	<b>6 months</b>
<b>Partner 3</b>	<b>Low</b> - Does not know them personally and it is hard to have an occasion to meet them. Needs to go through several intermediaries.	<b>14 months</b>

**Table 4.7** Influence of business unit director access quality

Secondly, as described in **Section 4.3.5**, in ACEA IP the director participated in the project in order to improve his performance measurement system and process. This issue was clear, it was strategic and it turned him into a powerful project sponsor. In BETA, on the other hand, the CEO saw this as an environmental project and never really championed it. This made it more and more difficult to get management attention and meant that the scope of the project was shrinking on a regular basis (**Criterion 3**).

The empirical findings discussed in this chapter meant that the original checklist described in **Table 4.3** had to be modified . As shown in **Table 4.8** first it details and justifies the changes to the entity choice checklist. Secondly, each criterion is transformed into a question for the

environmental manager. Thirdly the criteria was listed in a logical order. This means that while using this list one should start from the top and answer the following questions only for the entities that made it through the previous question. **Table 4.9** summarises the questions and includes the entity listing questions originally contained in **Table 4.1** to form the final process rule coming out of this chapter (**Process Rule 1.1** – inserted in **Table 4.10**).

For example, looking at the column at the extreme right, the EM would start by asking the question:

**Question: Which of the entities in my company are most underestimating the value-added potential of environmental work?**

The word *entities* refers to the options stemming from the questions in **Table 4.2** and can be corporate, business unit, functional or thematic. The answer to this question will highlight a sub-set of the original list. This sub-set of entities is then filtered through the next question:

**Question: Which entity directors can easily accessible?**

This question defines a sub-sub set of the original list. Going through the other questions with this same logic should help the EM to make a plan and prioritise which entities s/he will try and contact first and with which argumentation.

The checklist is now a set of questions for EMs. The specific process the EM will decide to pursue will depend on his/her needs in that specific moment in time. If the need is to get something started quickly s/he may prefer to pursue a smaller pilot project, for example with a business function. On the contrary, if s/he needs a case that is credible in front of the entire organisation s/he may decide to devote effort to contact and convince a business unit director. Also, as the cases have shown, the way s/he will decide to pursue his/her objectives will depend on personal and company specific issues such as the position and role covered in the company, the culture of the company and so on.

<b>Explanation of Changes in Criteria for Entity Choice</b>			
<i>Criteria BEFORE project</i>	<i>N.</i>	<i>Criteria AFTER Project</i>	<i>Rationale for change</i>
<i>Key Criteria</i>	1	<b>Environmental Management Relevance</b>	The fact that environmental issues exist is not important if they are not deemed relevant. This is why these two criteria can be summarized by one.
		<b>Entity Director Access Quality</b>	This criterion is new and it stems from the empirical findings. The easier it is to access the director the higher the chances to get the project started quickly.
	3	<b>Entity Director Interest</b>	This criterion is new and it stems from the empirical findings. The better I know the type of problem that this project can solve for the entity director the more I am sure I will be able to actually do this project with him/her.
		<b>Competitive Market</b>	Is the entity in a competitive market?
	5	<b>Logistical Ease</b>	Is it logistically easy to gather the managers involved?
		<b>Time Availability</b>	Will the managers have the time to devote to this project?
	7	<b>Not too small</b>	The issue of being too small is an issue of internal credibility. Today I do not believe that having many employees makes this project more difficult because the management team will always be not more than 12-15 people.
		<b>Too large</b>	Is the BU sufficiently large for the other BU to think that tools they use are applicable to them as well?
	8	<b>Innovative Curricula</b>	Is the BU sufficiently large for the other BU to think that tools they use are applicable to them as well?
<b>Strategic Relevance</b>		Does the BU carry out activities that are of strategic relevance to the firm?	
<i>Discarded Criteria</i>	No shared services		I do no longer believe that shared services should not be involved. It is only an issue of understanding where this type of project can yield the highest value for the firm and for the environment. This issue is covered by the first 3 criteria of this list.
			I do not longer think that having an indicator system up and running is an interesting prerequisite to this project. As Chapters 5-6-7 will show already the discussion of the objectives alone can yield very interesting and useful results.
	Possibility to communicate the business unit strategy		This really turned out to be a non-issue. There is always a way to communicate on results without showing content. Only, I did not know this would be the case when I started this project.

**Table 4.8** Explanation of changes in criteria for entity choice

## *Criteria for ENTITY Choice - FINAL*

<i>N.</i>	<i>Criterion Name</i>	<i>Question for environmental manager</i>
1	<b>Business Unit Listing</b>	Which are the business Units in my company?
2	<b>Functions Listing</b>	Which are the Functions in my company?
3	<b>Thematic Groups Listing</b>	Which are the thematic groups in my company?
4	<b>Environmental Management Relevance</b>	Which of these entities today is most underestimating the value-creation of environmental work?
5	<b>Entity Director Access Quality</b>	Which entities Directors can I easily reach?
6	<b>Entity Director Interest</b>	What would be the interest of these Directors for this project?
7	<b>Competitive Market</b>	Is the entity in a competitive market?
8	<b>Logistical Ease</b>	Is it logistically easy to gather the managers involved?
9	<b>Time Availability</b>	Will the managers have the time to devote to this project?
10	<b>Appropriate Size</b>	Is the BU sufficiently large for the other BU to think that tools they use are applicable to them as well?
11	<b>Innovative Curricula</b>	Is the BU sufficiently large for the other BU to think that tools they use are applicable to them as well?
12	<b>Strategic Relevance</b>	Does the BU carry out activities that are of strategic relevance to the firm?
<b>Entity Listing</b>		
<b>Key Criteria</b>		
<b>Additional Criteria</b>		

**Table 4.9** Criteria for entity choice - FINAL

## 4.5 Conclusions and contributions

The aim of this chapter was to describe and comment on how research partners and business units were chosen and to detail what attracted them to the research project. Although four research partners were originally selected, only two of them reached the final stages of the study: ACEA and ALPHA. While these two companies are very different from one another the interest of the project for both of them was perfectly aligned with the research problem covered by this study. In short, the CEMs wanted a tool that could assist them in bringing environmental issues closer in line with the business strategy.

Both ACEA and ALPHA managed to find a business unit willing to participate. In order to assist the decision a checklist of issues was drawn up and considered (**Table 4.3**). In the end, in ACEA it was the Public Street Lighting division (ACEAIP) that was chosen. While in ALPHA the Champagne house BETA was selected. The motivation of these two business units to join the project significantly differed. For ACEAIP, where the project champion was the business unit director, the interest was mainly to improve their strategic decision making process and supporting indicators. For BETA, where the project champion was the EM, it was to bring environmental issues more closely in line with the business strategy.

Using the empirical findings, the original checklist was modified and a final checklist of questions that can assist EMs in choosing where to start and how to proceed was drawn up (**Table 4.9**). As shown in **Table 4.10** this checklist represents the main process rule (**Process Rule 1.1**) for this case not because it prescribes what the manager should do, but because it provides him with the elements to decide on the most desirable course of action.

PHASE 1		
Code	Questions for Environmental Managers	Process Rule
1-1	Who should I pitch with this project?	<i>Use Checklist in Table 4.10</i>
No Fill = Supported only by common sense; Greyed = Supported also by relevant literature; Black = Supported also by the empirical evidence		

**Table 4.10** Process Rule – PHASE 1

### **4.5.1 Contribution to the literature**

The contribution to the literature is limited to the formalisation of the criteria for entity choice specified in **Table 4.9**. These are by no means exhaustive nor conclusive since there is no discussion on whether or not they proved to be useful and effective. Today their status is no more than a first draft, totally open to empirical investigation and revision.

### **4.5.2 Limitations and future research**

The process rule proposed in **Table 4.10** is only a first tentative draft based on the experience in three case companies. This means that it should be applied with caution knowing that some criteria might be missing and/or ill-defined.

There seems to be at least three areas of interest for future research. The first one relates to enriching and improving the checklist at hand. Certainly using it in a number of different settings and companies will help in doing so. The second relates to including guiding principles for the use of this list. In other words, once the questions on this list have been answered, what are principles that should guide the EM to decide what to do?

The third and final area of interest relates to the fact that this process step is, in fact, a sales exercise. In other words, the EM is trying to sell this project to an entity director. By all means literature helping the EM to understand his/her clients' needs and correctly present the argument would be a very useful addition. This brings the attention to the literature on sales and negotiation techniques.

### **4.5.3 Contribution to practice**

The contribution to practice in an action research project is so close to the research outcomes that it may be difficult to make a distinction. What are the process rules if not suggestions to practitioners on how to carry out this process? Of course, depending on the situation at hand managers may decide to carry out the process differently, but the existence of suggested process rules with their related justification may help in making the right choices. In this

respect **Table 4.10** is expected to be of use to managers trying to kick-off similar processes in their companies.

For example the issue of *Entity Director Access* is of interest to EMs because it forces them to reflect on the strength of their personal relationships and on how this may influence their business unit recruiting process. How they answer this question will determine how they will proceed. If they think their relationships are strong, they may decide to contact the business units directors at once. On the other hand, if their relationship with business unit directors are weak, they could either find their way through to them by using intermediaries or they could pitch this same exercise to the managers they know personally.

#### **TO DATE and FORWARD**

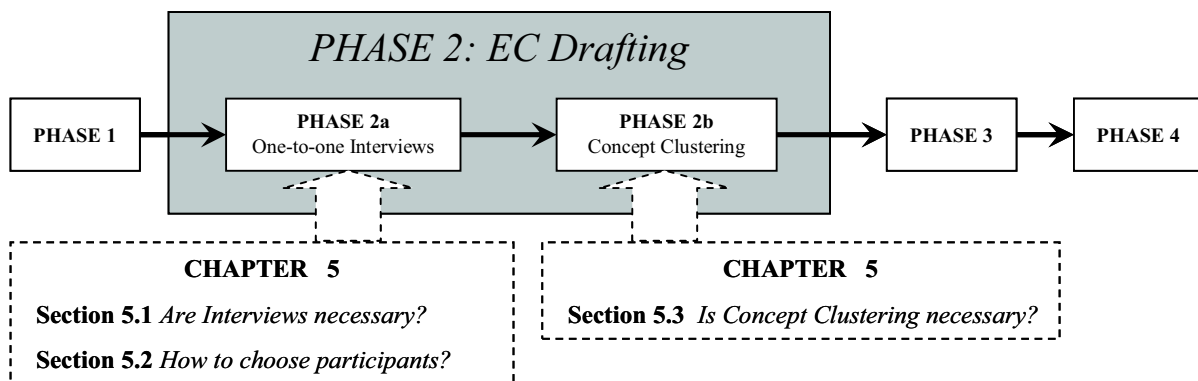
This chapter had the aim to introduce the research partners, describe the process of business unit choice, the activities of the business units ultimately chosen and propose a process rule guiding environmental managers in this phase. The next chapter will describe the first step of building the environmental chains: interviewing and clustering. The interviews are performed to gather data to build environmental chains. Clustering is performed to facilitate the discussion and validation of the chains taking place later.

## 5 Environmental Chains Drafting (PHASE 2)

### The Research Problem – Final Version

*What **consensus process**<sup>51</sup> can increase the environmental manager and TMG consensus level and quality over the environmental chains?*

This chapter, as shown in **Figure 5.1**, describes the first two steps of the content building process: *Interviewing* and *Concept Clustering*. *Interviewing* aims at eliciting from managers their ideas about business issues, environmental issues and the links between the two. *Concept Clustering* tries to organise their ideas under common headings, called *the BSC Objectives*. For both steps there is an explanation of why they are useful; a description of the process rules; as well as the results achieved.



**Figure 5.5** Phase 2: Environmental Chains (EC) Drafting - Sections in Chapter 5

In order to discuss and evaluate the increase in Content Quality, I will comment on the shift of two Content Quality Properties: *completeness* and *ease of understanding*. *Completeness* refers to the extent to which data is of sufficient breadth, depth, and scope for the task at hand. *Ease of understanding* refers to the extent to which data is clear without ambiguity and can be easily understood.

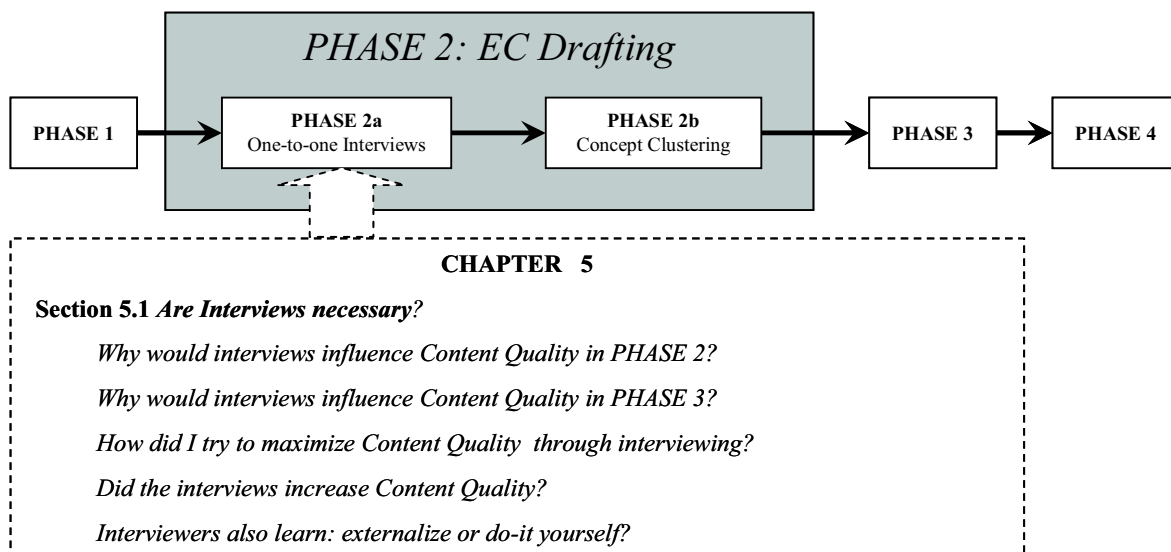
<sup>51</sup> The words in **bold** are the ones that are analyzed in this Chapter.



**Section 5.1** focuses on the interview phase and discusses why are they necessary, how they were carried out and what were their effects on Consensus Level and Quality. **Section 5.2** discusses the issue of who to involve in the interviews. Finally, **Section 5.3** asks the same questions for the Concept Clustering phase. Discussions on whether an environmental manager should participate in the interviews are carried out in **Chapter 6**.

As for the Consensus Process Rules, these are not treated with the same level of detail for each of them. Sometimes a criterion used is only described. other times there is also a link to the relevant literature; and in some instances this is also supported by the relevant empirical evidence. The guiding principle for these choices was one of relevance for the research problem. The more the issue seemed relevant for increasing the quality of Environmental Chains the more time (and space) was dedicated to it.

### 5.1 Are interviews necessary?



**Figure 5.6** Issues covered in Section 5.1

Kaplan and Norton suggest individual interviews are the best method to explain the BSC concept; to gather the raw material to develop its contents; and to identify potential conflict among participants (**Process Rule 2.1**). By *conflict-among-participants* the authors mean: differing views of strategy, personal conflicts due to character and/or to the role in the organisation (Kaplan and Norton 1996a, p.303). Although this suggestion is perfectly

reasonable, in practice interviews are *time consuming* and, if outsourced, also *costly*. So, are they really necessary?

While one could argue that for a strategic exercise such as developing a Balanced Scorecard this might not be a real problem it might very well be for an environmental manager trying to organise an exercise dedicated to linking environment with strategy. As the following quotes seem to imply, *TMG time* is the greatest concern and it is something these environmental managers treat as a very scarce resource. For them it may be tempting to skip the interviewing step if they are not convinced that it is entirely necessary.

*'We should go straight into the interviews. If we gather them to explain the project we would be wasting their time, besides some of them might not like it. Let's just do the interviews and explain later.'* (BETA environmental manager, personal interview, 20 May 2002).

*'The few times that I had the opportunity of presenting our environmental work to the TMG members it was one way communication, it was me informing them. The workshop was the first time that people worked, thought and exchanged ideas on environmental topics, and all that in an entire afternoon. This is, in itself, already a great achievement.'* (BETA environmental manager, personal interview, 10 April 2003).

*'I was surprised that all the TMG members showed up at the workshop, I was seriously concerned that we would be organising the workshop and that people would actually not turn up, and even if they did, they would leave half way through it.'* (Corporate EM team member, personal interview, 12 April 2003).

In terms of my research problem interviews are desirable if they prove to increase Consensus Level and Quality of Environmental Chains. Consensus Level can be ignored because it only shifts through interaction among managers and, in this phase, there is no interaction. For the same reason *Interaction Quality*<sup>52</sup> cannot possibly change, while *Group Quality*<sup>53</sup> will be of interest only once there has been a decision to carry out interviews. This section is only concerned with *Content Quality*, that is, the quality of the information made available<sup>54</sup>.

## **Why would interviews influence *Content Quality* in PHASE2?**

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<sup>52</sup> *Interaction Quality* has been defined as: the ability of the group members to exchange views on the information at hand.

<sup>53</sup> *Group Quality* has been defined as: the extent by which the managers involved have the necessary knowledge to cover all the relevant aspects of the business.

<sup>54</sup> See **Section 5.1.4** for the discussion of the relevant Content Quality Properties

The idea that *Content Quality* may improve by carrying out interviews is explained in the literature on individual cognition problems which served as the basis for the introduction in Chapter 1. The individual cognition problems shown in **Table 5.1**, reduce Content Quality because they reduce the amount and the quality of information provided by the managers. Interviews will increase Content Quality if they can counteract some of these individual cognition problems. An example relating to the *gap-filling* (N.4) mechanism is enough to make the point.

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 5.1** Individual cognition problems (adapted from Kiesler and Sproull 1982, p. 560 – discussed in Section 1.3)

Let us say that one of my *Schema*<sup>55</sup> identifies the type of people I like to work with. Let us call this schema ‘nice to work with’. Let us also suppose that the schema’s criteria are:

- i the person smiles;
- ii the person gives a solid hand-shake;
- iii the person is capable of giving clear explanations; and
- iv the person delivers on its promises.

<sup>55</sup> A *Schema* represents the way knowledge about prior behaviour patterns 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)

Upon meeting someone our brains assess this person through our numerous schemas, including the one ‘nice to work with’. Accidentally this person fulfils two of the four criteria, that is, he smiles, and he gives a good hand shake. Subconsciously our brains make an instant connection between the person and the schema. This means that the person is now ‘nice to work with’ even though the only evidence to support this is that he smiles and has a solid hand-shake. How can interviews break this unhealthy mechanism?

The trick is that all of this type of mistakes, that is, the ones due to individual cognition problems, happen at subconscious level. People are not aware of them happening. The interviews are, in this respect, not only the instrument to avoid that these problems hurt the quality of the analysis of individuals but also the only way to know where and exactly how these problems exist. It is then of paramount importance to do the interviews. Skipping this process step and delving directly in a group plenary session would certainly result into decisions that are more ill-informed and ill-analysed.

### **Why would interviews influence *Content Quality* in PHASE 3?**

Interviews are not only likely to influence the Content Quality in this phase, but also of the following phase, where group discussion starts. When Kaplan and Norton refer to interviews as means to ‘*explore conflict among participants*’ they seem to imply that such exploration cannot be done as efficiently in other ways Kaplan and Norton (2001, p.303).

In order to reflect on this specific point I have taken the **Table 1.3** discussed in **Section 1.3.1** and have added a column where I discuss the potential influence of using anonymous quotes on each one of the group-type mistakes. The opinions expressed in the right column of **Table 5.2** are personal and, at this stage, not supported by literature. Nevertheless, after going through this reflection process, it seems that displaying the opinions through the use of anonymous quotes may indeed have the potential to counteract many of the mechanisms that reduce the quality of group decision making.

I have focused so far on the quality of the issues *raised*. However, in a communication process messages also need to be *heard*. The quality of reception is also a potential source of reduction in Content Quality (e.g. biased interpretation). The preparation and use of anonymous quotes seems to have the potential to increase quality of reception because it

focuses the receiver attention towards the *content* without being ‘distracted’ by their personal opinions about the sender (e.g. I don’t like him = I don’t listen).

A word of caution! While the reflections of this section suggest that interviews are *necessary*, they also suggest they are not *sufficient*. Clearly there are a set of problems that one-to-one interviews can do nothing about. For example, opinions raised in one-to-one interviews can only have a positive impact if the owner of such opinions is prepared to explain them and defend them in the plenary session. As highlighted in **Chapter 6**, the fact that a person raising a doubt will also defend it in the presence of his colleagues is not something to be taken for granted.

<b>Influence of interviews on Group-type Mistakes</b>		
<b>Label</b>	<b>Phenomenon</b>	<b>Interviews give the opportunity to...</b>
<b>Message Tuning</b>	Overestimate the commonality of information shared and tune communication accordingly	...show the divergence in information through quotes.
<b>Message Distortion</b>	Modify the message based on perceived desires of the receiver	...discuss topics that have been ‘translated’ by the facilitator.
<b>Biased Interpretation</b>	Bend a message towards one’s own pre-conceptions or ideas	...expose manager’s quotes, it is more difficult to ‘bend’ messages
<b>Transparency Illusion</b>	Belief that one’s own thoughts and attitudes are more obvious to others than is actually the case	...through the quotes the concepts that are unclear to the group are easily identifiable
<b>Indirect Speech Acts</b>	Concealing a request behind indirect statements	...all is treated in explicit form because of quotes and facilitator ‘translation’ of them.
<b>Uneven Communication</b>	Relatively few people (not necessarily the most informed) tend to do the majority of the talking	NO INFLUENCE
<b>Common Info Effect</b>	People tend to discuss what everyone already knows	...discuss topics that are delicate, the existence of a quote is evidence that needs to be disproved.
<b>Need to be Right</b>	The tendency of looking at the group to define what reality is	NO INFLUENCE
<b>Need to be Liked</b>	The tendency for people to agree with a group so that they can feel more like a part of that group	NO INFLUENCE
<b>Group Think</b>	Deterioration of mental efficiency/judgement due to subconscious pressure to conform to perceived group opinion	...do critical analysis of an idea with the manager, the same analysis that would be impeded by group think.
<b>Escalation of Commitment</b>	Persisting in a losing course of action only because of the to-date involvement in that action	NO INFLUENCE
<b>Abilene Paradox</b>	Agreement of all group members to an individually undesirable course of action solely due to misperception of each others’ preferences	...show through quotes what the opinion of the others is. Problem totally solved.
<b>Group Polarisation</b>	The tendency for group discussion to produce a more extreme judgement than might be obtained by pooling the individuals’ views separately	NO INFLUENCE

**Table 5.2** Influence of interviews and anonymous quotes in PHASE 3 (adapted from Thompson (2004) pp. 96-110 and pp. 126-156 – first two columns starting from the left already discussed in Section 1.3.1)

While it appears true that interviews have the potential to influence Content Quality in a way that group discussion cannot, it also seems true that this will depend on the way interviews are carried out and their contents displayed. This is why the following section delves into the presentation and discusses the techniques used.

