# Integrating Environment issues in Top Management Decision Making

# 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.

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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.

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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** = Envionmental Chains

**EM** = Environmental Manager

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

**TMG** = Top Management Group

**BETA** = Business Unit of ALPHA

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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 CONSENSUS PROCESS | | | |
| --- | --- | --- | --- |
| **PHASE 1**<br>Preparation | **PHASE 2**<br>Environmental Chains<br>Drafting | **PHASE 3**<br>Environmental Chains<br>Validation | **PHASE 4**<br>Indicator Building |
| *CHAPTER 4* | *CHAPTER 5 & 6* | *CHAPTER 7 & 8* | *CHAPTER 9* |
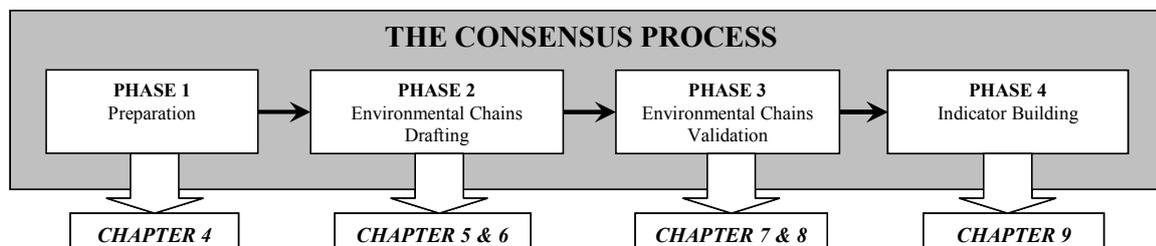
The need and the interest for this topic stems from the practice. environmental managers feel their ideas are underestimated by top management and literature provides only partial solutions and suggestions (*Chapter 1*). This issue is of general interest to all top managers because it has to do, first 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: C*onsensus 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[1] 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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[1] 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.
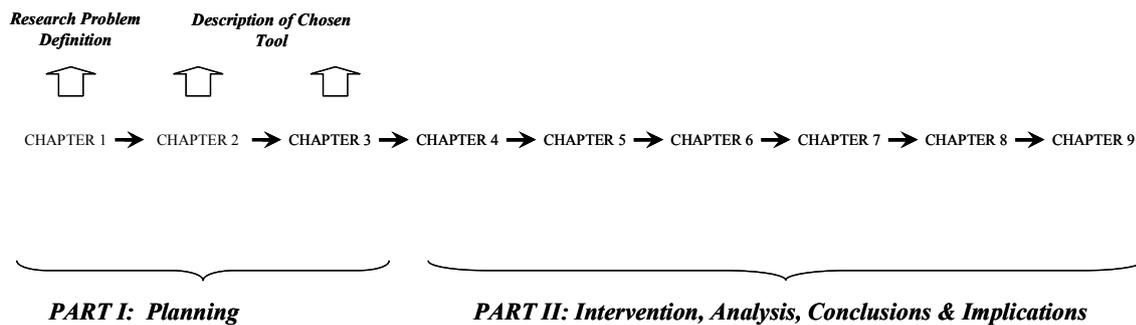


**Figure I.1**     *Part I and Part II contents*

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*[2]. 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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[2] *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.

| Eight mistakes to avoid | Seven questions to ask |
|---|---|
| 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 IIIEE 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.
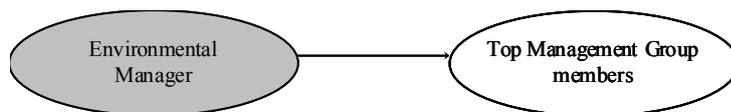


**Figure 1.1**     *EM proposes actions to TMG members*

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.
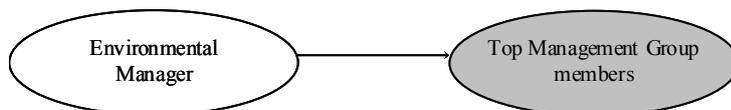


**Figure 1.2**     *TMG members receive environment-related proposals from EM's*


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[3]:

**The research problem – second version**

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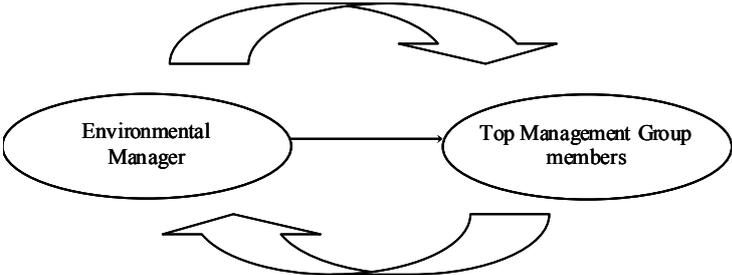


**Figure 1.3**     *Discussion Process*

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

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[3] 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[4]:

<br>

**The research problem – third version**

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

<br>

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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[4] 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*[5] continuously selects certain kind of data and stores it unconsciously. On the contrary, the *Controlled Process*[6], usually sparked by some kind of input (e.g. departure of

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[5] *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)
[6] *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*[7] (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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[7] *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*[8].

## 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[9])

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

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[8] Note that the research problem wording changes are highlighted in bold.
[9] 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).

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

Level of agreement of managers on factors such as goals, competitive methods and perceptions of the environment

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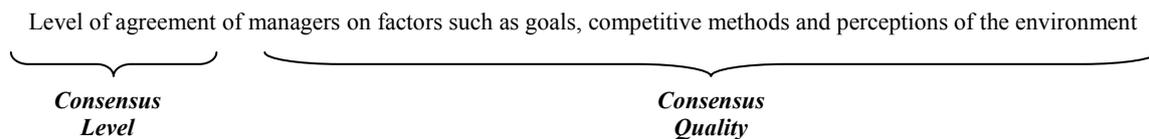
*Consensus*, as defined below, has two basic properties:

*(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.

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

**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[10]. Finally, encouraging interaction among managers (Interaction Quality) is important to prevent the group from taking a non-desirable course of action[11].

<div align="center">

**The research problem – fifth version[12]**

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

</div>

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.

<div align="center">

**The research problem – sixth version[12]**

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

</div>

## 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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[10] See Section 1.3
[11] See Section 1.3.1
[12] 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.