### What *Content Quality Properties* will be discussed?

*Content Quality* has been defined in **Section 1.4.2** as potentially having fifteen different properties. These properties are *potential* because, if the principle guiding Content Quality assessments is (as today is broadly agreed to be) fitness-to-use, not all these properties need to be maximised in all cases. As shown in **Table 5.3**, for this step I will discuss the shift in *completeness* and *ease of understanding*. *Completeness* is important because it points to the fact that interviews constitute the preparation step for discussion, where the richness of topics proposed will have an influence. *Ease of understanding* is important because interviews are the only chance for individuals to assess (for themselves) how clear their own opinions actually are. The idea here is that if individuals understand their own opinions they will be better equipped for a meaningful discussion with the others.

<i>Potentially Shifting Properties during Interviewing</i>				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific issue Investigated</i>
Consensus Quality	Content Quality	Completeness	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Maximizing the number of ideas proposed by the managers
		Ease of Understanding	the extent to which data are clear without ambiguity and easily comprehended.	Making sure managers explain clearly each idea they propose

**Table 5.3** Potentially shifting properties during interviewing

*Completeness* has been defined as the extent to which data is of sufficient breadth, depth, and scope for the task at hand. In this context completeness is treated as synonym of *quantity* of information raised, quantity, that is, in the sense of amount, volume of information. The more issues managers raise, the higher the completeness. While I am aware that this is not the only aspect of completeness it definitely seems to be part of it. Can anybody argue that in taking

decisions it is better to have a smaller number of proposals or opinions to discuss? The caveat here would be how much of these can be reasonably managed in a given time, but not that having more is, in itself, undesirable.

*Ease of understanding* has been defined as the extent to which data is clear without ambiguity and can be easily understood. Ambiguity can be reduced through interviewing due to an exchange of information between the interviewer and the interviewee on the concepts at hand. The explicit objective of the interviews is then to make sure all the ideas raised by the managers are well clarified.

### **How to maximise *Content Quality* by interviewing?**

The extent to which interviews will influence *content completeness* and *ease of understanding* seems to depend on at least four issues:

- i the interview guideline completeness;
- ii the level of interviewee disclosure; and
- iii the capability of the interviewer to understand the concepts expressed.

As for the interview guideline I have spent the entire **Chapter 3** working on its completeness. The sequencing of the interview guideline questions shown in **Table 5.4** follows, perspective by perspective, the same rationale. First I start with an open question. Then I propose, if necessary the BSC Framework topics, to check nothing has been omitted. Finally, I ask about the relevance of environmental work for the issues exposed. The advantage of asking an open question at the start means that managers are more likely to raise their main concerns at the outset, which in turn means not only that the time is used more efficiently, but also space is left for surprises, that is, issues that I may not have thought about. (**Process Rule 2.2 – Table 5.18**).

### **Financial/Shareholder Perspective Questions**

- Q1. What do Shareholders want from your firm?
- Q2. Should you improve your performance in terms of new revenues sources, customer profitability, cost per unit and asset utilization?
- Q3. What are the financial impacts of your risks?
- Q4. How about the technological, economic, financial, performance, legal and regulatory risks?
- Q5. How does environmental work influence the chosen risk items?

### **Customer Perspective Questions**

- Q6. Who are your clients?
- Q7. What do your customers want?
- Q8. What do customers want in terms of product attributes, customer relationship, image & reputation?
- Q9. Why is your value proposition superior to competitors/substitutes?
- Q10. How do you protect yourselves from new entrants?
- Q11. How will Political, Economical, Social and Technological trends influence your business in the next 5 years?
- Q12. In what way environmental issues do/may impact on the customer-related objectives?
- Q13. Which stakeholders influence the risk-related objectives?
- Q14. What do these stakeholders want?
- Q15. Can environmental activities impact on the desires of these risk-related stakeholders?

### **Internal Process Perspective Questions**

- Q16. What do you think are the main issues the firm should do better to fulfill the previously discussed value proposition ?
- Q17. How about quality/cost/time of innovation processes?
- Q18. How about quality/cost/time of operational processes?
- Q19. How about quality/cost/time of post-sale processes?
- Q20. Can environmental activities foster any of the quality/cost/time issues you have already mentioned?
- Q21. What risk processes do you need to improve the previously chosen risk items?
- Q22. Can environmental activities contribute to reduce risk? How?
- Q23. Which external stakeholder contributions does the company performance depend on? How?
- Q24. Can environmental activities assist in improving such contributions? How?

### **Development and Growth Perspective Questions**

- Q25. What type of capabilities should your employees develop in order to improve the internal processes as desired?
- Q26. Can environmental work assist in increasing the desired employees capabilities?
- Q27. What IT systems/technologies would allow employees to better perform and learn faster?
- Q28. How can IT systems support the environmental work defined in the previous perspectives?
- Q29. What motivates your employees?
- Q30. How about involvement, recognition, access to relevant info, responsibility, support, positive perception of corporate image, belonging to a team?
- Q31. Can environmental activities contribute to improve the image employees have of the company?
- Q32. How do you empower your employees?
- Q33. How do you make sure their actions are aligned with overall strategy?
- Q34. How do you make sure they are aware of the company strategy?
- Q35. Can environmental activities assist in empowerment, alignment and awareness?

**Table 5.4** Interview guidelines



Bringing in an outsider to carry out internal interviews plays an important role in both positive and negative ways. On the positive side, it encourages managers to disclose information they may not otherwise do because they do not need to worry whether they should disclose a piece of information or not. They also do not have to worry that their boss will know their opinions, as the interviews are strictly confidential. On the negative side, it can also potentially hamper the disclosure of information because being transparent requires a certain degree of trust. For the interviewee, an outsider is also unknown to them and therefore they may be wary. They may wonder what the outside interviewer will do with the information they provide. In order to reduce this specific concern it was useful to have a brief introduction to each interview, which covered five general points (See **Table 5.5**) (**Process Rule 2.3 – Table 5.18**).

N.	Issues covered in the interview introduction
1	The exercise is to be of use to you.
2	The quality of the outcome will depend on the quality of information you will provide.
3	All interview contents will remain strictly confidential.
4	To excuse the interviewer if some of the questions may seem obvious, but it is part of the method.
5	Explain how the interview contents will be used in preparation of the next process step.

**Table 5.5** Issues covered in the interview introduction

Once the interview had been carried out and the information collected to the next challenge was in deciding how to disclose it while respecting individual confidentiality. There could be very good reasons why a manager may prefer not to bring a certain problem to the table. Kaplan and Norton suggest that a manager's opinions should be displayed in the next phase as anonymous quotes (Kaplan and Norton, 1996a, p.303). Besides guaranteeing confidentiality this technique seems useful to counteract some inefficiencies arising from group discussions<sup>56</sup> (**Process Rule 2.4 – Table 5.18**).

Finally, in order to ensure the manager's ideas were fully captured an additional person was present during the interview and a technique called *drill-down was used*. Kaplan and Norton suggest interviews to be carried out by two or even three people. The reason being is that they have distinct roles. One should lead the interview and ask the questions while the other(s) concentrate on noting down specific concepts and quotes (Kaplan and Norton, 1996a, p.303). For the purposes of this research there were two additional reasons for wanting a second

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<sup>56</sup> See **Section 5.1.3**

person in the interviews. Firstly, the project was sponsored by the corporate offices, and there involving someone from their team in the work would make it easier to book business unit management time and to later report on the results. Also, and even more important, it would give me a chance to observe their own reactions to the process (**Process Rule 2.5**).

N.	Drill-down Technique
1	Once a concept has been unearthed questioning continues until concept is entirely clear.
2	To prompt clarifications use paraphrasing (i.e. re-expressing the same idea with different words) or ask for examples.
3	Once a concept is clarified ask for its causes and its effects.

**Table 5.6** Drill-down Technique

The *Drill-down Technique* was not planned for at the outset of the project. However, when used, it contributed to an increase in Content Quality. The *drill-down* relates to the process of concept clarification and cause-effect linking taking place due to the exchange between the interviewer and the interviewee. In **Table 5.6** the approach elements are summarised and comprise three concepts :

- (i) Continue to question the manager on a concept until it is entirely clear. Once a concept is clarified always ask about causes and effects.
- (ii) To clarify concepts one may use paraphrasing<sup>57</sup> or ask for real life examples. As shown in the example this forces the interviewee to clarify what he has in mind and *may* generate modifications of different extents in the original idea.
- (iii) Ask for causes and effects of the concept to have further proof and explanation of what it is about and what it depends on.

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<sup>57</sup> *Paraphrasing*: Re-explaining back to the interviewee the issue he raised in our own words.

The example below relates to an interview with one of the managers from ACEAIP the public lighting service business unit of ACEA, the main multi-utility service company of the city of Rome (Italy). One of the main customer groups of ACEAIP are the citizens of the city, they are the ones that ‘use’ the city and its public lighting. We had already agreed, through the discussion, that the citizens are an important customer group. The question that kicks-off the conversation below aims to elicit in further detail what the manager believes are the key factors that lead their citizens to be satisfied with their public lighting service provider.

### Example of Drill-down Techniques

- MYSELF      So...how would you describe a happy citizen?
- MANAGER    Well...first of all it is a client that when he calls us is well-received.
- MYSELF      You mean...received with courtesy?
- EM            Yes...courtesy...a satisfied citizen is one that realises that the person on the other end is prepared...that his need is immediately transformed in something like ‘I understood what you are telling me and this is what you want from us’.
- MYSELF      In other words you also mean: *show understanding of the problem*.
- MANAGER    Yes, to show that one has understood and also to be able to provide a deadline by which the problem will be solved...this is what I mean by *well-received*...Of course, maximum satisfaction comes when the citizen sees that the promise has been kept and the light has been fixed by the deadline.

(ACEAIP, marketing director, personal interview, 14 June 2002)

In this example the discussion starts from the concept of *well-received*, where a citizen calls the ACEAIP call centre to report a problem (streets lights not working for example) and is dealt with swiftly and professionally. The drill-down concept allows for a certain amount of freedom for discussion that could not occur if the interviewer concentrated on a list of questions that was fixed at the outset. Although at the beginning *well-received* seems to relate only to courtesy after drilling down it seems to denote perceived professionalism; ability to understand the problem, ability to propose a deadline for repairs and (ultimately) the organisation's ability to stick to the proposed deadline (**Process Rule 2.6 – Table 5.18**).

## Did the interviews increase *Content Quality*?

As shown in **Table 5.9** this technique allows for an increase in *completeness* and *ease of understanding*. By prompting the interviewee, the interviewer drills down the concept of customer satisfaction until it becomes clearer (i.e. *well-received* is not the same as *received with courtesy*) and has been expanded to contain a longer list of properties (i.e. starts with one, ends with four). In order to show that this is not an isolated case several examples from both companies have been included in **Tables 5.7-5.8** .

## Examples of increased Completeness and Ease of Understanding (1)

ACEA IP	Added issues because of prompting...
<p><b>F. How does the relationship with the citizen work?</b></p> <p><b>M.</b> Before we only had a toll-free number and an answering machine. Today the situation has improved. We have operators responding to the citizen's calls, and they have been trained to do so, this is why more and more people call us...true enough that we are not ready yet to call the client back and tell them when we will solve the problem, but we'll get there.</p> <p><b>F. So, this is a good sign, right?</b></p> <p><b>M.</b> Of course, in my experience if something went wrong you cannot possibly forgive the fact that one cannot communicate the problem to somebody and most of all that one has no evidence of the work done to solve it. (ACEAIP, Financial Controller, 10<sup>th</sup> June 2002 )</p>	<p>✓ The citizen wants immediate response...</p> <p>✓ ...be treated with courtesy</p> <p>✓ ...be told when the problem will be solved</p> <p>✓ ...be informed about progress and delays</p>
<p><b>F. How would you describe a satisfied citizen?</b></p> <p><b>M.</b> Well...first of all it is a client that when he calls us is well-received</p> <p><b>F. You mean received with courtesy?</b></p> <p><b>M.</b> Yes...courtesy...a satisfied citizen is one that realizes that the person at the other end is prepared...that his need is immediately transformed in something like 'I understood what you are telling me and this is what you want from us'</p> <p><b>F. In other words you also mean: show understanding of the problem?</b></p> <p><b>M.</b> Yes, to show that one has understood and also to be able to provide a time delay by which the problem will be solved...this means to be well-received...of course the maximum of satisfaction will be when the citizen sees that I have maintained the promise and the light is now working on the date that I promised. (ACEAIP, Marketing Director, 14<sup>th</sup> June 2002).</p>	<p>✓ The citizen wants to be well-received...</p> <p>✓ ...that is, received with courtesy</p> <p>✓ ...and by somebody that can give a proper answer</p> <p>✓ ...somebody that can provide a time delay</p> <p>✓ ...sees that we respect the time delay</p>
<p><b>F. What does the citizen want from you?</b></p> <p><b>M.</b> The citizen essentially wants from us a response, they want to know when the problem will be solved, there is no doubt about this, whoever the citizen is, from the granny to whoever, the question is: 'when are you solving the problem?' ...</p> <p><b>F. How do you know the client is satisfied?</b></p> <p><b>M.</b> Normally we know how much time it took us to solve the problem and if we fulfil the timing we expected. ...</p> <p><b>F. Well, ok, but this is an internal focus, do you seek a feed back from the citizen?</b></p> <p><b>M.</b> You are right, we are internally focused, we are now organizing ourselves to provide the citizens with information is the repair time goes beyond the 'time limit'. We are promising to the client we will let him know if there will be a delay. (ACEAIP, Costumer Relationship Manager, 14<sup>th</sup> June 2002)</p>	<p>✓ The citizen wants to know when the problem will be solved...</p> <p>✓ ...and that the timing declared is respected</p> <p>✓ ...and be informed if solution of problem is delayed</p>

**Table 5.7** ACEA IP drill downs showing increase in completeness and ease of understanding

## Examples of increased Completeness and Ease of Understanding (2)

BETA	Added issues because of prompting...
<p><b>F. For hypermarkets, what differentiates you from your competitors?</b></p> <p><b>M.</b> With those people it is important the strength of the brand and a successful product...</p> <p><b>F. What do you mean?</b></p> <p><b>M.</b> By successful product I mean a product that has a good marketing program to support it...</p> <p><b>F. Sorry if I insist, you said brand and support, what do you mean exactly? Why are hypermarkets interested in these features?</b></p> <p><b>M.</b> They worry about profit, their concern is space, they have limited space and they want to pull as much profit as possible from it. They prefer strong brands because they sell well...they have a low shelf life...(BETA, Marketing Manager, 2<sup>nd</sup> September 2002)</p> <p><b>F. Do you know what type of clients does BETA have?</b></p> <p><b>M.</b> Our clients are very diversified</p> <p><b>F. How so?</b></p> <p><b>M.</b> Well, very international, they can be very different in culture and come from different countries. In my narrow experience of wine communication I noticed that the high end segment of our clients is very attentive to the product, much more that what I would've imagined.</p> <p><b>F. The product? You mean the champagne?</b></p> <p><b>M.</b> Yes, but also in a more general sense to the way it is presented, the marketing aspect.</p> <p><b>F. So, you mean, the champagne and the presentation, the whole?</b></p> <p><b>M.</b> Yes, the image is very very important for them, and it becomes more important as the price goes. The more they pay the more they are buying 'excellence' in the wider sense, everything has to be perfect. (BETA, Environmental Manager, 20<sup>th</sup> September 2002)</p> <p><b>F. Let's talk about the on-trade customers, the ones where the consumers both buys and consumes the champagne...</b></p> <p><b>M.</b> With them we are in the world where the perception of the wine is important. The quality is important, but the price too. They always want very low prices. It is also very important what is 'around' the bottle, all the marketing objects that make the bottle 'visible' in the restaurant. We are good at that.</p> <p><b>F. How about client relationship? Is it important?</b></p> <p><b>M.</b> Yes it is. The on-trade is a prescriber, so we often invest on those people. We are ready to reduce our prices to be top of the list in the trendy places...</p> <p><b>F. How do you retain the prescriber?</b></p> <p><b>M.</b> With the personal relationship, because he likes us, he knows our wines well, he receives gifts, he comes and spends a day with us here. (BETA, Financial Director, 4<sup>th</sup> September 2002).</p>	<p>✓ Hypermarkets care about the strength of the brand and a successful product</p> <p>✓ ...it means good marketing support</p> <p>✓ ...it means the product has to have a low shelf life</p> <p>✓ ...our clients are diversified</p> <p>✓ ...our clients are attentive to the product</p> <p>✓ ...not only the wine but the presentation</p> <p>✓ ...the more the clients pay the more they notice every detail</p> <p>✓ ...quality and price are important, but also the visibility of the bottle in the shop</p> <p>✓ ...the presence in the trendy places is important</p> <p>✓ ...the prescriber will buy from us if he likes us</p>

**Table 5.8** BETA drill downs showing increase in completeness and ease of understanding

<b>Drill Down on the concept of CUSTOMER SATISFACTION in ACEAIP</b>			
<b>N.</b>	<b>Initial Concept</b>	<b>After First prompt</b>	<b>After Second prompt</b>
<i>1</i>	Well-received	Received with courtesy	Received with courtesy
<i>2</i>		Quickly and clearly understood	Quickly and clearly understood
<i>3</i>			Provide a deadline for repair
<i>4</i>			Repair by the promised deadline

**Table 5.9** Example of increase in content quality due to drill-down

Although this empirical evidence suggests that *completeness* and *ease of understanding* have increased there is no conclusive proof. Even if some of the ideas seemed to stem from the interviewer's additional prompting, it does not necessarily mean that for the manager they were unclear. In order to know that I should've asked the question on the single concept there and then. However, even if more in general, the managers themselves come in support of the idea that new insights were created through the interviewing. In other words the empirical evidence here described shows that while it is not certain that the Drill-down Technique increases the Content Quality, it is likely in a lot of cases that it does.

#### **Manager 1**

*'...some questions you made forced me to take some distance from my everyday preoccupations. These questions were not new but I did not necessarily take the time to think about them carefully. Some of these were very simple questions "how do you see the company in 5-10 years?", and, "how do you see environmental issues evolve in the future?"...I had no easy answer, I found myself wondering...which means that our reflections today may be too short-term...'* (BETA, environmental manager, personal interview, 18<sup>th</sup> June 2003).

#### **Manager 2**

*'...during the interview I realised that our improvement was strongly dependent on the performance of some corporate shared services. Again, I knew it, I just I did not realise how heavy the impact was and what little effort we were putting into improving the situation in that respect.'* (ACEAIP, financial controller, ACEA IP, personal interview, 22 June 2003).

#### **Manager 3**

*'...in order to explain to you my concerns I was forced to clarify them for myself as well. In practice, while trying to give you a full picture of the problem, I understood things that I had not seen before...'* (BETA, environmental manager, personal interview, 12 April 2003).

#### Manager 4

*'...while discussing the different topics to you they also became clearer, it is similar to playing with your camera trying to find the right 'focus'. Certain topics were once again brought to the foreground thanks to our conversation...'* (ACEAIP, production manager, personal interview, 21 June 2003).

#### Manager 5

*'...it is funny to realise that during the interviews I discovered the 'hot water'. For instance, when the interview stirred towards the importance of the Municipality-Districts this was something I already knew. However, this idea was reinforced by the discussion. The idea was there, but it never had the opportunity to emerge. Most of all it had never emerged in a setting that called for action and, if necessary, organisational change...'* (ACEAIP, financial controller, personal interview, 22 June 2003).

### Interviewers also learn: outsource or do-it-yourself?

Up to this point the focus has been on the managers being led through the process. It describes how, for this group of people, the situation may have improved. These are, however, not the only participants involved in the process since the facilitator is playing an active (and even discretionary) role by deciding what to ask; when to dig deeper for more information; and what to underline. While suggested guidelines for managing this task correctly feature later in the chapter, here we focus on *what the interviewer learns*.

- (i) For the purpose of this study, two corporate managers were invited to be co-interviewers. The reason for this is as follows: to have some assistance in carrying out the interview;
- (ii) to ensure that the information coming out of the interview remains close to the needs of my sponsors; and
- (iii) to allow them to learn a methodology that could then be reproduced in other business units. This means that I had not planned for the interviewer role to be in any way the locus of learning. The following quote proved me wrong.

MY QUESTION: How did you find the interviews? Did you learn anything new?

*'Oh la la...that was very very rich experience' (Why?) '...because you learn how a company works...it is a great and unusual opportunity [emphasis added] to be able to meet all the top managers and really understand their preoccupations, I learned a lot...'* (Did it help in your job?) *'Yes...for a job in the environmental field you must really try and be aware of the preoccupations of all the areas of the company because today we work with the purchasing department to build tools for suppliers, [while tomorrow] we may work with the marketing department to help them integrate environmental aspects into product design...'* (Corporate EM team member, ALPHA, personal interview, 25 June 2003).



The process of interviewing is useful. It provides with an opportunity to learn first hand the opinions of managers, as well as present the opportunity to reflect on the alignment, the complementarities and the differences among these opinions. This quote is also interesting because it underlines the *rarity* of being able to interact with high-level managers as well as the absolute *need* to do so. Launching an interview process will thus provide such opportunity.

So if interviewing is so useful why not advise the environmental manager to do it himself? The answer to this question depends first of all on the objective of the interviews. If the objective is to build a BSC then the environmental manager may not be seen as the ideal project leader by the rest of the participants in the process even if he is acting on the corporate level or a specialist in his area. .

On the other hand, if the objective is simply to provide links between environment and strategy then this hypothesis is not so far fetched because the TMG members will see this activity as being in line with the EM role in the organisation. Nevertheless, even in this second case, it seems important to proceed with caution and to double check on the pros and cons of outsourcing the interviews.

The advantage of outsourcing interviews is that there is no former history between the facilitator and the participants and, most importantly, everyone knows there *never will be*. This may facilitate the flow of information because, for example, an interviewee does not have to worry that giving his opinion could: damage him in any way; encourage him to take action on what he judges to be peripheral and unimportant; and influence in any way the future relationship with the interviewer.

In addition, there is the issue of whether or not the environmental manager will be able to follow the criteria discussed in **Section 5.1.3**. Issues such as the *ability to focus on the interviewee's opinions* may be understandably hard for a manager who is convinced of his own opinions. Finally, even if he is capable, there is an issue of professionalism. An expert facilitator is specialised in this type of activity and may, for this sole reason, do a better job in eliciting and capturing the information. **Table 5.10** details a series of reasons that would favour the outsourcing of interviews.

N.	I should use an external interviewer if...
1	My views are likely to be seen as biased due to my role in the organisation.
2	My position in the organisation is too low to be taken seriously.
3	My own views might reduce my ability to focus on interviewee's opinions.
4	It is unacceptable for me to ask questions such as: 'what satisfies our customers?'.
5	My participation is likely to reduce interviewee's openness because they may feel threatened.
6	My participation is likely to reduce interviewee's openness because we do not like each other.

**Table 5.10** Reasons to outsource interviews

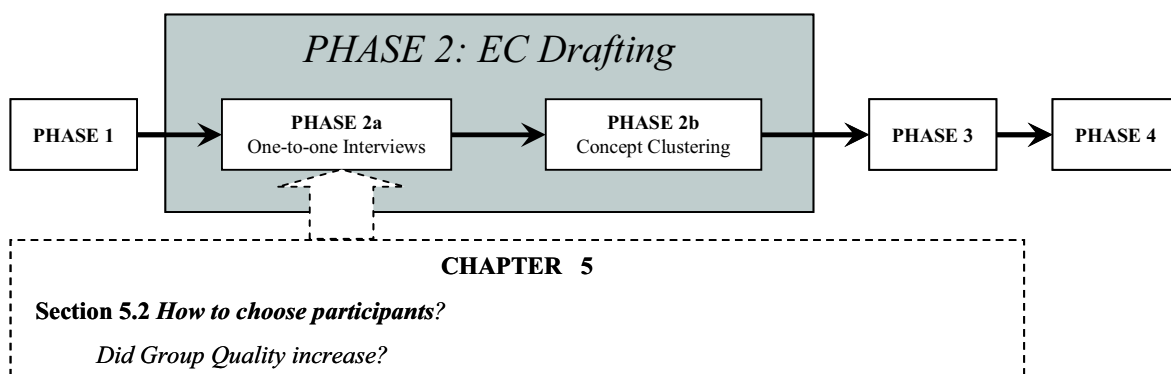
If *outsourcing the whole exercise* or the *do-it-yourself* option are at opposite ends of the spectrum and each with undesirable implications, maybe the solution lies somewhere in the middle. Ideally, it would be a process solution where the increase in knowledge and the quality of the interview are not affected. In other words one can increase without the other automatically decreasing. **Table 5.11** provides three possible solutions for choosing the interviewers.

Choosing the interviewers – three options			
Questions	S1	S2	S3
1. My views are likely to be seen as biased due to my role in the organisation.	No Prob.	No Prob.	No Prob.
2. My position in the organisation is too low to be taken seriously.	No Prob.	No Prob.	No Prob.
3. My own views might reduce my ability to be objective and focus on the managers' opinions.	No Prob.	No Prob.	No Prob.
4. It is unacceptable for me to ask questions such as: 'what satisfies our customers?'.	No Prob.	No Prob.	No Prob.
5. My participation is likely to reduce the interviewee's openness because they may feel threatened.	<b>Risky</b>	<b>Less Risky</b>	No Prob.
6. My participation is likely to reduce the interviewee's openness because we do not like each other.	<b>Risky</b>	<b>Less Risky</b>	No Prob.
7. How much will I learn from the process?	High	<b>Low</b>	High
S1 = Environmental manager and external facilitator S2 = Junior environmental manager and external facilitator S3 = External facilitator as interviewer, environmental manager as one of the interviewees (superior solution only if there is a validation step)			

**Table 5.11** Choosing the interviewers – three options

1. **Environmental manager and external interviewer.** Interviews could be carried out by both the environmental manager and an external facilitator. This solution [S1] takes care of problems 1 to 4. However, there is still a risk that the person does not completely open up because they feel threatened or there is a history between them and the environmental manager conducting the interview. If this issue exists with a small number of interviewees then the environmental manager could decide not to participate in those specific interviews and maybe send a junior member of the environmental team instead. This is only a partial solution since a junior assistant is expected to share what he has heard with the environmental manager (his boss).
2. **Junior environmental manager and external facilitator.** This solution [S2] is less risky than [S1] because sometimes it is hard to evaluate with precision the predisposition and the thoughts of a manager. On the other hand, this solution [S2] certainly reduces the first hand learning available to the environmental manager. Hence the **low** ranking for question 7 in Table 5.10.
3. **External facilitator as interviewer, environmental manager as interviewee.** The third solution [S3] is only available if the process continues to the next process step. If a validation session is carried out then the environmental manager could be, as was the case in this study, one of the interviewees. He would learn about the Environmental cause-effect chains (see Chapter 2) during the validation seminar as with the other managers. In this solution, the problems mentioned are no longer relevant since the whole interviewing process is outsourced. (**Process Rule 2.5**).

## 5.2 How to choose participants?



**Figure 5.7** Questions discussed in Section 5.2

*Group Quality* refers to the idea that there should be no waste of management knowledge and that this knowledge must be prompted to the maximum extent. In other words, a group is of *low quality* if, for the decisions to be taken, it does not possess all the knowledge potentially useful to take those decisions. In **Chapter 1** the TMG members are defined as *managers whose opinion the CEO usually calls upon when the most important decisions need to be discussed*. The TMG members must be included in the process because they are the ones who can take the decisions as to whether or not the resources are available to implement the decisions taken during the process. So who should we involve in the process and how do we choose them?

Similarly to the work done in **Chapter 2**, it seemed useful to draw up a checklist of typical roles within the organisation particularly as some of the key roles may fall outside of the remit of the business unit that was chosen for the study. For instance, in most cases business units are linked to company wide activities such as HR, marketing, production and so on and you may need the buy in of people from these departments to be able to take decisions. The fact that there is no official environmental role in the business unit does not necessarily mean that environmental activities are not important for that business unit. However, there may be the tendency to neglect or forget this issue. Also, as suggested by the research carried out by Wooldridge and Floyd (1990), one would probably want to include in the interviewee group those managers whose approval/assistance may be needed in the implementation stage. The checklist shown in **Table 5.12** includes all these criteria (**Process Rule 2.7 – Table 5.18**).

Who covers the roles allowing my organisation to deliver?	
1	Who could bring a marketing perspective?
2	Who could bring an R&D perspective?
3	Who could bring a product development perspective?
4	Who could bring a supply manager perspective?
5	Who could bring a production perspective?
6	Who could bring a distribution perspective?
7	Who could bring a sales perspective?
8	Who could bring a post-sales perspective?
9	Who could bring a public/institutional relation perspective?
10	Who could bring an IT perspective?
11	Who could bring a social and environmental perspective?
12	Who could bring a legal perspective?
13	Who could bring the financial perspective?
14	Who could bring a human resource perspective?
15	Are there additional people in the company with specialist knowledge who should be included?
16	Whose assistance would be needed to implement decisions? Should they be included?

**Table 5.12** Checklist of typical roles within an organisation

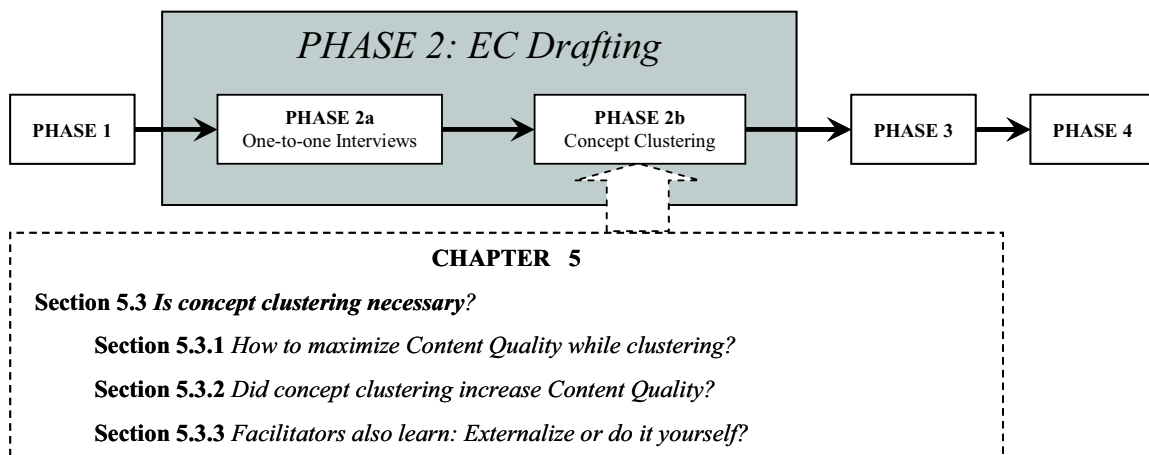
After going through this checklist for the purposes of this study there was a group of 10 interviewees in both ACEAIP and BETA. In BETA, the marketing, supply chain and environmental managers joined the TMG members. In ACEAIP, the call centre director and the corporate environmental manager were added. In both cases the environmental manager joined the group because they were the reason these companies had signed up to the project in the first place. **Chapter 1** highlights how environmental managers are frustrated because often environmental matters lack management attention or input. **Chapter 4** reveals that this is an issue for both ACEA and ALPHA. Therefore, the involvement of the environmental manager in a strategic discussion was exactly what our research partners were hoping to see. (**Process Rule 2.8 – Table 5.18**).

### Did Group Quality increase?

It seems that, at this stage *Group Quality* is a property of *Content Quality* because by capturing managers' knowledge in a discussion it should automatically improve the quality of the content made available in the discussion. *Group Quality* improved if those managers

brought into the discussion raise issues that would normally have been ignored by the others. This chapter focuses attention on the environmental manager's contributions. **Chapter 6** shows that by including the environmental manager in the interviewee group, the set of issues under discussion is further enriched because of his/her specialist knowledge. That section constitutes also the proof that such an addition to the group also *increases Group Quality*.

### 5.3 Is Concept Clustering necessary?



**Figure 5.8** Questions discussed in Section 5.3

*Concept Clustering* brings together all the ideas expressed by the interviewees and *clusters* them into concepts called *BSC Objectives*. In the example shown in **Table 5.13**, the list of *Concepts Expressed* represents an interpretation of the quotes of the four managers reported in the rest of the Table. Then, based on the interviewees' indications, the interpretations have been linked together through cause-effect links. Finally, as shown in **Figures 5.5** and **5.6** the *grey* highlights where environmental work could influence the BSC Objectives.

As shown in **Figure 5.7** in **ACEAIP** reducing a negative environmental impact has a three significant gains for the organisation. Firstly, it decreases costs by reducing the consumption of energy (or other resources), waste production, waste-related fines and so on (*EC1*). Secondly, by implementing an environmental management system (EMS) the organisation could reduce the risk of losing revenue by fulfilling the most recent public tender requirements concerning environmental management (*EC2*). Thirdly, by using the green-pricing mechanism the organisation could potentially increase revenue because of the

preferential energy prices ensured by Italian legislation for energy produced with ‘green’ technologies (*EC3*) (See **Chapter 6** for a more thorough description).

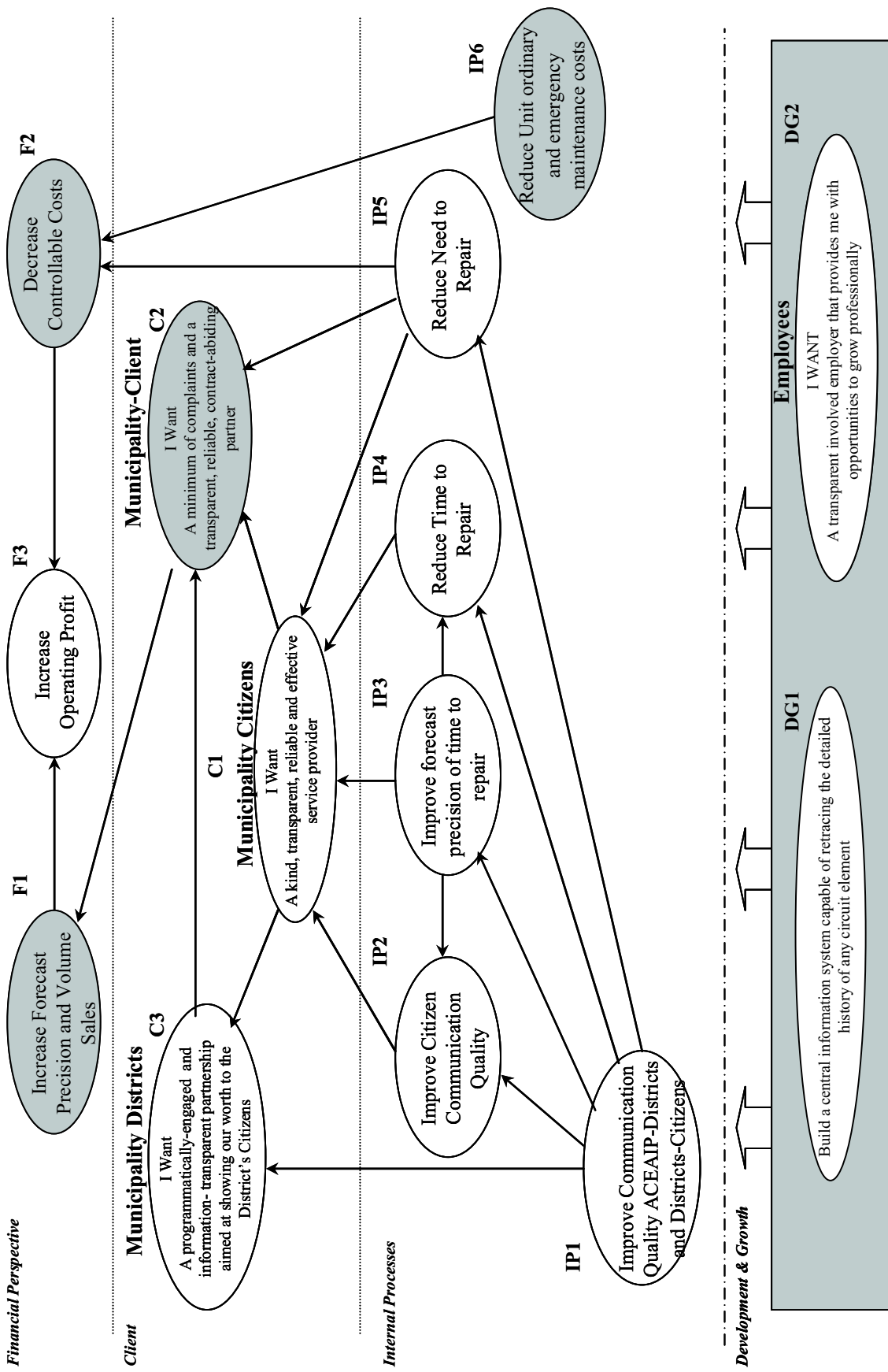
As shown in **Figure 5.8**, in BETA the impact of being proactive in environmental management can pay even greater dividends for the organisation and can be clustered in three cause-effect chains. First, by including environmental parameters in the packaging design process (i.e. eco-design) there could be significant cost reduction (*EC1*). Secondly, using sustainable practices in viticulture has a positive impact on sales while at the same time reduces risk. It impacts sales by increasing employee motivation; satisfies consumers’ interest in safety, health, and environmental issues; encourages those grape suppliers who prefer to work with environmentally friendly companies; and protects the champagne’s organoleptic properties (i.e. its taste). It can reduce risk as environmentally friendly packaging for example is more likely to be accepted by the various country-specific environmental standards as well as increasing the chances that the product is more readily accepted by the local community where BETA operates (*EC2*). Finally, using sustainable practices in viticulture can also enhance the local image of BETA, making it more desirable for suppliers to work with the company and in turn increasing loyalty among existing suppliers. All in all enhancing it can improve the chances of ensuring enough supplies to satisfy market demands (*EC3*) (See **Chapter 6** for a more thorough description).

Example of Concept Clustering – ACEAIP – Citizen Satisfaction					
N.	Concept Expressed	Manager 1	Manager 2	Manager 3	Manager 4
	<i>Be able to communicate the problem</i>	In my experience if something went wrong you cannot possibly forgive the fact that it is impossible to communicate the problem to someone.			
	<i>Received with courtesy</i>		A client needs to be <i>well-received</i> , that is, received with courtesy		
	<i>Quickly and clearly understood</i>	We have operators responding to the citizens' calls, and they have been trained to do so, this is why more and more people call us.	A satisfied client is a client that perceives the person on the other end of the phone to be prepared. Someone that is capable of transforming his need into a phrase such as: 'I understood what you are telling me and this is what you want from us'.		
	<i>Provide a deadline for repair</i>		Certainly, the citizen wants to know when the problem will be solved, in how many days, and possibly a precise date.	The citizen essentially wants a response from us. They want to know when the problem will be solved. There is no doubt about this, whoever the citizen is, from the granny to whoever, the question is: 'when will you solve the problem?'	
	<i>Repair the problem quickly</i>				The citizen wants us to be quick to solve the problem.
	<i>Repair should last the test of time</i>				The citizen wants the repair to last the test of time.
	<i>Keep the citizen informed if deadline cannot be respected</i>	Citizens want evidence of the work we do to solve the problem.			You are right, we are perhaps too internally focused, we are now organizing ourselves to provide the citizens with information is the repair time goes beyond the 'time limit'. We are promising to the client we will let him know if there will be a delay.
	<i>Repair by the deadline</i>		The citizen will notice if I respect the given deadline and will subsequently be satisfied with the service if I do.		

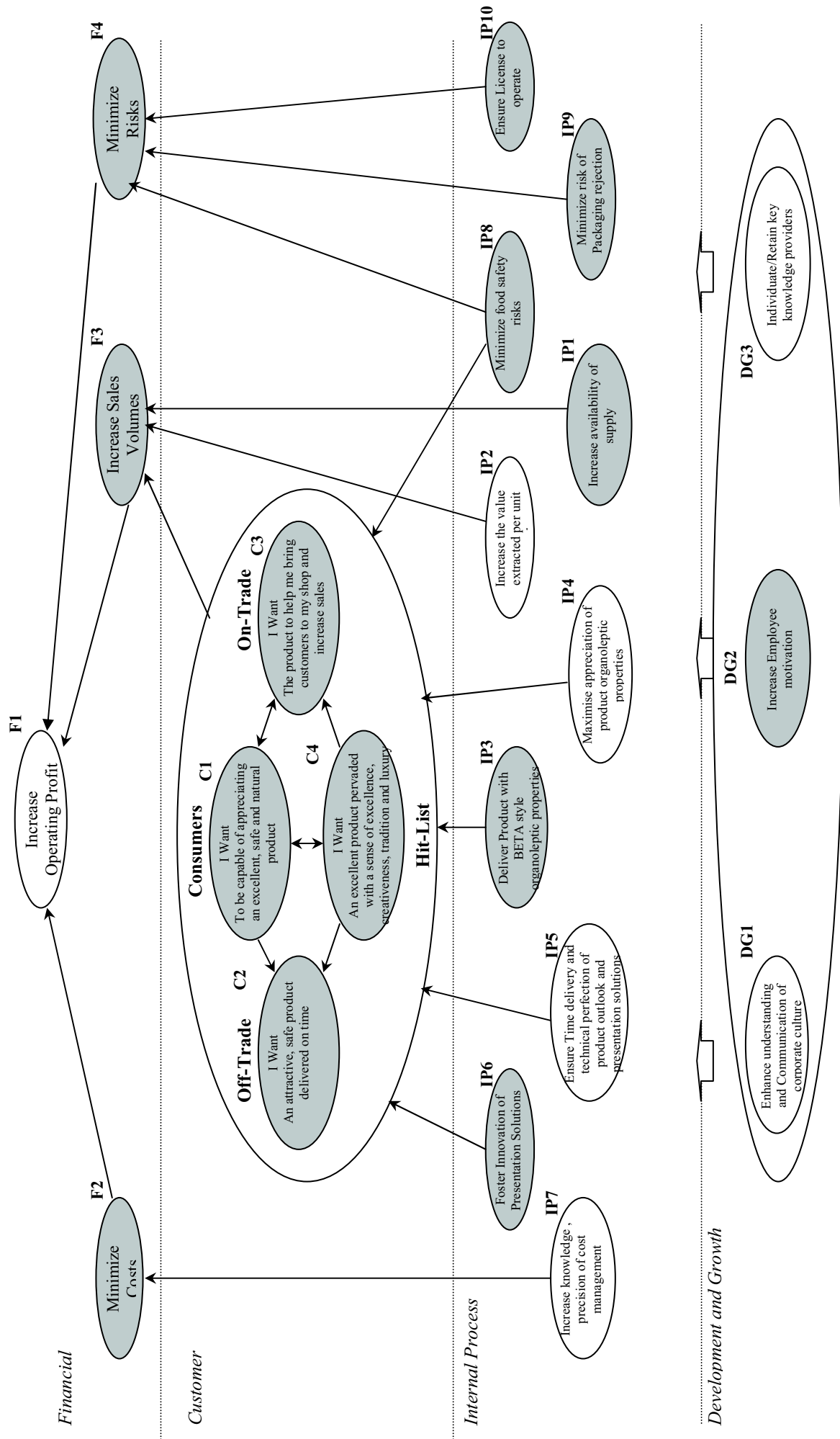
**Table 5.13** Example of Concept Clustering – ACEAIP – Citizen Satisfaction



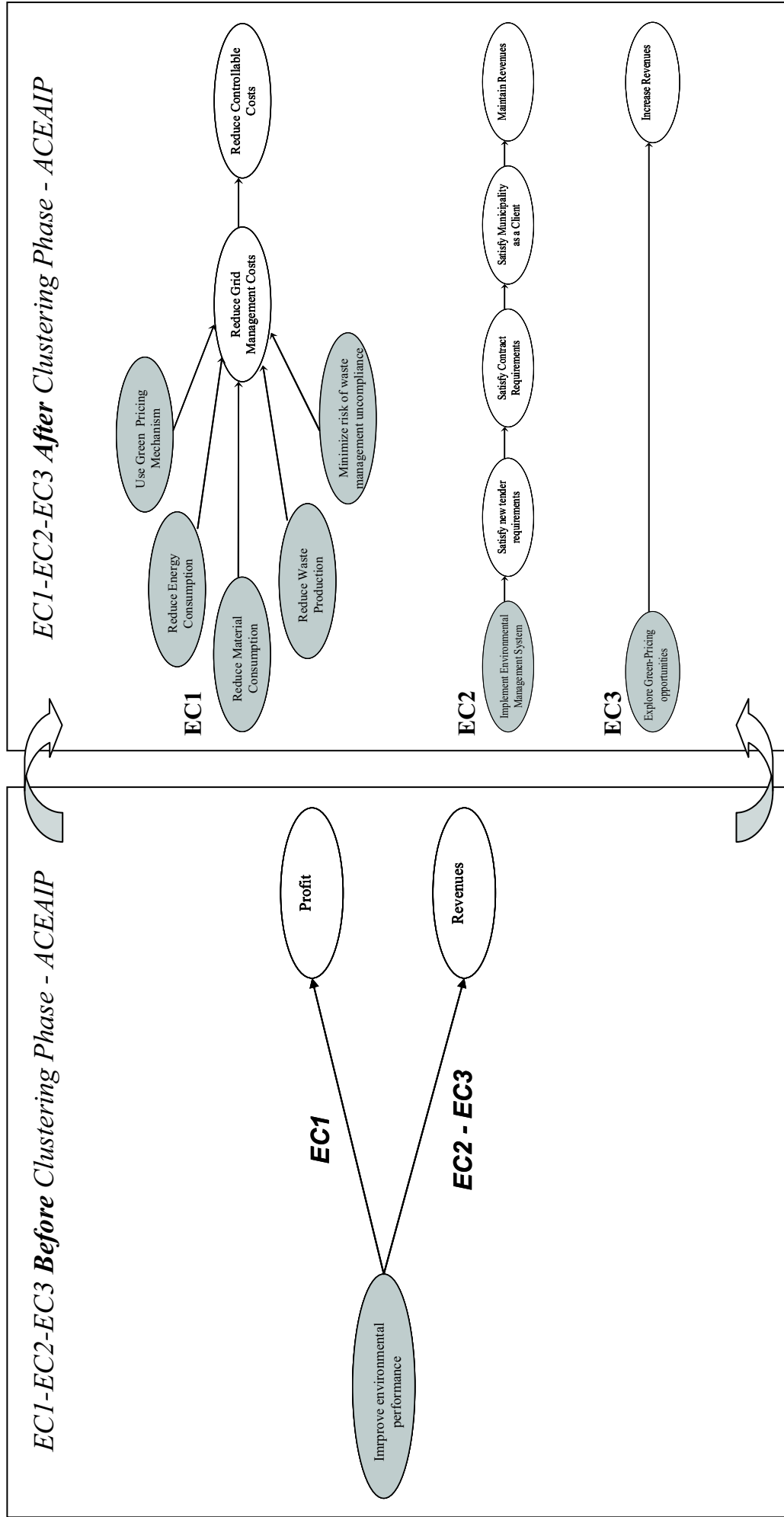
**Figure 5.9** ACEA IP Strategy Map and Environmental Chains



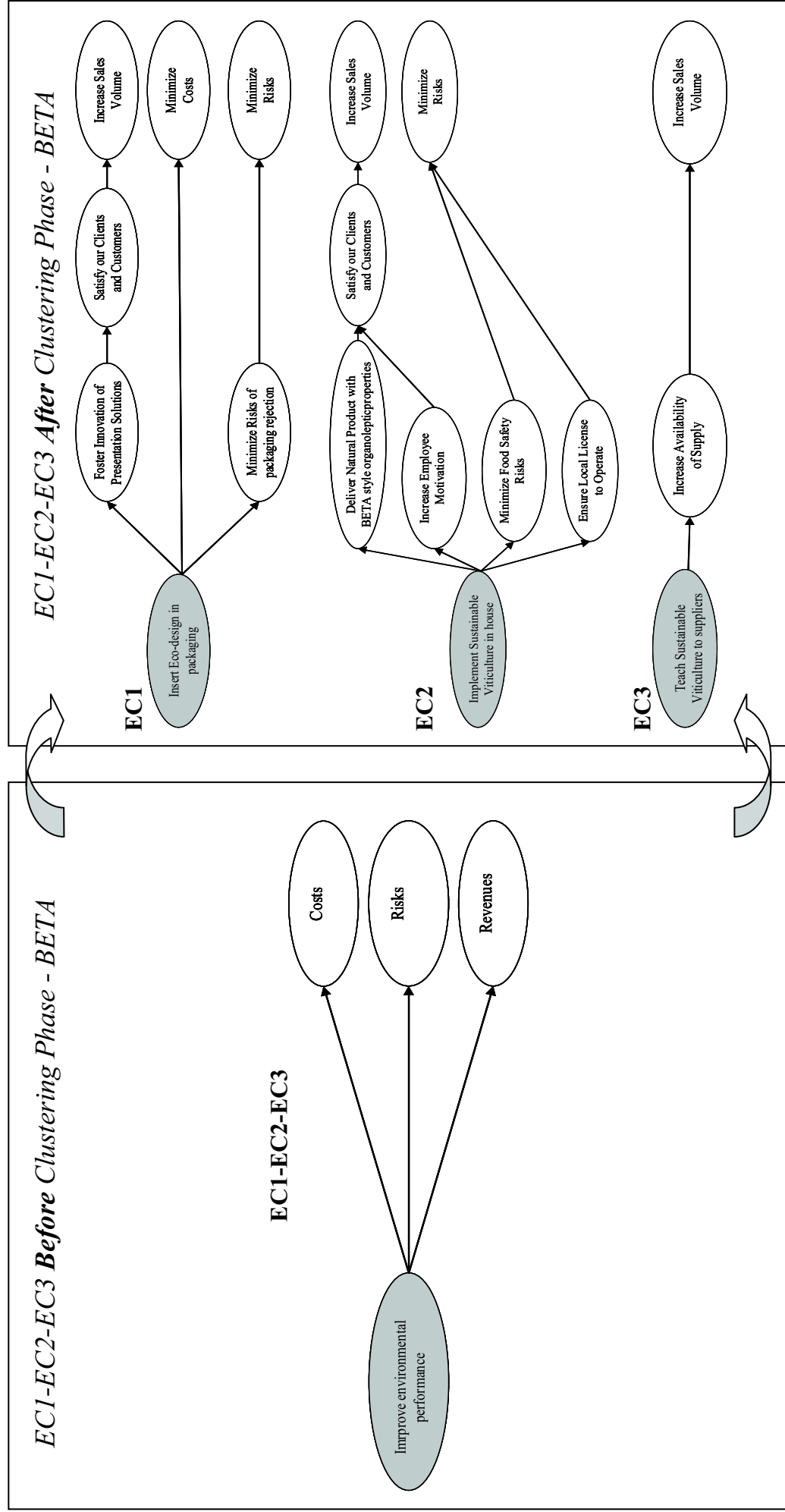
**Figure 5.10** BETA Strategy Map and Environmental Chains



**Figure 5.11** EC1-EC2-EC3 before and after the Clustering Phase - ACEAIP



**Figure 5.12** EC1-EC2-EC3 before and after the Clustering Phase - BETA



When delving into Kaplan and Norton's publications (1996a, 2001) one may get the impression that this process is rather simple and straightforward. This may be due to the fact that, from three books and over 600 pages of ink, the authors only dedicate half a page to discuss this process step (Kaplan and Norton, 1996a, p.304). On the contrary, as this study suggests, not only is it not easy to do, but it proved difficult to do it *well*. The expectation is that clustering the concepts before hand will make it easier to manage the upcoming group discussion.

### **How to maximise Content Quality while Concept Clustering?**

For the *Concept Clustering* phase to be carried out successfully the facilitator must be able to identify the similarities or differences of the concepts expressed by different interviewees, at different moments in time, and with different words and examples. Specifically, the list of *Concepts Expressed* the first column on the left of **Table 5.13** is an interpretation of the quotes from the four managers reported in the rest of the Table.

This exercise is delicate because individual-level cognition mistakes *of the facilitator* can play an important role in the overall results of the study. For example, in this study, it was tempting to ignore a concept because:

- (i) it was unclear from the notes;
- (ii) it was mentioned by only one interviewee;
- (iii) it was against what was believed to be right.

Resisting these temptations is very important. Clearly, it could very well be that an issue mentioned by one person alone proves to be incredibly precious because he alone has a specialist knowledge enabling him to see that problem. Such temptations can be overcome by bringing all concepts to the next process step. If any of the concepts were unclear an interpretation was drafted and proposed for further discussion (**Process Rule 2.9 – Table 5.18**)

Additionally, and perhaps more fundamentally, it is also possible to miss a concept because the notes or transcripts are misinterpreted. For the purposes of this study, due time was given to this activity and usually another person was included in the process, for example the person

who sat in on the interviews. The constant question that sprang to mind while reading the transcripts was whether or not a specific statement contained a new concept. There was a tendency to assume that a concept read is ‘the same’ as something spotted earlier, the well-known individual cognition problem of *Illusory Correlation*<sup>58</sup>. To counteract this tendency it was assumed, when first reading a manager’s idea that the concept at hand was different from the previous one. This meant that it could be evaluated and assessed as to whether it was really the same as an idea previously mentioned (**Process Rule 2.10 – Table 5.18**).

Finally, in order to draft the *Strategy Map*, of which *Environmental Chains* are part, the five steps as specified in **Table 5.14 (Process Rule 2.11 – Table 5.18)** were followed rigidly to the letter.

Steps for drafting a Strategy Map	
1	Write the complete list of issues provided by all interviewees for the financial perspective.
2	Decide on appropriate titles for the objectives.
3	Draw cause-effect links among objectives.
4	Go to the next perspective and repeat points one to four.
5	Link the objectives vertically (across) and horizontally (within) the perspectives.

**Table 5.14** Steps for drafting a Strategy Map

## Did Concept Clustering increase Content Quality?

**Table 5.15** describes why the *Clustering* activities may have a positive impact on *Content Quality*. The **Figures 5.7** and **5.8** show how *Environmental Chains* seem to increase the property of *Value-Added*. In both ACEAIP and BETA the question for the environmental manager was to try to link environmental work with revenue, costs and risks (**Figure 5.7**)<sup>59</sup>, after the Concept Clustering phase he has a clear route of how the value is created (**Figure 5.8**). This information, the *Environmental Chains*, are of *added value* because they seem to

<sup>58</sup> See **Table 1.2**

<sup>59</sup> It is worth specifying that the pictorial view of the strategy of our pilots, shown in **Figures 5.5** and **5.6**, is new to the managers. Before the Concept Clustering phase, there is no such overall view of the company, no model, nothing. Concepts are discussed freely and with no definitions attached. In other words, while **Figures 5.5** and **5.6** are, in my view, a good proxy of what that group of managers collectively has in mind, this certainly remains a model that I have created, a model that did not exist before, a model that is certainly clearer and more precise than what managers would be able to explain at that stage.

facilitate, as expected, the explanation of where exactly environmental work could contribute to the company's bottom line.

<b>Content Quality Properties potentially increasing through Concept Clustering</b>		
<b>Sub-Property</b>	<b>Definition</b>	<b>Why would Clustering have an impact?</b>
<b>Value-Added</b>	The extent to which data is beneficial and provide advantages from their use.	Strategy Maps and Environmental Chains provide the opportunity to understand clearly where environmental work impacts the business objectives.
<b>Concise Representation</b>	The extent to which data is succinctly presented without being overwhelming.	The Strategy Map summarises the company's entire strategy in one page.
<b>Ease of Understanding</b>	The extent to which data is clear without ambiguity and can be easily understood.	Concept <i>Clustering</i> forces the facilitators to define what they write. Concepts become clearer.

**Table 5.15** Content Quality properties potentially increasing through Concept Clustering

Before drafting the Strategy Map environmental work in BETA was generally related to minimising costs or increasing sales. However, after the Strategy Map it is more directly linked to the quantity and quality of the goods; to the innovative marketing solutions; to food safety risks; to the excellence in organoleptic properties (i.e. taste); and to employee motivation. These are all routes that the environmental manager can pursue. They are useful because they are clear and specific.

Of course, it must be remembered that *Content Quality Properties* are a function of what the user needs. While it seems logical to suppose that a clearer value creation route is useful it is still questionable whether this approach is useful to the managers. **Table 5.16** contains the opinions of 15 managers, from both environment and strategic planning departments, who attended the presentation of the results of this research project. They were asked about the usefulness of the Strategy Maps. The quotes all point in the direction of *value creation*.

Furthermore, the following quote shows the appreciation for the Strategy Map from one of the co-facilitators:

MY QUESTION: How about the exercise of drafting the Strategy Map? Was it helpful?

*I think it really helped me compare the views of individual managers ...it was the fact of having to draft the Strategy Map that forced me to do so...it is kind of a translation...its usefulness is in the hard work that went into producing it...it was hard, and intellectual...but by simply doing it we understood a lot of things...the Strategy Map makes everything clear...it's effective...it's powerful!* (BETA, Co-Facilitator personal interview, 25 June 2003).

Another issue pointed out by this quote is the increase in *Ease of Understanding*. The manager has participated to the clustering activities, and, because of that, has come to understand the concepts themselves and the difference in views of the managers on those concepts.



Company		Role		What do you think of the usefulness of the Strategy Maps?	
Environmental and CSR	RIO TINTO	Corporate CSR Director	I think it is useful to understand the implications of environment and social issues for the company, it is a good way of showing and describing the business case.		
	SB MINERALS	Corporate CSR Director	I think the cause-effect idea is useful.		
	SB MINERALS	Corporate Environmental Director	I think the map is useful because it establishes the connections starting from the financial issues downwards. It is logical, it will help. It is important because you are forced to write it down and to see it.		
	HEWLETT PACKARD	Environmental Manager	It seems that it works quite well. It makes sense, it is robust, useful.		
	DOW CORNING	Corporate EHS Director	I think it works very well. It shows the relationships between the different drivers and perspectives. I like the linking it is visual and can be drawn for whatever situations the company is facing. In one page you have the whole picture, you see how it come together. For me, as the EHS manager, I can show more easily how my work contributes to financials.		
	NOVARTIS	Corporate EHS Manager	I think the map can show how the environmental objectives are linked to the operational objectives. It shows something punctual, exactly which part of the strategy is impacted.		
	NOVOZYMES	Corporate Environmental Manager	I think the strategy map is very useful because the cause-and effect relationship link things together. It makes it a lot easier for us to find the business case for sustainability and to link sustainability to everyday business activities.		
	GAZ DE FRANCE	Corporate Environmental Manager	I think that it is a methodology, like others, to measure if you are going in the right direction.		
	TOYOTA	Corporate CSR Manager	The strategy map looks like a nice way of structuring the ideas, it seems useful. Especially the cause-effect linking, it speaks to you, it is clear.		
	DANONE	Industrial Director	I think Strategy Maps are useful. For me the linking is the key element. In an industrial guy, I like cause and effect. Why? It makes it is easier to understand and follow what went wrong, why we did not achieve what we intended to achieve.		
	PAVILLION HOUSING GROUP	CEO	It facilitates the discussion of the links between value drivers.		
	SCHNEIDER ELECTRIC	Corporate Strategy Director	I have learned how crucial the strategy map can be for management. The cause-effect links between objectives and perspectives show where the problems are. It is very powerful.		
	SCHNEIDER ELECTRIC	Corporate Controller	I think the map is the most important point in the BSC approach. It clarifies what management wants to do. For the environmental manager specifically it is very useful because it is a good way to make the connection between environment and business. If environment is not linked to the strategy then it is only a gadget.		
	RENAULT	Corporate Strategy Director	As all maps it helps people visualize the links and the challenges. It allows to simplify reality, but not too much. It makes complexity manageable.		
DENMARK BANK	Corporate HR Director	I think it is very useful because it gives clarity, it makes you think and visualize what you would probably not see otherwise. With one single view one has a synthesis of a very complicated thing. Normally we have the problems of getting lost in the details, here really we've got the whole picture.			
Corporate Strategy					

**Table 5.16** Do Strategy maps add value?

While on one hand Content Quality can increase there is also a risk that Concept Clustering could affect the *completeness*. As detailed in **Table 5.17** while in the interview step completeness is *prepared*, in the clustering step it is *protected*. To *prepare completeness* means trying to maximise the volume of issues through interviewee to interviewer interaction. To *protect* it means minimising the loss of volume of issues due to the clustering activities. Since I went through my notes several times there was no loss in the ideas but, as described in **Section 5.3.1**, the temptation to leave issues behind existed and I had to actively resist it.

<i>Potentially Shifting Properties during Clustering</i>				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific Meaning</i>
Consensus Quality	Content Quality	Completeness	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Minimize ideas loss

**Table 5.17** Potentially Shifting Properties during Concept Clustering

### Facilitators also learn: Outsource or do-it-yourself?

While it seems that Concept Clustering and linking ideas is useful for the quality of discussion in the next phase there are also some more immediate advantages. One of the co-facilitators involved indicated how being ‘forced’ to cluster and link helped them to understand not only the concept in itself but also the differences in views between the managers.

(my question: how about the exercise of building the strategy map? Was that of any help?) I think it really helped me compare the individual managers views...it was the fact of having to build the map that forced me to do so...it is kind of a translation...its usefulness is in the hard work that one must do to build it...it was hard, and intellectual...but by simply building it we had understood a lot of things...the strategy map makes everything clear...it’s efficient...it’s powerful! (Co-Facilitator BETA, Personal Interview, 25<sup>th</sup> June 2003).

Again this result favours the involvement of the environmental manager in the clustering and linking work. The decision here is, however, less of a problem compared to the interview phase because their involvement can hardly have any negative consequences. This is because

there is no interaction with the managers in this phase, the work is entirely done in back-office. The risk in the previous phase was that the environmental manager's role in an organisation could hamper the openness or the breadth of the conversation. Since at this stage there are no conversations there is also no risk. So, if the environmental manager has already carried out the interviews there seems to be no reason why he should not participate in this step as well (**Process Rule 2.12 – Table 5.18**). Furthermore, as the quote from my co-facilitator in BETA shows, it might be not that easy to explain a Strategy Map to a manager who has not participated in the process.

*'...I think this is the main problem of this exercise that you need to be trained to understand...once you understand it, it is clear, it's all right...but you need to be trained...if not...I presented it to the ALPHA environmental manager and she found it very interesting...but only after we spent some time on it...and she was really interested...she had the same feeling...suddenly everything is clear, it's efficient, it's powerful (ALPHA, corporate EM team member, 12 April 2003)<sup>60</sup>.*

## **5.4 Conclusions and contributions**

The aim of this chapter was to describe and comment the first two steps of the content building process: *interviewing* and *Concept Clustering*. *Interviewing* aimed at getting from the managers their ideas about business issues, environmental issues and the links between the two. *Concept Clustering* aims at organising the manager's ideas under common headings, called the BSC Objectives. For each of these two steps the same procedure was followed. Firstly, it discusses why these two steps are useful. Secondly, it describes and justifies the process rules followed. Finally, using the empirical evidence, there are comments on the achieved results. Given the outcomes of this research it would seem that interviews are necessary because their absence is likely to increase both individual and group-type mistakes. Furthermore by clustering the concepts before hand it will facilitate the upcoming group discussion.

Concerning two process steps, **Table 5.18** provides, at a glance, the list of the process rules that were used for this study. It also describes whether these were introduced *with* (grey) or *without* (white) reference to relevant literature and whether the empirical evidence of this

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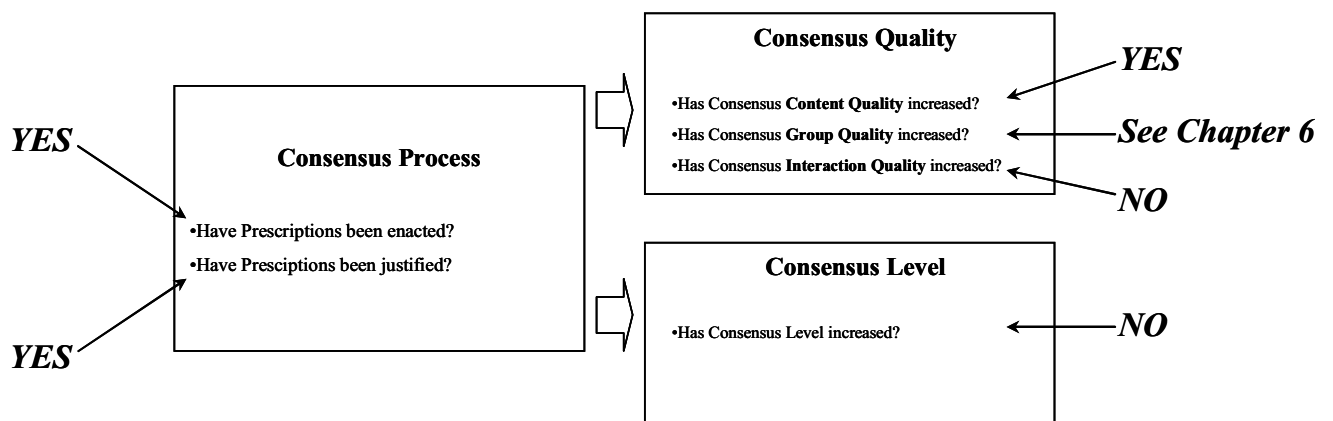
study proved them to be *useful* (black). The advantage of this kind of display is twofold. On the one hand it allows practitioners to use these prescriptions as a basis for their action while at the same time being well-informed about the true degree of ‘reliability’ of the prescription. On the other hand, it clearly points to areas where other scholars could bring in additional literature or develop additional empirical evidence.

<b>Process Rules - PHASE 2</b>		
	<b>Questions for Environmental Managers</b>	<b>Process Rules</b>
<b>Interviewing</b>	How to maximize Content Quality? (Completeness and Ease of Understanding)	2-1. Perform Interviews
		2-2. Use <b>Table 5.4</b> as interview guideline
		2-3. Use <b>Table 5.5</b> to kick-off the interview
		2-4. Use anonymous quotes
		2-5. Use <b>Tables 5.10 and 5.11</b> to choose interviewers
		2-6. Use <b>Table 5.6</b> to implement drill-down technique
<b>Interviewing</b>	How to maximize Group Quality? (Completeness and Accuracy)	2-7. Use <b>Table 5.12</b> to choose participants
		2-8. Involve the Environmental Manager
<b>Clustering</b>	How to maximize Content Quality? (Completeness and Ease of Understanding)	2-9. Bring all concepts to the discussion phase
		2-10. When encountering an idea, always assume it is new
		2-11. Use <b>Table 5.14</b> to build Strategy Map
		2-12. Consider EM involvement as desirable
No Fill = Decision taken through use of common sense; Grey = Decision taken through use of relevant literature; Black = Supported by the empirical evidence		

**Table 5.18** Summary of Process Rules – Phase 2

Finally, this chapter also aimed to discuss whether and, if so, how Consensus Level and Quality have increased (if at all). For this phase, since there is no interaction, the only two properties that could possibly shift are Content and Group Quality. As shown in the Evaluation Framework<sup>61</sup> **Figure 5.9** the empirical evidence suggests Content Quality has increased while for Group Quality the discussion is left to **Chapter 6**.

<sup>61</sup> See **Section 1.4.1**



**Figure 5.13** Evaluation Framework Results for PHASE 2

Another conclusion of this chapter relates to the question of whether or not environmental managers should be included in the process as facilitators. This issue has been raised because the corporate environmental manager team members working with me as facilitators mentioned that these activities provided them with a unique learning opportunity. While of course the decision on this issue will depend on what the exercise is about, it seems that the less risky option is to involve one of the environmental team members but with the assistance of an external expert facilitator.

### 5.1.1 Contributions to the literature

The literature on the *process* of developing a Balanced Scorecard is somewhat scant. Kaplan and Norton only dedicate roughly 15 pages at the end of their first book to the process issues (i.e. Kaplan and Norton, 1996a, pp. 295-311). Paul Niven (2002) and Schaltegger & Dyllick (2002) make some effort to in detailing the BSC process. Niven (2002) only dedicates two pages to the issue of interviews and Concept Clustering, while Schaltegger & Dyllick (2002) provide some technical indications of an ideal process they do not delve into the details on the personal and organisational implications. If the amount of time spent on issues is a measure of their importance one could be led to think that interviews, whether they are performed or not, have little or no significance. This chapter, by bringing together relevant literature and

empirical evidence suggests this assumption to be *wrong*. The fact that there was so much to say about interviews, and the fact that what has been done in this study appears only like a very first step, seems to constitute sufficient evidence in this respect.

The contribution to the Balanced Scorecard literature is then three-fold. First, the discussion of the process prescriptions constitutes a starting point for further 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 that the process rules should aim to solve are the ones related to individual and group type biases.

### **5.1.1 Limitations and future research**

This work should be considered exploratory, the main aim being to set some clear rules of the game such as definitions, measurement frameworks and first tentative process rules. There are at least three areas that seem interesting for future research. Firstly, since this process step deals with effective interviewing more work should probably be carried out to link it to the interview techniques body of knowledge. Secondly, since part of the decision is to decide who to interview, more work is probably needed to empirically test the desirability of larger or smaller groups of interviewees. Thirdly, on the Concept Clustering step, seeking additional techniques on how to maximise its efficiency from the literature and empirical testing of different alternatives seems to be also worthwhile.

### **5.1.1 Contributions to practice**

Similarly to the previous chapter the contribution to practice of this study are, first of all, the process rules. These rules, contained in **Tables 5.5, 5.6, 5.7, 5.11, 5.12, 5.13, 5.14** and the reflections around them may be of use to managers wanting to kick-off similar processes in their companies.

From an environmental manager's point of view perhaps the strongest message coming out of this chapter is that if s/he wants to kick-off a discussion about environment and strategy with

top management then s/he should start with a set of interviews. This becomes evident when looking at the breadth of interpretation of concepts as basic as client satisfaction. If this concept is not clear and agreed by top managers it can hardly constitute a useful 'hook' for the environmental manager to show the business relevance of environmental activities. One may argue that this was only a coincidence due to the case-based nature of this study and that in most companies the main strategic objectives are clear and appropriately shared among the top managers.

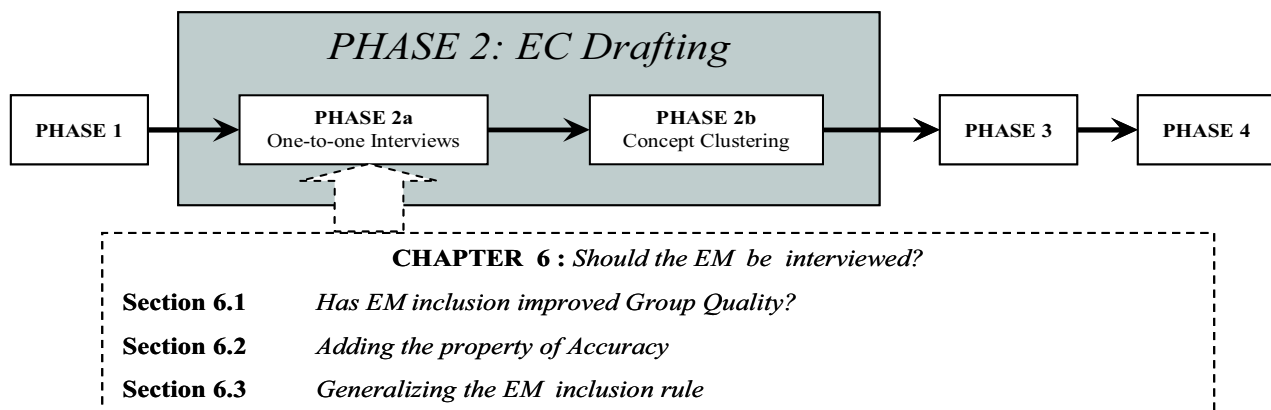
There are at least two reasons to weaken this argument. The first reason is that the individual cognition mistakes strongly point to the fact that different managers, with different roles in the organisation and different backgrounds are very likely to have different opinions and/or even if the opinions are the same might use different language to express them. The second reason is that managers are not aware of them. In other words, before carrying out the interviews it may be very hard to detect them, let alone try to solve them.

#### **TO DATE and FORWARD**

This chapter describes the first steps for developing the Environmental Chains: *interviewing* and *Concept Clustering*. The next chapter focuses on whether or not the environmental manager should be included in the interviewee group. It analyses the question of how he contributes to increasing Content Quality.

## 6 Should the EM be interviewed? (PHASE 2)

The aim of this chapter, as shown in **Figure 6.1**, is to discuss the effect of including the environmental manager (EM) during the interviews and to introduce a related general process rule. This seems an important issue to explore in detail because it would probably not be a natural choice for the TMG to include a manager that *is not already a TMG member in their decision-making process*. **Section 6.1** focuses on the contribution of the EMs in both ACEAIP and BETA (BETA). **Section 6.2** discusses the need to introduce the Content Quality Property of *Accuracy*. **Section 6.3** presents the more general process rule and finally **Section 6.4** is dedicated to conclusions and contributions.



**Figure 6.1** Sections in Chapter 6

### 6.1 Does EM inclusion improve group quality?

*Group Quality* is 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 6.1**, this section focuses specifically on the Content Quality Property of *Completeness*. It highlights that including the environmental manager in the interviewing step has increased *Completeness* in both ACEAIP and BETA. This is largely due to the fact that environmental managers have *more* ideas about the potential contributions of environmental work to the business. In Table 6.1 the wording '*relevant specialists*' refers exactly to those managers who have specialist knowledge which completes the discussion at hand. Environmental managers are, in this respect, an example of relevant specialists.



<b><i>Group Quality Properties Analyzed - PHASE 2</i></b>				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific Meaning</i>
<b>Consensus Quality</b>	<b>Group Quality</b>	<b>Completeness</b>	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Minimize ideas loss due to failure to involve relevant specialists

**Table 6.1** Group Quality Properties Analysed – PHASE 2

### **6.1.1 Consequences of EM inclusion in ACEAIP**

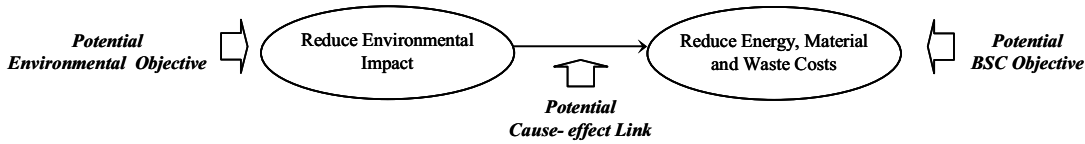
Work began with ACEAIP, in April 2002. The objectives of this research and the process for the project were clearly explained at the project kick-off meeting, attended by the director and 15 of his managers. By the end of the meeting the interview dates had already been booked with all the relevant interviewees. Furthermore, the director publicly took on the responsibility for pushing the project in collaboration with his financial controller. The interview step of the project was started with reasonable optimism. In order to complete the list of interviewees, however, someone needed to play the environmental manager role since in ACEAIP no one had worked on these types of issues.

The corporate environmental manager was approached to play the role of ACEAIP's environmental manager; The director agreed to accept him as a participant to the process. The interviews all took place in June 2002 (ACEAIP, personal interviews, 2002). The following two sections show the difference between the Environmental Chains resulting solely from contributions of the TMG members and the ones including the EM's contribution as well. This is a clear indication that the exclusion of the environmental manager from the interviewee group would've reduced *Completeness*.

#### ***ACEAIP – Why environment? – the TMG's opinions***

ACEAIP's top managers see environmental issues mostly linked to energy, materials and waste costs (See **Table 6.1**, **Figure 6.2**). In other words, since energy is costly, reducing consumption will reduce costs. The relevance of this link is enhanced by the fact that cost efficiency had been a

focus of ACEAIP’s work since its entry in the stock market in 1999. Furthermore, the Municipality of Rome, which is ACEA's main shareholder and client, has been pushing hard to increase the efficiency of its service providers.



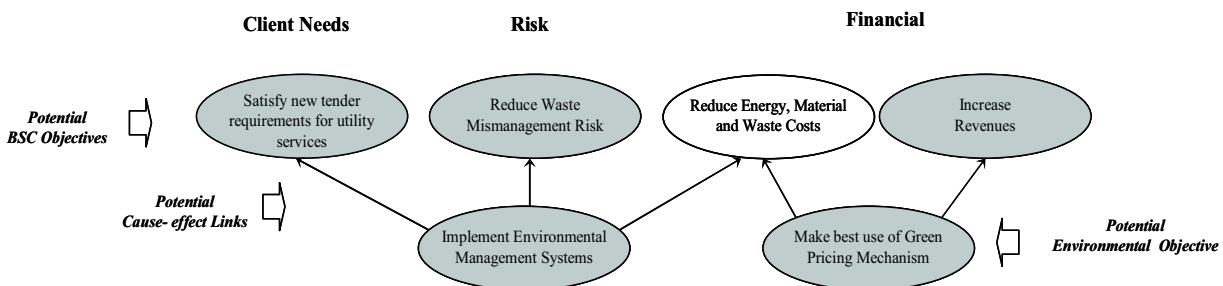
**Figure 6.2** ACEA – Why environment? – the TMG's opinions

***ACEAIP - Why environment? – the EM's opinion***

The ACEAIP environmental manager<sup>62</sup>, was the only interviewee to raise the following three issues:

- (i) the waste mismanagement risk.
- (ii) the preferential requirement in public tenders. and
- (iii) the use of green pricing mechanism to decrease energy costs and generate revenues (See **Table 6.1** and **Figure 6.3**).

The first issue is compliance-related. The ACEAIP environmental manager is confident that several of the materials used in this business unit would be classified as dangerous and/or toxic whilst requiring specific handling and disposal practices. Failing to fulfil these procedures would expose the business unit to the risk of heavy fines from the authorities and a backlash on the corporate image of ACEA.



**Figure 6.3** ACEA – Why environment? – TMG (white) + EM (grey))

<sup>62</sup> We interviewed the corporate environmental manager because ACEAIP did not have a business unit environmental manager.

The issue of public tenders is also legislation driven. The environmental manager explains that a recent nationwide legislative bill specifies that contractual agreements between public administrations and private companies would include environment, health, safety and quality as preferential requirements. This means that any company failing to provide evidence (e.g. an ISO 14001 certification) of their performance in these areas would most likely be penalised in the process of assigning the tender. The gravity of this omission should not be underestimated. At best, during the next signature of the contract (early 2005), ACEAIP could be questioned on these issues. In a worst case scenario, if the municipality decided to do a public tender ACEAIP would most likely fail in one of the criteria thus increasing the chances that a better equipped competitor takes the business.

The third and final issue relates to a new European legislation called *green pricing*. Such legislation allows large energy consumers like ACEAIP to label its energy consumption as *green* at an additional price. The additional revenue is, however, earmarked and matched with European funding to build *renewable energy* production plants. The price of such energy is regulated by government to be (roughly) twice the price of the non-renewable energy whilst generating a new revenue stream for the original investor. Such a project, argues the environmental manager, would over a medium-term time frame significantly reduce energy costs, generate additional revenues and enhance ACEAIP and the corporate image of ACEA towards the Municipality of Rome.

<b>ACEA Public Lighting - Why Environment?</b>						
<b>Points Raised by</b>	<b>Why environment?</b>	<b>Mananging Director</b>	<b>Network Building Manager</b>	<b>Maintenance Manager</b>	<b>On-Site Construction Manager</b>	<b>Claudio (EM)</b>
<b>TMG</b>	Reduces Cost of Energy Reduces Cost of Waste Reduces Cost of Materials					
<b>EM</b>	Reduces Waste Mismanagement Risk Preferential Requirement in Public Tenders Occasion of increasing revenues through 'green pricing'					

**Table 6.2** ACEA IP – Why environment?

<b>BETA - Why Environment?</b>								
<b>Points Raised by</b>	<b>Why environment?</b>	<b>CEO</b>	<b>Marketing Manager</b>	<b>Financial Controller</b>	<b>HR manager</b>	<b>Grape Supply Manager</b>	<b>Env. Manag. 1 (EM1)</b>	<b>Env. Manag. 2 (EM2)</b>
<b>TMG</b>	Reduces Risk to Health of Consumer and BETA Image One of the many additional features of a luxury product Appeals to grape suppliers desire of status Reduces Legislative Risk							
<b>EM</b>	Appeals to consumer need of feeling close to his origins, his roots, the land Appeals to grape supplier need of pursuing effectiveness Appeals to grape supplier/employee desire to live/work in a healthy environment Appeals to employee pride of working with a responsible company Enhances Image of Champagne as a product and as a Region Satisfies environmental information needs of intermediate clients Reduces Packaging-related Costs and Risks							

**Table 6.3** BETA – Why environment?

### 6.1.2 Consequences of EM inclusion in BETA

Setting up interviews was different in BETA compared to ACEAIP. During the first meeting with the BETA environmental manager (EM1 – there are two environmental managers in BETA), it was difficult at first to convince him to join the project and decide on the interviewee list. However, the meeting ended with an agreement on a list of ten managers, one of which was the EM1. He then went to the different managers to agree on meeting dates. All interviews were carried out in September 2002.

The peculiarity of the BETA business meant that there were in fact two environmental managers in this company. Besides the EM1, the vineyard director (referred as EM2) was a very strong supporter of environmental strategies. He constantly made efforts to reduce the negative environmental impact of grape production, so much so in fact that he was known in the Champagne region for being an innovator in the field of vineyard management. For these reasons in the following sections his proposals are considered as ones coming from an environmental manager. Similar to the discussion for ACEAIP, the next two sections present the Environmental Chain contents provided by the TMG members and environmental managers respectively. The empirical evidence shows that the exclusion of the environmental manager from the interviewee group would've reduced *Completeness*.

#### ***BETA – Why environment? – the TMG's opinions***

BETA's top managers mention environmental issues are a concern for three main stakeholder groups: consumers, suppliers and legislators. For the consumer, environment is relevant for three reasons: pre-requisite fulfillment, image protection and differentiation. BETA Champagne brands are all luxury products, but, as the CEO points out 'they need to be products *first*'. The pre-requisite of respecting the consumer *health* is closely linked to environmental management. For example, using a smaller amount of chemicals in the vineyards reduces the risk of these molecules ending up in the wine. Of course, these being pre-requisites, there is no question whether to deliver them or not:

*'...we are absolutely obsessed by what we put in the bottle...how we make the wine, how we manage the vineyard, how we manage the production, how we store, how we protect our customers, what sort of due date we put...all those sorts of things are THE requirements...and you have to meet those requirements...either because they are legal requirements, or business requirements and that makes you just survive, and you have to make them happen, I mean you HAVE to...'* (BETA, CEO, personal interview, 2 September 2002).

*'...one of my obsessions is the environment...we spend a lot of time communicating that the champagne starts in the vineyard...many countries don't know that...so if you go and say we are in the vineyard and in the field and we have all the benefit of producing an agricultural product then the people immediately hear HEALTH...'* (BETA, CEO, personal interview, 2 September 2002).

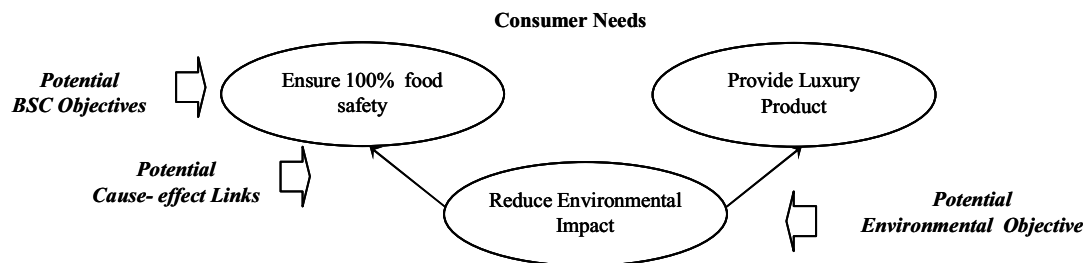
Pre-requisites are, however, not important *per se*. BETA is *obsessed* with them because failure to deliver would irremediably damage the image of the brand. A consumer would think: *'if this company cannot even ensure safety of the product, then how can it claim to be a luxury brand?'* Moving away from the pre-requisites of the product we move into the area *luxury* and what *really* makes the difference between a good and an excellent prestige brand.

(So, these pre-requirements are the baseline and then you need to go beyond that?)

*'...absolutely...and then if you want to be a leader and if you want to be a prestige brand and you want to be a luxury brand and you want that the consumer is absolutely ready to pay your price, you have to give so much more, and the "so much more" in luxury is not always visible and you have to accept to spend some of that money on things that are not going to pay...short term...but you know that it is just part of your mix and in luxury you never know which part makes the difference...it is always the accumulation of all those things that at the end of the day makes people say... "that is my preferred brand"...'* (BETA, CEO, personal interview, 2 September 2002).

The CEO couldn't make it any clearer, to be in the luxury business you need to show you are constantly doing more than what would be normally required. The topic of environment seems to qualify as one of those *things* (See **Figure 6.4**).

*'...I always like to remind our customers that we are not expensive for the quality we are offering...what we offer is different from the rest...environment can be one of those small things...when you are in China and you say to the people there "you know that in BETA we hand pick every grape?"...they think... "handpick...ah...I understand why it is expensive".....and then I continue... "by the way...we try to be as biological and as environmentally friendly as we can...we took an initiative to use less cardboard so that we could destroy less forest"...this is a small tip that, added to the others, is going to add something if it is well put together, if it is well explained...people will understand why it is expensive and will be convinced that BETA is really a different champagne;'* (BETA, CEO, 2 September 2002).



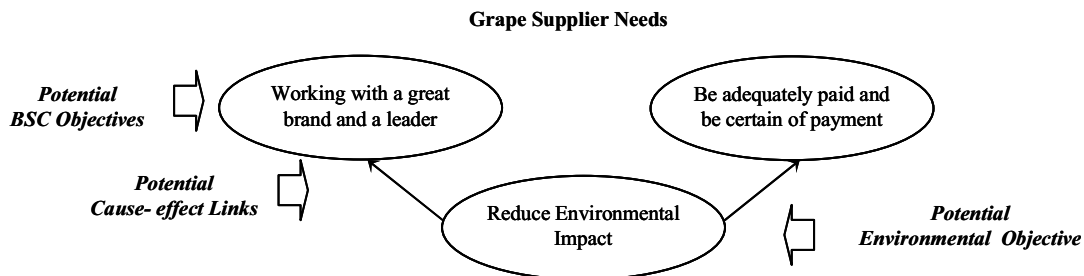
**Figure 6.4** BETA – Why environment for consumers? – the TMG’s opinions

When it comes to grape supplies, one should consider that *all* grapes in Champagne products have to be grown in a specific geographical area in France. Within this area there is very little additional land where more vineyards can be planted and, on the existing vineyards, the productivity can hardly increase (vineyard manager, BETA, 2002). As a result, Champagne houses wanting to increase the volume of products sold have *no other option* than subtracting grape supplies from their competitors. This is an important strategic issue especially considering that the number of people who can afford to buy luxury products is likely to increase worldwide in the next 10 years.

Winning the trust and the loyalty of grape suppliers is of utmost importance. Two issues are at the basis of supplier retention *grape price* and *perceived ability to fulfill contractual agreements*. Grape suppliers know that Champagne is not sold cheap and want to make sure they are getting their fair share. Also, since the contracts they sign with a particular Champagne house ties them in for several years, they want to be certain they will actually get paid. While BETA certainly fulfills these criteria there at least another 10-12 other Champagne houses who also do (financial controller, BETA, 2002).

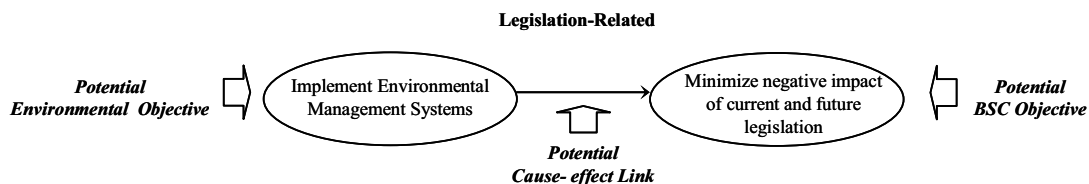
Suppliers also prefer to sell their grapes to a known brand and preferably a leader in the market. Locally, this gives them added prestige if their grapes are associated with known high-end brand names as it shows the excellent quality of their work and of their grapes. Being at the leading edge of vineyard environmental practices is proof that BETA is a strong brand. They can afford to invest in issues that are linked to the long-term health of the

company. It is also proof of leadership because such innovations depends on a mixture of sophisticated technical knowledge, discipline in execution and courage (e.g. breaking away from traditional practices), all typical characteristics of a leader (See **Figure 6.5**).



**Figure 6.5** BETA – Why environment for grape suppliers? – the TMG’s opinions

New national and international legislation trends in agricultural, consumer health, product labelling and packaging standards are all potentially relevant for a Champagne house. Latest legislative developments in these fields heavily relate to environmental issues. Agricultural standards prescribe the use of less and less chemicals. Product labelling legislation force food companies to mention the types of molecules that are in their products with increasing precision. Finally an increasing number of substances is banned from packaging because of assumed or verified dangers to the environment and to consumer health. Environmental work addresses pro-actively all these areas allowing the company to better monitor these trends. Also, in case of any problem, the environmental management system will make it easier to find the source of the problem. fix it. explain it. be trusted in the explanation. and avoid falling into an adversarial mode with the damaged stakeholders (See **Figure 6.6**).



**Figure 6.6** BETA – Why environment for legislative risk? – the TMG’s opinions

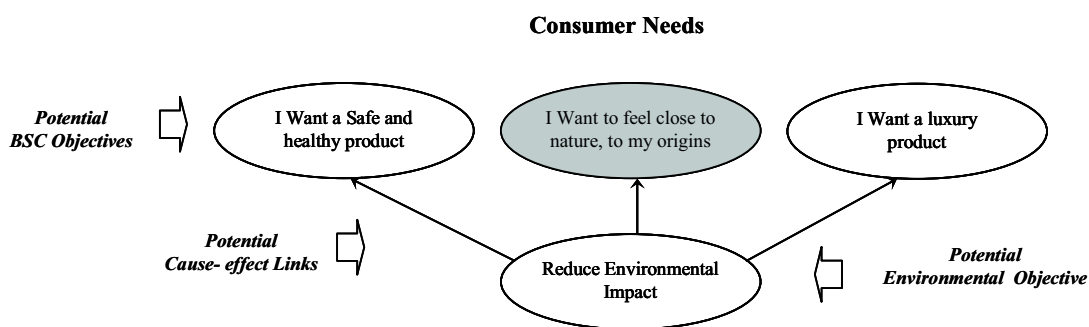


## BETA - Why environment? – the EM's opinion

In BETA the vineyard director<sup>63</sup> provides several additional points of reflection on consumers, suppliers, employees and the local community. On the issue of consumers, we have heard from the CEO on how environment is both a health-related pre-requisite and *one of the several* ingredients of the luxury mix. The vineyard director's pitch brings a different dimension to the discussion:

*'...today consumers are in quest of their roots...only 3% of the population is still agricultural...it is often the case that two or three generations separate them from their native land...they want to know where the things that they eat actually come from...before they knew...today they don't know any more...people look for their origins and [to do so] they hold on to the soil and all that it represents...'* (BETA, vineyard director, personal interview, 3 September 2002).

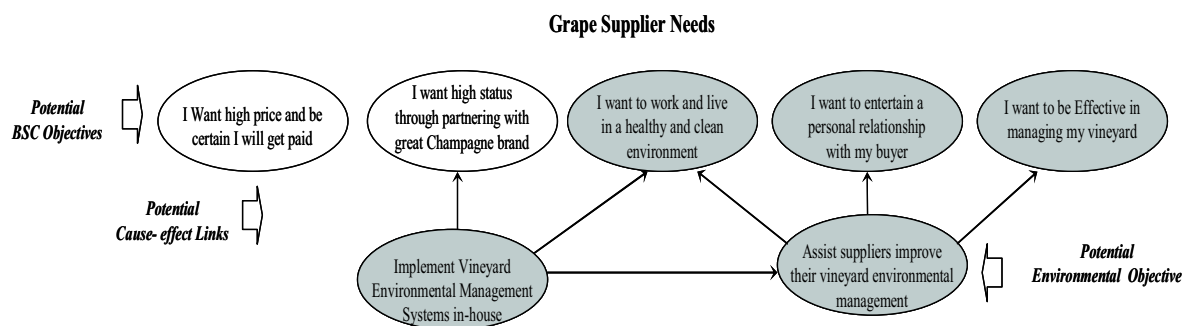
He seems to suggest that environment may not be *just one* of the ingredients but *one of the most important* because it brings the consumer closer to an ancestral need of feeling close to their roots, feeling at home (See **Figure 6.7**).



**Figure 6.7** BETA – Why environment for consumers? – TMG (white) + EM (grey)

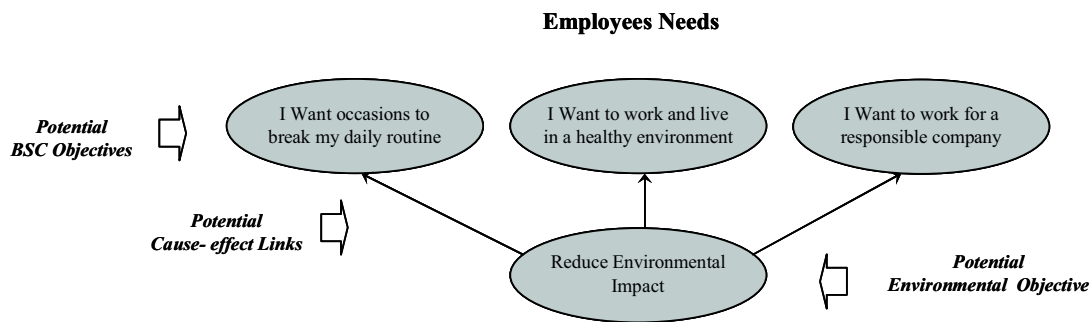
<sup>63</sup> Christian is the vineyard manager but also fits our definition of *environmental manager* because he proactively seeks ways to reduce the environmental impact. The peculiarity of his situation is that nobody has given him this task. The environmental work at the vineyard has been, for the last 25 years, his own initiative and whatever his production objectives are he always tries to find ways to achieve them while being more environmentally friendly.

On the issue of grape suppliers, the TMG members emphasise the contribution of environmental management to grape supplier *status*. BETA's vineyard director mentions that environment and environmental matters contribute to three additional supplier needs: *effectiveness, relationship* and *quality of life*. *Effectiveness* relates to their need to protect the quality of the grapes, ensure longevity of the vineyard, increase grape volumes and reduce costs. *Relationship* relates to the suppliers' preference for the personal touch. They are not used to, nor do they like, to deal with a 'faceless' corporation, they prefer *people*. *Quality of life* relates to all those issues that make the life in the champagne region pleasant and enjoyable. Most of the suppliers live in the region(See **Figure 6.8**).



**Figure 6.8** BETA – Why environment for grape suppliers? – TMG (white) + EM (grey)

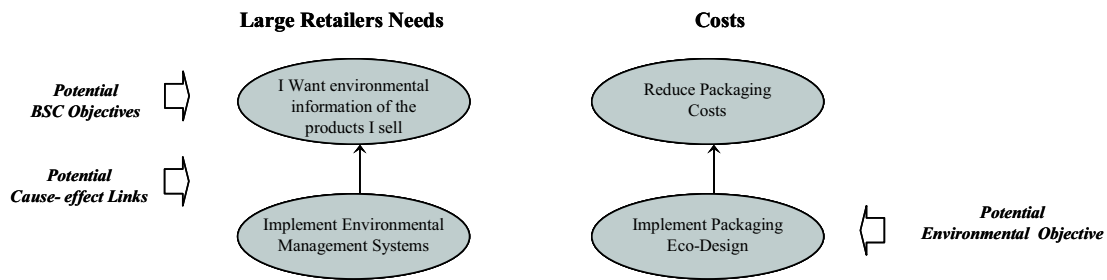
The fact that BETA is ready to try innovative practices on their own vineyards and then offers to teach these practices to their suppliers seems to elegantly contribute to all three of these objectives. It contributes to *effectiveness* because environmental-related innovations tend to reduce risks of soil and water pollution, ensure grape quality, increase longevity of vineyards and reduce hazards to employees and consumers. It contributes to *relationship* because exchanging environmental best practices requires a mutual understanding, collaboration and trust. It contributes to *quality of life* because all innovative practices aim to protect the quality of the local, natural environment.



**Figure 6.9** BETA – Why do employees like the environment? – TMG (white) + EM (grey)

As shown in **Figure 6.9** BETA's vineyard director also believes that employees are also enthusiastic about the proactive work carried out on environmental-related issues. . It provides them with an occasion to break their daily routine, it reduces their exposure to chemicals and it gives them the feeling and the pride of working for a responsible company. Finally, he also mentions the topic of environment to be of potential importance for Champagne as a product and as a region. This point hinges on the idea that, while within Champagne there is competition, they are also one big family compared to the substitutes such as sparkling wine. If the press, which is very attentive to luxury brands, decides to go after Champagne because of a single problem of pollution or consumer health it is not just the product but the whole region that will suffer.

As shown in **Figure 6.10**, EM1, responsible for the environment-related activities from the moment the pressed juice enters BETA production facilities, proposes two further issues, namely the environmental information needs of intermediate clients and cost/risk reduction through eco-designed packaging. The first issue relates to the fact that Champagne is sold to consumers through large and small retailers. In the last few years EM1 notes how the interest of large retailers for the environmental performance of their suppliers has increased and that certifications schemes such as ISO 14001, for which BETA is currently certified, are useful in this respect. The second issue relates to the fact that a focus on reducing the negative environmental impact of the packaging would reduce costs due to diminished use of certain materials. Also, such focus would reduce the chances of having undesirable substances in the packaging. Substances that, in the worst case, could damage the quality of the product itself and that, in a best case, could impede the product from being imported into a country with strict packaging-related legislation.



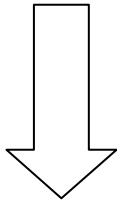
**Figure 6.10** BETA – Why environment retailers and for costs? – TMG + EM opinions (in grey)

### 6.1.3 Similarities and differences between the two case studies

While the two companies are very different fit seems that in both cases the environmental managers' contributions were significant. This finding is in line with the idea that failing to involve specialists will cause loss in the richness of the contents. Also it seems to suggest that environmental managers should be considered as specialists.

## 6.2 Adding the Content Quality Property of Accuracy

An additional Content Quality Property of interest to environmental managers is *Accuracy*. *Accuracy* is the extent to which data is correct, reliable and certified free of error. At this stage of the process, where the content is only about ideas and concepts (i.e. the BSC Objectives), *Accuracy* relates to the extent to which the arguments are based on hard evidence. In other words, as exemplified in **Table 6.4**, highest level of *Accuracy* may occur when the evidence gathered is so strong that its applicability to the case at hand is hardly questionable. On the other hand, *Accuracy* is at its lowest when the arguments are solely based on personal, unjustified opinions.

Accuracy Level	My view is based on...	Example
<p><b>Low Accuracy</b></p>  <p><b>High Accuracy</b></p>	Individual opinion with no externally verified proof	I think that environment decreases costs but I have made no calculations
	Anecdotal evidence in different settings	I have evidence that eco-design has worked very well in the consumer goods industry but I am not sure whether it would work in the luxury goods
	Anecdotal evidence in similar settings	I have evidence that eco-design has worked very well for a company working in the luxury goods industry
	Anecdotal evidence with explanation of mechanisms	I found a study that explains exactly how to make eco-design work for luxury goods through the discussion of five different cases.

**Table 6.4** Environmental Content Quality stages and examples

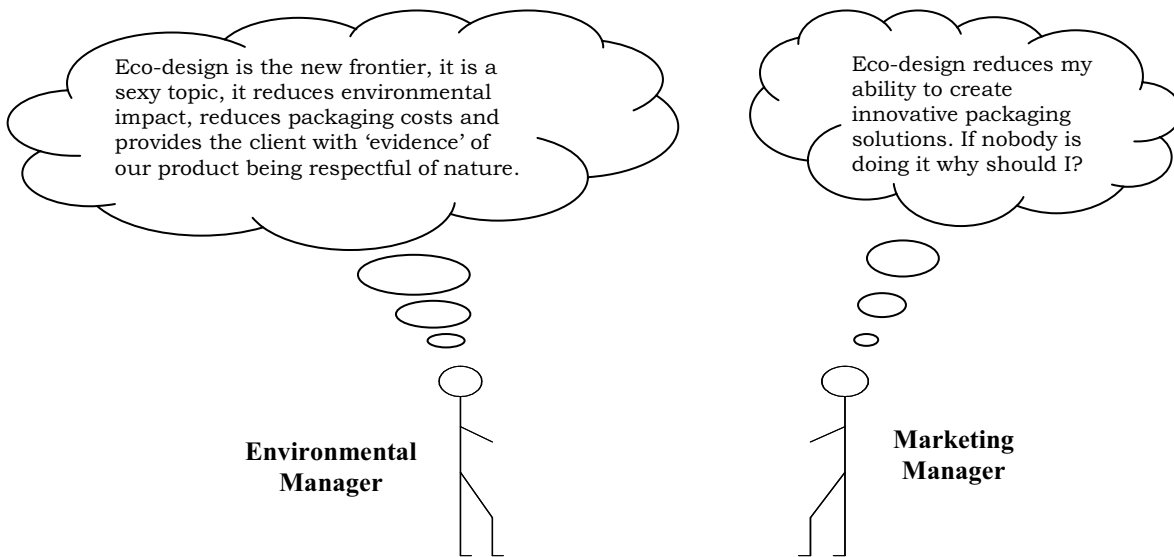
The Content Quality Property of *Accuracy* is useful to counteract individual level biases. As discussed in Chapter 1, these biases form because of who we are and what we do and we may forget to check upon the validity of our opinions. If environmental managers keep in mind the *Content Quality Property of Accuracy* this may help them to realise the extent to which they, or the top managers are biased. More interestingly, it can raise doubts in their minds concerning a certain issue, which in turn could open up the discussion.

The following example relates to a situation where the environmental manager needs the collaboration of the marketing manager. If he had the *Content Quality Property of Accuracy* in mind he could ask himself if his opinions are based on hard evidence . A negative answer immediately creates a common ground, an excuse for working together. His message to the colleague could be: *‘I know you do not agree with me, but how well have we really looked into the issue? Let’s dig deeper together to find out, from hard evidence, if there is a chance of fruitful collaboration’*.

The example that follows, taken from the experience in BETA, shows that while the opinions of the two managers are legitimate because they come from their experiences, they also lack accuracy. However, since they are not really aware of that, it seems very hard for them to find a common ground for discussion and investigation.

## 6.2.1 The risks of low-level Accuracy: an example

In BETA one of the main topics of discussion and interest for the environmental manager was the inclusion of environmental criteria in the packaging design. This activity, however, falls within the remit of the marketing manager. **Figure 6.11** shows the differing opinions of these two managers on the topic. Where do these opinions come from?



**Figure 6.11** Example of the differing opinions of the environmental manager and marketing manager differing opinions

The environmental manager has been working in BETA as oenologist and quality manager from 1982 to 1997 when he also took on the responsibility for environmental topics. His first step was to implement an environmental management system. In 2001 (during the time of this study) he was about to reach the ISO 14001 certification. This was not an easy task but he pushed hard and managed to convince the BETA shop-floor people that it was worth making the extra effort. He also liked new ideas and challenges and, as soon as he saw the end of the EMS approaching he started thinking: what next?

*'...I also think that the ISO 14001 will now be implemented and followed, we were the leaders, we did it, we look good...but what is next? We need to think ahead, what makes us stand out from the crowd and gives us the edge on the others? I think the packaging design can...the environmental motivations are strong because it is there that we can have the biggest impact on climate change and where there*

*is a big margin for improvement..!* (BETA, EM1, environmental manager, personal interview, 20 September 2002).

The corporate environmental department proposed him to pilot a new project: a methodology that measured the CO<sub>2</sub> emissions over the lifecycle of the product. He accepted. His analysis showed that the greatest negative environmental impact comes from the production of packaging, the treatment of waste particularly in packaging and the product's transportation. Since transportation issues could not be influenced by BETA alone (they depended on the regional transportation infrastructure) he turned his attention to eco-design. The more EM1 thought about eco-design the more he liked it. He became involved in creating new marketing materials, which was diverse and interesting compared to the policing-type activities that an environmental management system forced upon him.

*'...there is also the issue that ISO 14001 is not really something that makes people dream...people identify much better and are much more excited about "design"...for the marketing people there might be an individual motivation to design products that do not worsen the climate change problem'* (BETA, EM1, environmental manager, personal interview, 20 September 2002).

Finally, (a speculation) having direct contact with the marketing department, which is a very important part of BETA's value chain brought him one step closer to the top management.. At the time, quality, health and safety and environment across the value chain were spread across a number of different functions (i.e. production director, oenology director, vineyard director, and sales director). It lacked a real (and maybe necessary) overall coordination. If there was the possibility, and need, for an overall coordinator to oversee all aspects in the value chain then the EM1 would stand a good chances of being chosen.

Unfortunately, while these arguments seem to explain the reasons why EM1 had certain ideas about eco-design they also fall somewhat short of providing a solid business angle to justify the move to eco-design, in other words, *low Accuracy*. As shown in the quotes, the EM1 makes three purely business-related claims.

**First claim: it reduces our costs!**

*'...I think that eco-design has a great potential to reduce costs for us...I think that roughly 10-15% of total cost of a bottle of champagne is the primary [e.g. bottle] and secondary [e.g. cardboard] packaging.'* (BETA, environmental manager, personal interview, 20 September 2005).

This claim has two main problems. The first problem is that luxury goods companies are traditionally more focused on ways to drive price up rather than costs down. Despite the fact that BETA is today striving to reduce its costs, this argument is not really attractive for a marketing manager whose daily job is to focus on volume growth. The second problem is that the number of 10-15% may not be exact since the production manager evaluates it in the 40-50% range. The environmental manager himself seems not to be that sure of that number anyway when he chooses the wording '*I think that roughly...*'.

**Second claim: it reduces cost for our suppliers!**

*'...also it will reduce the costs of suppliers because we will need for less cardboard and less volume of raw material in the packaging...less energy...'(but presumably BETA would also pay less for the product) well there is also the issue of transport for the supplier, less volume means less space and less trucks (well, but if you pay less, what is his interest in this...I am provoking you...) you're right...mmmhhhh...not sure at all...maybe it is a question for our purchasing manager..'* (BETA, EM1, environmental manager, personal interview 20 September 2002).

**Third claim: consumers appreciate the moral stance!**

*'...then there is a softer issue that relates to the concept of luxury, at least for me...I mean...luxury goods are by definition things that are not needed to survive...a buyer might appreciate the moral stance taken by the rich companies to propose products that do not pollute...after all, protecting the environment is an issue for rich anyway right?...well...maybe this sounds a bit idealistic...luxury without wastage...I wonder...'* (BETA, EM1, environmental manager, personal interview 20 September 2002)

These latter two quotes also show that the business angle of the eco-design proposal had not been developed in depth. The environmental manager lacks evidence to support his claims. To summarise, it seems fair to suppose that the eco-design idea, while *maybe* having some potential, had little business grounds and was based on personal motivations and influenced by the EM1's role in the organisation (i.e. an environmental manager who strives to reduce environmental impact).

The marketing manager's opinion on the topic is totally different but it seems to be based on the same type of mistakes:

- (i) Bias due to role in the organisation.
- (ii) Opinion not based on hard evidence.

The marketing manager had arrived in BETA only a couple of years earlier and was in charge of producing marketing materials that appeal to the consumer to raise sales.



This role is quite crucial in BETA because, unlike for the Champagne production where the rule is to 'stick to the tradition', much of what the consumer saw when buying Champagne was the presentation. This factor is thought to be so influential in the 'decision to buy' that the CEO felt it necessary to say: '*...I like to remind my people that Champagne is first of all what you drink...*' (BETA, CEO, 2002). As if there is a tendency to focus too much on the marketing presentation and less on the champagne itself.

It is thus hard to blame the marketing manager if he sees in eco-design a constraint. How else could the idea of putting additional environmental requirements on the type (and volumes) of materials the marketing manager could use to 'create'? While it is difficult to blame the marketing manager for seeing environment as an additional constraint he may be blamed for seeing it *only* as a constraint and for not being willing (or able) to dig deep enough to find other possible solutions. Again, his opinion is not based on hard evidence. Does he do customer surveys? Has he asked questions on the importance of the natural features of the product? Has he conducted any pilot projects to look into this? He freely admits that, he has not.

(How do environmental issues impact customer satisfaction?) '*Frankly speaking I see it as something nice to have...but we never used it in our communication...people don't think about these things when they buy a bottle of Champagne (do carry out customer surveys?) ...no we don't because we feel, and maybe we are wrong, that we are sufficiently close to them to know what they have in mind...but you are right, maybe we should do a survey to know them better...*' (BETA, marketing manager, personal interview, 2 September 2002).

While the marketing manager can certainly carry out his work without the EM1's assistance, the opposite is impossible. The EM1 *needs* to win over the marketing manager to his way of thinking. Views that are solely based on personal opinion (lowest accuracy) will make it harder for the marketing manager to take the argument seriously, especially if it entails a significant shift in his own way of thinking. So, while the marketing manager may be blamed for his unwillingness to *dig deeper*, the EM1 was largely responsible because he failed to provide deeper analysis to back up his argument.

### **6.3 Generalising the EM inclusion process prescription**

The fact that EM inclusion has improved *Completeness* in both ACEAIP and BETA is comforting, but not sufficient to draw persuasive conclusions. There are at least two reasons for this. The first reason is that not all companies or business units have an environmental manager. The need to include one is therefore not particularly practical. The second reason is that including only the environmental manager as opposed to say, the marketing manager, may be counterproductive as it could twist the knowledge providing only one perspective of the argument. .

Chapter 1 defined the environmental manager as ‘*someone who is in charge of finding the optimal ways for the 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 his role as manager, but rather it relates to his/her ability to improve environmental *Completeness* and *Accuracy*, two key Content Quality Properties. To this end one should consider the possibilities that more than one person has to be involved in order to maximise *Completeness* and *Accuracy*.

In order to generalise the process prescription introduces the concept of *Environmental Idea Launchers* (EIL) defined as *people capable of increasing environmental Completeness and Accuracy*. With this process rule if an environmental manager does not exist one can look for someone with sufficient knowledge that could play the role, as was the case of ACEAIP. On the other hand, if a manager exists he may still want to include additional managers that have knowledge that is complementary to his own as was the case in BETA where two EMs were chosen.

#### **Process Prescription 2.8 (Previous Chapter 5 Version)**

*Include the environmental manager*

#### **Process Prescription 2.8 (New Revised Version – to be used)**

*Include Environmental Idea Launchers*

## 6.4 Conclusions and contributions

The aim of this chapter was to address the importance of the contribution of the environmental managers. The empirical evidence shows that in both ACEAIP and BETA environmental managers have brought additional information to the table, which top managers did not know. EM inclusion has therefore increased *Completeness*.

This chapter has also brought about a change in the Process Rule of EM inclusion with *Environmental Idea Launchers (EIL)* inclusion. EILs are people who may contribute to Content Quality through their knowledge. Introducing this concept has the advantage to open up the options of process participation to those managers, or external people, who could best contribute without ‘blocking’ them from the discussion because of their role in the organisation.

<b>Process Rules - PHASE 2</b>	
<b>Questions for Environmental Managers</b>	<b>Process Rule</b>
<b>Interviewing</b>	2-1.
	2-2.
	2-3.
	2-4.
	2-5.
	2-6.
<b>Clustering</b>	2-7.
	2-8. <i>Include Environmental Idea Launchers</i>
<b>Clustering</b>	2-9.
	2-10.
	2-11.
No Fill = Decision taken through use of common sense; Greyed = Decision taken through use of relevant literature; Black = Supported by the empirical evidence	

**Table 6.5** Decisions discussed in this Chapter

The final finding of this chapter is the importance of the Content Quality Property of *Accuracy*. This is the extent to which data is correct, reliable and certified free of error. At this stage of the process, where the content is only about ideas and concepts (i.e. the BSC Objectives), *Accuracy* relates to the extent to which the arguments are based on hard

evidence. To argue this point, we can refer to the experience in BETA, where the concept of accuracy and accuracy maximisation may provide a good basis to encourage environmental managers and top managers to work together and collaborate.

#### **6.4.1 Contribution to the literature**

The level of detail reached by the discussion in this chapter goes much beyond what the literature in the field of BSC and environmental management in general.. As discussed in **Section 1.2.1**, only one article found (to-date) dealt directly with the needs of environmental managers. However, even this article did not go into sufficient detail about the contribution that environmental managers bring to the strategic discussion.

The contribution to the literature is three fold. Firstly, this chapter provides a methodology to display and discuss the contributions that environmental managers can make. Secondly, it introduces two Content Quality Properties, *Completeness* and *Accuracy*, upon which to evaluate the quality of these contributions. Thirdly, by introducing the concept of EIL's, the chapter provides guidelines to choose participants that are likely to maximise *Completeness* and *Accuracy*.

#### **6.4.2 Limitations and future research**

While the process rule of EM inclusion had a lot of limitations, its modification into EIL inclusion seems widely applicable. In practice, it takes the form of a question: who should we involve in order to have enough knowledge about environmental issues? This question is always applicable.

In terms of future research there are at least two interesting directions. First there are a number of questions related to environmental managers and their contributions such as: How can environmental managers maximise their contributions? How can they recognise when there is a need to involve other people from outside the organisation? How should they choose these people? How should they be involved in the process?

Secondly, the same type of discussion could be carried out for other functions that have similar, shared service, characteristics, such as HR, IT and so on. This is because these specialists face the same kind of problems experienced by the environmental managers. They perform activities that contribute horizontally to the business unit's work and because of their horizontal function their contribution to the business is not easily recognised, appreciated or valued.

### **6.4.3 Contribution to practice**

As usual, the contribution to practice is the existence of the suggested Process Rules. For this chapter the Process Rule under discussion is EIL inclusion. The EIL inclusion enables the person championing the project to widen the involvement of specialists who may not traditionally have been included in discussions. By doing so they are able to maximise *Completeness* and *Accuracy* on environmental issues.

Environmental managers reading through this chapter will probably be enthusiastic about the idea that they should be involved in a strategic discussion. For them, this is clearly a desirable outcome, but it is no great novelty. As the survey of Swedish environmental managers suggests, they already think they can contribute to the strategic discussion, it is top management that does not seem to acknowledge that fact. (NMC, 1997, 1998, 1999, 2000, 2001, 2002).

So, the key contribution to practice is not so much the one pointing to the importance of including environmental managers in the discussions but to the idea that it is impossible for any TMG members to play the role of an environmental manager at this stage. Top managers reading this chapter should ask themselves whether environmental issues are appropriately *defended* at their management meetings and if they are aware of the type of constraints and opportunities that environmental issues pose for their companies. They might also want to think about whether or not someone in the company is aware of these issues. This chapter shows at least two points of practical relevance for them. First, that the involvement of *Environmental Idea Launchers* in decision making might be beneficial to them. Second, that involving them in discussions can be very easily arranged and cost effective to do. The knowledge is already there, it just needs to be brought to the attention of the decision makers.

### **TO DATE and FORWARD**

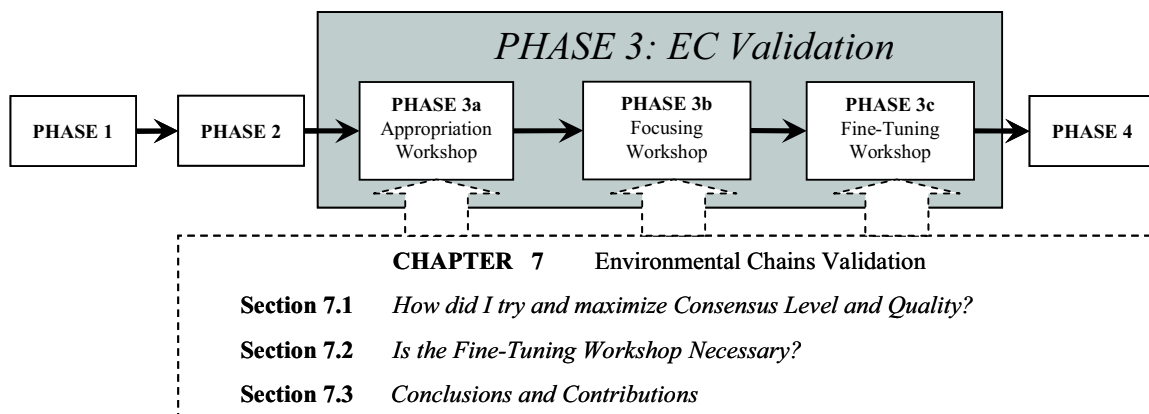
This chapter started with the description of the contributions that environmental managers can bring to a discussion and ends with a Process Rule providing guidelines on who should be included in the interviewee group to maximise environmental Content Quality. The following chapter discusses the interaction part of the study where managers will come to a group-level view of Environmental Chains.

## 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 standpoint<sup>64</sup>) 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

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<sup>64</sup> 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.



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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).

<b>ACEA Public Lighting (ACEAIP)</b>		
<b>Key Managers</b>	<b>EC1</b>	<b>EC2</b>
CEO	Interested	Interested
Environmental Manager	Interested	Interested

***Chosen!***

***Chosen!***

**Table 7.2** Opinion and choice of ACEA key managers

<b>BETA</b>				
<b>Key Managers</b>	<b>EC3</b>	<b>EC4</b>	<b>EC5</b>	<b>EC6</b>
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.
<b>Important:</b> 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*<sup>65</sup> 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.

<sup>65</sup> 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.

<b>Group-type Mistakes</b>	
Label	Phenomenon
<b>Message Tuning</b>	Overestimate the commonality of information shared and tune communication accordingly
<b>Message Distortion</b>	Modify the message based on perceived desires of the receiver
<b>Biased Interpretation</b>	Bend a message towards one's own pre-conceptions or ideas
<b>Transparency Illusion</b>	Belief that one's own thoughts and attitudes are more obvious to others than is actually the case
<b>Indirect Speech Acts</b>	Concealing a request behind indirect statements
<b>Uneven Communication</b>	Relatively few people (not necessarily the most informed) tend to do the majority of the talking
<b>Common Info Effect</b>	People tend to discuss what everyone already knows
<b>Need to be Right</b>	The tendency of looking at the group to define what reality is
<b>Need to be Liked</b>	The tendency for people to agree with a group so that they can feel more like a part of that group
<b>Group Think</b>	Deterioration of mental efficiency/judgement due to unconscious pressure to conform to perceived group opinion
<b>Escalation of Commitment</b>	Persisting in a losing course of action only because of the to-date involvement in that action
<b>Abilene Paradox</b>	Agreement of all group members to an individually undesirable course of action solely due to misunderstanding of each others' preferences.
<b>Group Polarization</b>	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>
<b>Consensus Level</b>	level of agreement between managers on decisions taken.	<i>No Properties</i>	
<b>Consensus Quality</b>	the extent to which the decisions taken are likely to result in the desired firm performance	<b>Interaction Quality</b>	the extent to which the interaction managed to solve individual cognition problems and avoid falling into group dynamics mistakes.
		<b>Group Quality</b>	the extent to which the people involved have sufficient knowledge to discuss and power to implement the decisions taken.
		<b>Content Quality</b>	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 correct<sup>66</sup>. *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.

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<sup>66</sup> 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?
<b>F1</b>	Increase Sales Volume	<i>Modified</i>
<b>F2</b>	Increase EBIT	<i>Existing</i>
<b>C1</b>	Increase Municipality Satisfaction	<i>NEW</i>
<b>C2</b>	Increase Districts Satisfaction	<i>NEW</i>
<b>C3</b>	Increase Citizens Satisfaction	<i>NEW</i>
<b>IP1</b>	Improve Citizen Communication quality	<i>NEW</i>
<b>IP2</b>	Improve control of time-to-repair	<i>NEW</i>
<b>IP3</b>	Reduce time-to-repair	<i>Existing</i>
<b>IP4</b>	Reduce need-to-repair	<i>NEW</i>
<b>IP5</b>	Increase maintenance efficiency	<i>Modified</i>
<b>IP6</b>	Implement Quality/Safety/Environment System	<i>NEW</i>
<b>IP7</b>	Develop District-ACEA partnership	<i>NEW</i>
<b>DG1</b>	Improve Information System	<i>NEW</i>
<b>DG2</b>	Improve employee Motivation	<i>NEW</i>
<b>DG3</b>	Improve capability intervention diagnosis capabilities	<i>Existing</i>

**Table 7.10** ACEAIP - Which BSC Objectives are new?

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

***Intimate  
Consensus  
Cues***

(ACEAIP, Workshop, 3 June 2003)

The conversation here started from the discussion on citizens' needs and shifted to the district's<sup>67</sup> 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 labels<sup>68</sup>. 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.

<b>Content Quality Properties potentially impacted by Fine-Tuning</b>		
<b>Sub-Property</b>	<b>Definition</b>	<b>Why would Fine-tuning have an impact?</b>
<b>Believability</b>	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.
<b>Objectivity</b>	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.
<b>Reputation</b>	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.
<b>Interpretability</b>	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.
<b>Ease of Understanding</b>	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.
<b>Completeness</b>	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

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

<sup>68</sup> 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)<sup>69</sup>.

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<sup>69</sup> 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><b>C3 – Increase Citizen Satisfaction</b></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><b>IP4 – Reduce Need to Repair</b></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!	

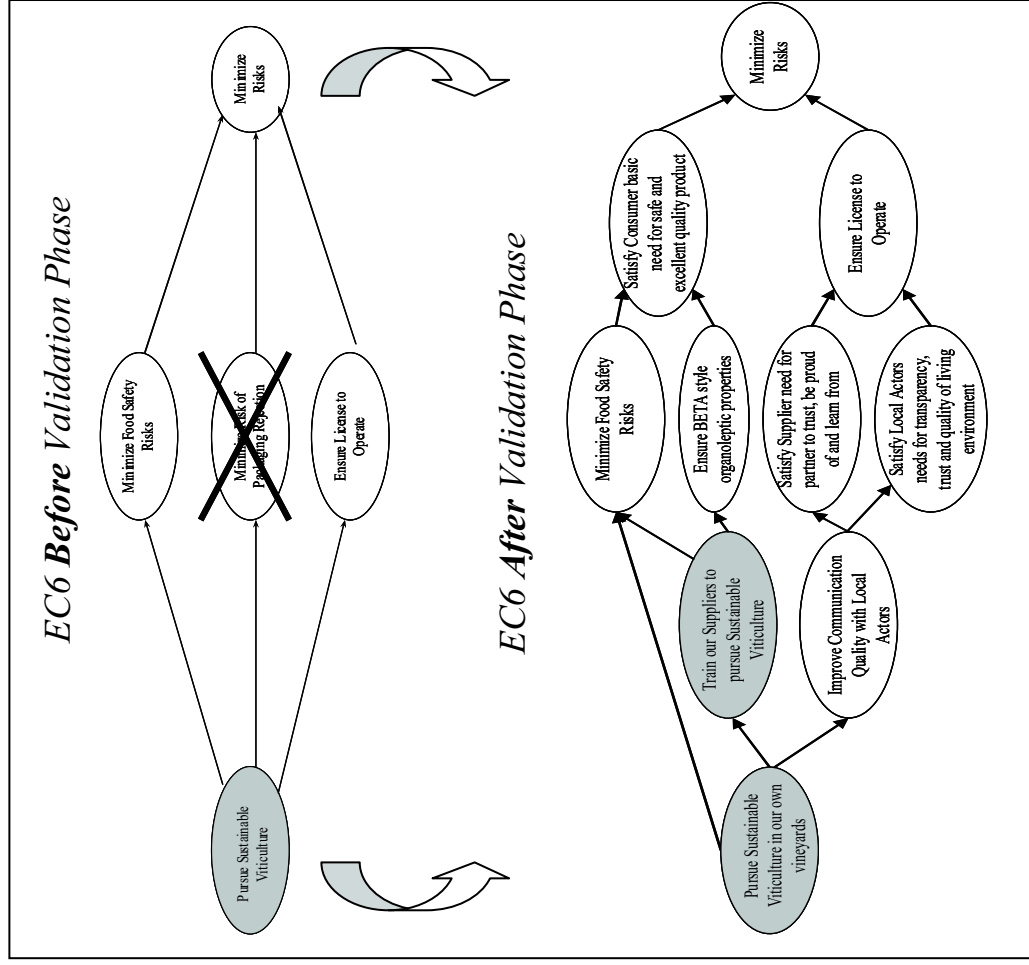
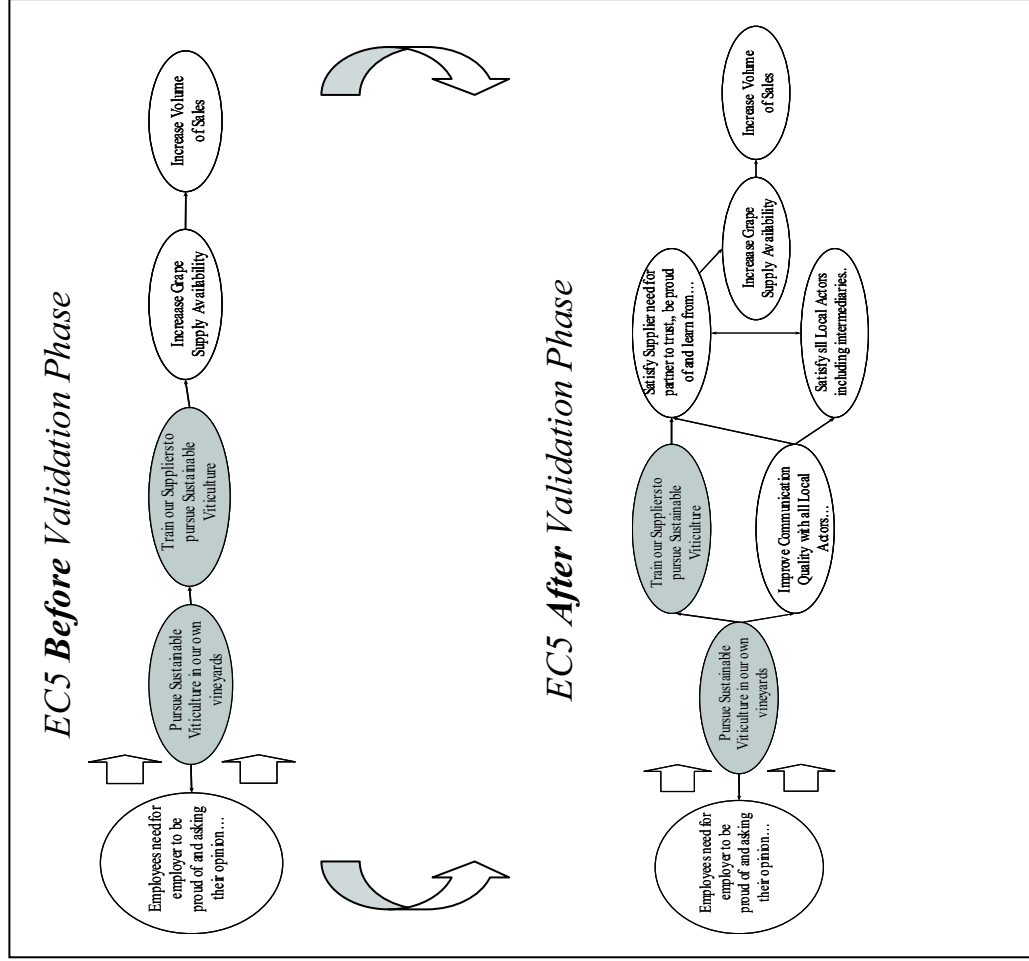
**Table 7.15** BETA - Types of BSC Objectives changes

Before	After
<b>F3 – Minimize Risks to Consumer Health</b>	<b>After</b>
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
<b>C6 – Increase Local Authorities Satisfaction</b>	<b>After</b>
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**

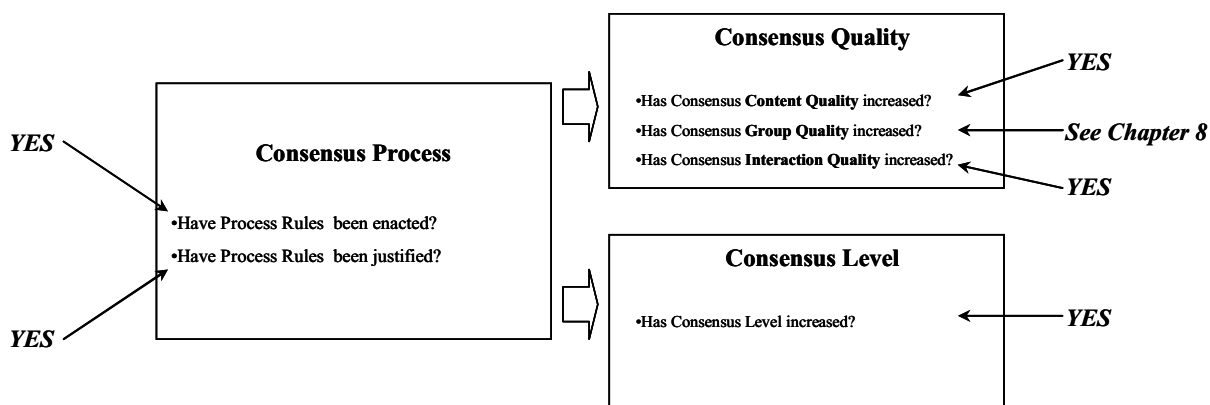
The aim of this chapter was to describe and comment on Phase 3 of the process which has been carried out in three sub-phases: *Appropriation*, *Focusing* and *Fine-tuning*. The *Appropriation Sub-phase* aimed at getting the managers to agree with the overall Strategy Map. The *Focusing Sub-phase* was 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.

<b>Process Rules - PHASE 3</b>		
	<b>Questions for EM's</b>	<b>Process Rules</b>
<b>Appropriation</b>	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 <b>Table 7.1</b></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 <b>Table 7-6</b></i>		
<b>Focusing</b>		
<b>Fine-Tuning</b>		
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.

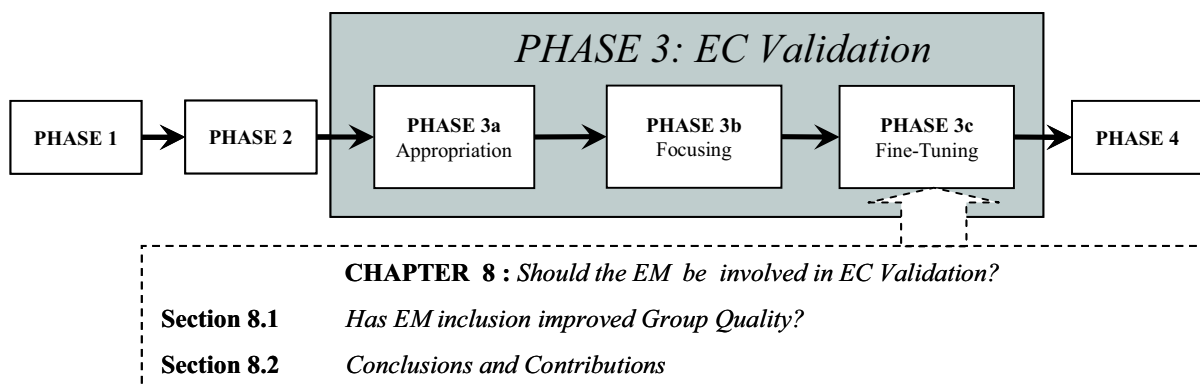
Going back to the metaphor proposed in **Section 2.9**, the branches of the tree (i.e. the BSC Objectives), if not validated in a group discussion, will not hold. The environmental manager will then be left with the hard job of showing the financial returns of environmental work, instead of simply showing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

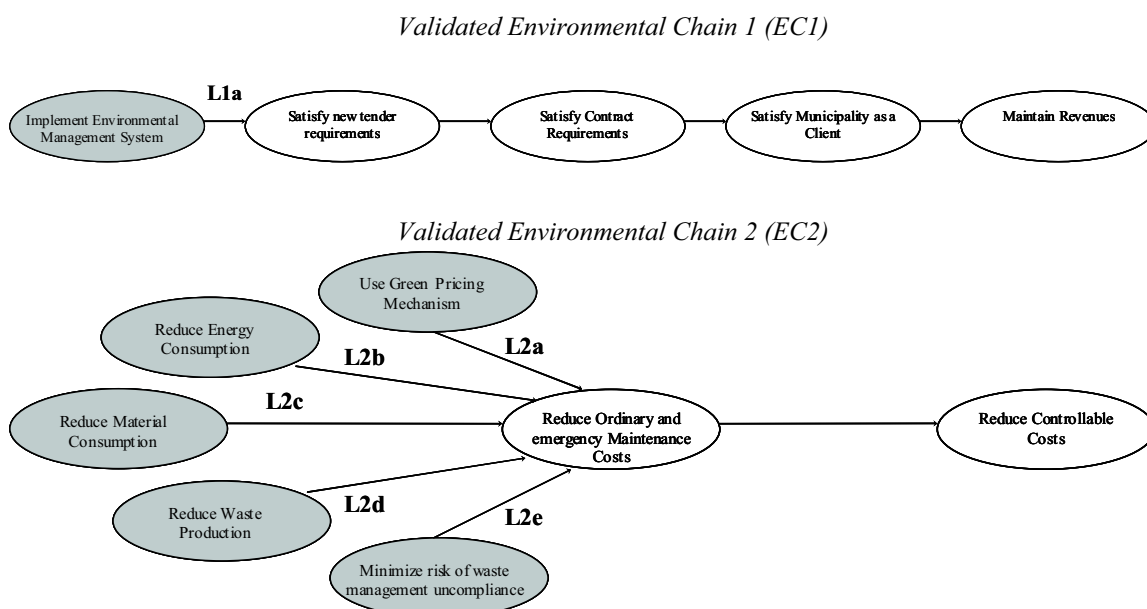


<b>Group Quality Properties Analysed - PHASE 3</b>				
<i>Concept</i>	<i>Property</i>	<i>Sub-Property</i>	<i>General Definition</i>	<i>Specific Meaning</i>
Consensus Quality	Group Quality	Completeness	the extent to which data are of sufficient breadth, depth, and scope for the task at hand	Minimize ideas 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 Liras<sup>70</sup>/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:

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<sup>70</sup> 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.

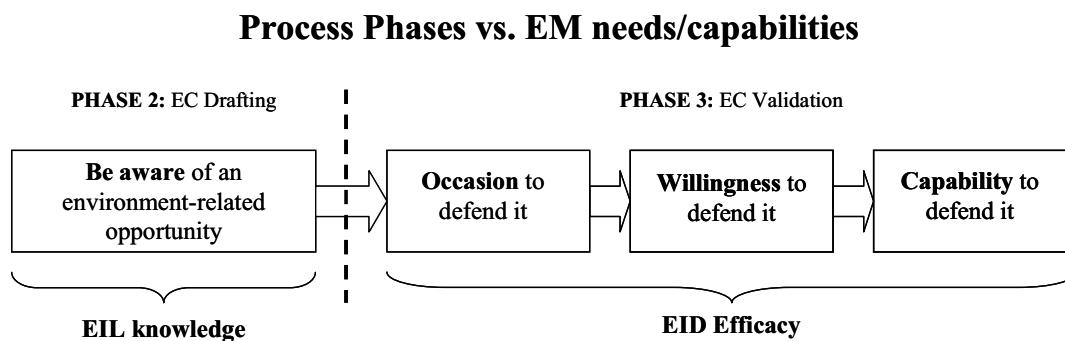
Event N.	Objective	Topic defended	Defender
1	<i>FI</i>	We want to Increase Sales and not only Maintain them	<i>CEO</i>
2	<i>FI</i>	Green Pricing is an opportunity	<i>EM</i>
3	<i>CI</i>	Municipality also wants low costs	<i>CEO</i>
4	<i>CI</i>	Implementation QSE Integrated Management System is a requirement	<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 &amp; 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.

<b>Process Rules - PHASE 3 - Final</b>			
	<b>Questions for EM's</b>	<b>Process Rules</b>	
<b>Appropriation</b>	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 <b>Table 7.1</b></i>	
		<i>3-3. Invite all interviewees to Appropriation workshop</i>	
<i>3-4. Include EID's to maximize occasion, willingness and capability to defend</i>		<b>Revised</b>	
<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 the Criteria in <b>Table 7.6</b></i>			
<i>3-10. Think of techniques to increase willingness to defend of chosen EID's</i>		<b>Added</b>	
<i>3-11. Thinks of how to increase the capabilities to defend of the chosen EID's</i>		<b>Added</b>	
<b>No Fill</b> = Decision taken through use of common sense; <b>Greyed</b> = Decision taken through use of relevant literature; <b>Black</b> = 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**

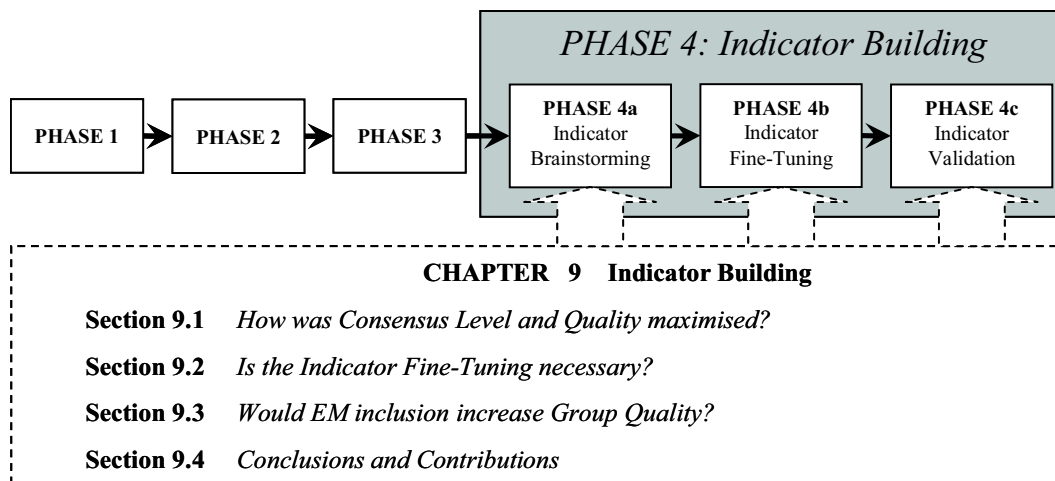
This chapter delved into the interaction part of the study where managers have come to a group-level view of environmental chains. The next chapter will discuss the indicator building process and results.

## 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*<sup>71</sup>. 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

<sup>71</sup> See Chapter 2

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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 managers<sup>72</sup> 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?**

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<sup>72</sup> The authors call them *key functional managers*

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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**<sup>73</sup>. 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**).

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<sup>73</sup> 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)**.

<b>N.</b>	<b>Steps to brainstorm indicators related to a BSC objective</b>
<b>1</b>	Read the objective out loud to the group
<b>2</b>	Make a list of possible indicators
<b>3</b>	Check their consistency with the contents of the BSC Objectives
<b>4</b>	Revise BSC Objectives contents and/or select the more relevant indicators
<b>5</b>	Discuss definition of new words in indicator title if necessary
<b>Note!</b>	Recommended that managers to avoid criticising indicators proposed
<b>Note!</b>	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**).

<b>N.</b>	<b>Criteria for second tier manager inclusion in sub-group</b>
<b>1</b>	Are there managers that have exclusive knowledge of relevance for those subgroup objectives?
<b>2</b>	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

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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

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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.



<b>Individual Cognition Problems</b>		
<b>Label</b>	<b>Explanation</b>	<b>Usefulness of Indicators</b>
<b>Illusory Correlation</b>	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
<b>Illusory Causation</b>	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
<b>Gap-creating</b>	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.
<b>Gap-filling</b>	Assume events occurred, that in fact did not, because they are schema-relevant.	See Gap-Creating.
<b>Ignoring overly discrepant information</b>	Fail to code or store information that is extreme or highly surprising.	Building and indicator means looking for the discrepant information.
<b>Preference for ambiguous information</b>	Prefer ambiguous information to avoid self-deprecatory learning.	There is less space for ambiguity when indicators are built because there is a measurement.
<b>Preference for self-enhancing information</b>	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?

<b>Group-type Mistakes</b>		
<b>Label</b>	<b>Phenomenon</b>	<b>Usefulness of Indicators</b>
<b>Message Tuning</b>	Overestimate the commonality of information shared and tune communication accordingly	NO INFLUENCE
<b>Message Distortion</b>	Modify the message based on perceived desires of the receiver	NO INFLUENCE
<b>Biased Interpretation</b>	Bend a message towards one's own pre-conceptions or ideas	NO INFLUENCE
<b>Transparency Illusion</b>	Belief that one's own thoughts and attitudes are more obvious to others than is actually the case	NO INFLUENCE
<b>Indirect Speech Acts</b>	Concealing a request behind indirect statements	NO INFLUENCE
<b>Uneven Communication</b>	Relatively few people (not necessarily the most informed) tend to do the majority of the talking	NO INFLUENCE
<b>Common Info Effect</b>	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.
<b>Need to be Right</b>	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.
<b>Need to be Liked</b>	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.
<b>Group Think</b>	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.
<b>Escalation of Commitment</b>	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.
<b>Abilene Paradox</b>	Agreement of all group members to an individually undesirable course of action solely due to misperception of each others' preferences.	NO INFLUENCE
<b>Group Polarization</b>	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>
<b>Consensus Level</b>	level of agreement between managers on decisions taken.	<i>No Properties</i>	
<b>Consensus Quality</b>	the extent to which the decisions taken are likely to result in the desired firm performance	<b>Interaction Quality</b>	the extent to which the interaction managed to solve individual cognition problems and avoid falling into group dynamics mistakes.
		<b>Group Quality</b>	the extent to which the people involved have sufficient knowledge to discuss and power to implement the decisions taken.
		<b>Content Quality</b>	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>		
<b>Indicator Name</b>	<b>Indicator Objective</b>	<b>New?</b>
<i>ACEAIP</i>		
<b>F1i1</b> - Sales Volume	Measure the financial consequences of increasing the volume of work with the Municipality and with other clients.	<i>Modified</i>
<b>F1i2</b> - Sales Volume Forecast Reliability	Measure the quality of the forecast and the capability of respecting expected timing.	<i>NEW</i>
<b>F2i1</b> - Controllable Costs	Measure total costs net of investments and holding overheads.	<i>NEW</i>
<b>F2i2</b> - Holding Costs	Show how much the holding costs influence the total costs of ACEAIP.	<i>NEW</i>
<b>IP6i1</b> - Maintenance Costs per light	Measure how much it costs to maintain the existing street lights on.	<i>Modified</i>
<b>IP6i2</b> - Production Costs per light	Measure how much it actually costs to increase street lighting.	<i>Modified</i>
<i>VEUVE CLICQUOT PONSARDIN</i>		
<b>IP1i1</b> - Sustainable Viticulture (SV) Starters	Measure the quality and quantity of propositions for new sustainability related projects coming from employees.	<i>NEW</i>
<b>IP1i2</b> - SV projects implemented	Measure the quality of VCP selection and testing processes.	<i>NEW</i>
<b>IP1i3</b> - SV Practices Acquired	Measure the state of the implementation process	<i>NEW</i>
<b>IP2i1</b> - 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>
<b>IP2i2</b> - 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.

<b>Content Quality properties potentially impacted by INDICATOR BUILDING</b>		
<b>Sub/Property</b>	<b>Definition</b>	<b>Why would Indicators have an impact?</b>
<b>Believability</b>	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.
<b>Accuracy</b>	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.
<b>Objectivity</b>	the extent to which data are unbiased (unprejudiced) and impartial.	Quantitative data is impartial by nature.
<b>Value-Added</b>	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.
<b>Timeliness</b>	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.
<b>Interpretability</b>	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.
<b>Ease of Understanding</b>	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

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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-party<sup>74</sup> 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.*

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<sup>74</sup> *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

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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
<b>ACEAIP</b>			
<b>F1</b>	Increase Forecast Precision and Volume Sales		
<b>F2</b>	Decrease Controllable Costs		
<b>IP5</b>	Reduce Grid Management and Maintenance Costs		
<b>BETA</b>			
<b>IP1</b>	Innovate faster than competitors in the Sustainable Viticulture		
<b>IP2</b>	Improve Supplier Performance		
<b>IP6</b>	Improve Communication Quality with Local Actors		

Before	After
<b>ACEAIP -- F2 – Decrease Controllable Costs</b>	
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.
<b>Definitions:</b> <i>Controllable Costs</i> are those costs that are under the control of ACEAIP	
<b>BETA -- – Innovate faster than competitors in the SV</b>	
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
<b>Definitions:</b> <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*<sup>75</sup> from being discarded before undergoing thorough analysis.

<b><i>Group Quality Properties Analyzed - PHASE 3</i></b>				
<b><i>Concept</i></b>	<b><i>Property</i></b>	<b><i>Sub-Property</i></b>	<b><i>General Definition</i></b>	<b><i>Specific Meaning</i></b>
<b>Consensus Quality</b>	<b>Group Quality</b>	<b>Completeness</b>	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

<sup>75</sup> 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*<sup>76</sup>. 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.

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<sup>76</sup> 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**.

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

**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 ACEAIP<sup>77</sup> 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:

<sup>77</sup> 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*.

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

**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.

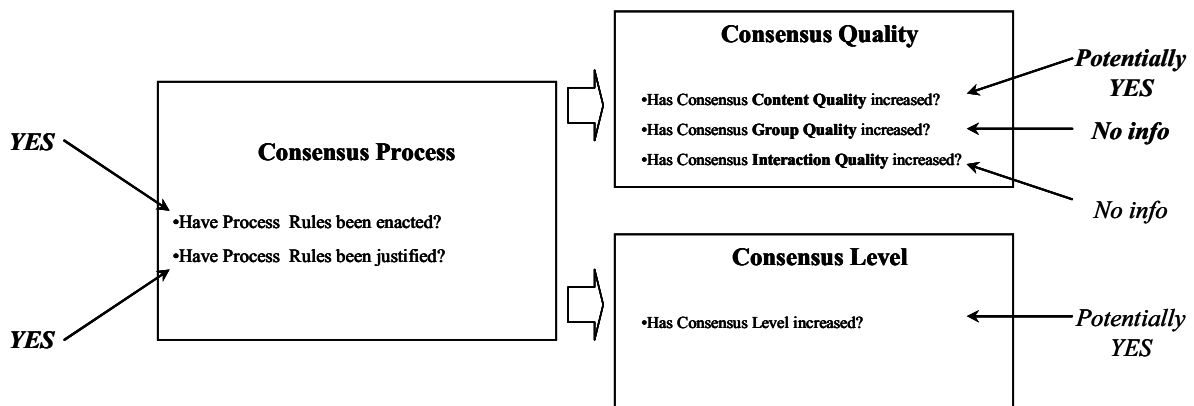
The Process Rules followed in the first two sub-phases are described before focusing on the Fine-tuning Phase because that is where the changes in the BSC Objectives have occurred. Concerning the Fine-tuning Phase, it is necessary because it potentially solves individual level biases and group dynamic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

<b>Process Rules - PHASE 4 - Final</b>		
	<b>Questions for EM's</b>	<b>Process Rules</b>
<b>Brainstorming</b>	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 <b>Table 9.1</b> to run workshop</i>
<i>4-5. Use <b>Table 9.2</b> to select participants</i>		
<i>4-6. Use <b>Table 2.2</b> to build indicators</i>		
<b>Fine-Tuning</b>		
<b>Validation</b>		<i>Not Carried out</i>
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.		

**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 Framework<sup>78</sup> **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

<sup>78</sup> 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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## **Personal Interviews**

- ACEA Corporate Institutional Relations Director, personal interviews, 15<sup>th</sup> March 2002 and 29<sup>th</sup> June 2002.
- ACEA Corporate Environmental team member, personal interview, 14th January 2002.
- ACEAIP, Director General, personal interview, 27<sup>th</sup> July 2002.

ACEAIP, Director New Street Lighting Systems, personal interview, 25<sup>th</sup> June 2002 and 5<sup>th</sup> June 2003.

ACEAIP, R&D Manager, personal interview, 14<sup>th</sup> June 2002 and 5<sup>th</sup> June 2003.

ACEAIP, Marketing Director, personal interview, 14<sup>th</sup> June 2002 and 3<sup>rd</sup> June 2003.

ACEAIP, Customer Relationship Manager, personal interview, 14<sup>th</sup> June 2002 and 4<sup>th</sup> June 2003.

ACEAIP, Maintenance Manager, personal interview, 15<sup>th</sup> June 2002 and 15<sup>th</sup> June 2003.

ACEAIP, Financial Controller, personal interview, 10<sup>th</sup> June 2002, and 22<sup>nd</sup> June 2003.

ACEAIP, Logistics Manager, personal interview, 25<sup>th</sup> June 2002 and 24<sup>th</sup> June 2003.

ACEAIP, Production Manager, personal interview, 5<sup>th</sup> July 2002 and 21<sup>st</sup> June 2003.

ACEAIP, Project Design Manager, personal interview, 21<sup>st</sup> June 2002 and 10<sup>th</sup> June 2003.

ALPHA Corporate Environmental Manager, personal Interview. 1<sup>st</sup> June 2002 and 25<sup>th</sup> June 2003.

ALPHA Corporate Environmental team member, personal interview, 12<sup>th</sup> April 2003.

ALPHA Corporate Top Manager, personal interview, 4<sup>th</sup> April 2002.

BETA CEO, 2<sup>nd</sup> September 2002.

BETA Environmental manager, personal interview, 20<sup>th</sup> September 2002 and 10<sup>th</sup> April 2003.

BETA Financial Director, 4<sup>th</sup> September 2002 and 28<sup>th</sup> May 2003

BETA Grape Supply Director, 10<sup>th</sup> September 2002 and 14<sup>th</sup> April 2003.

BETA Human Resource Director 10<sup>th</sup> September 2002 and 28<sup>th</sup> May 2003

BETA Procurement manager, 10<sup>th</sup> September 2002.

BETA Production Manager 14<sup>th</sup> September 2002.

BETA Product Development Manager. 12<sup>th</sup> September 2002.

BETA Marketing Manager 2<sup>nd</sup> September 2002.

BETA Sales Director 15<sup>th</sup> September 2002.

BETA Vineyard manager, 3<sup>rd</sup> September 2002 and 14<sup>th</sup> April 2003.

## **Workshops**

ACEA, Business Unit Choice Workshop, 2<sup>nd</sup> September 2002.

ACEAIP, Appropriation Workshop, 10<sup>th</sup> November 2002.

ACEAIP Sub-Business Unit Choice Workshop, 10<sup>th</sup> January 2003.

ACEAIP Objectives Fine-Tuning Workshops, 28<sup>th</sup> April 2003, 6<sup>th</sup> May 2003, 6<sup>th</sup> June 2003.

ACEAIP Indicator Brainstorming Workshop, 15<sup>th</sup> June 2003.

ACEAIP Indicator Fine-Tuning Workshops, 27<sup>th</sup> June 2003, 2<sup>nd</sup> July 2003.

ALPHA, Business Unit Choice Workshop, 29<sup>th</sup> January 2002.

BETA Appropriation Workshop, 21<sup>st</sup> November 2002.

BETA Sub-Business Unit Choice Workshop, 6<sup>th</sup> February 2003.

BETA Objectives Fine-Tuning Workshops, 22<sup>nd</sup> May 2003, 20<sup>th</sup> June 2003.

BETA Indicator Brainstorming Workshop, 20<sup>th</sup> July 2003.

BETA Indicator Fine-Tuning Workshops, 2<sup>nd</sup> October 2003, 10<sup>th</sup> October 2003.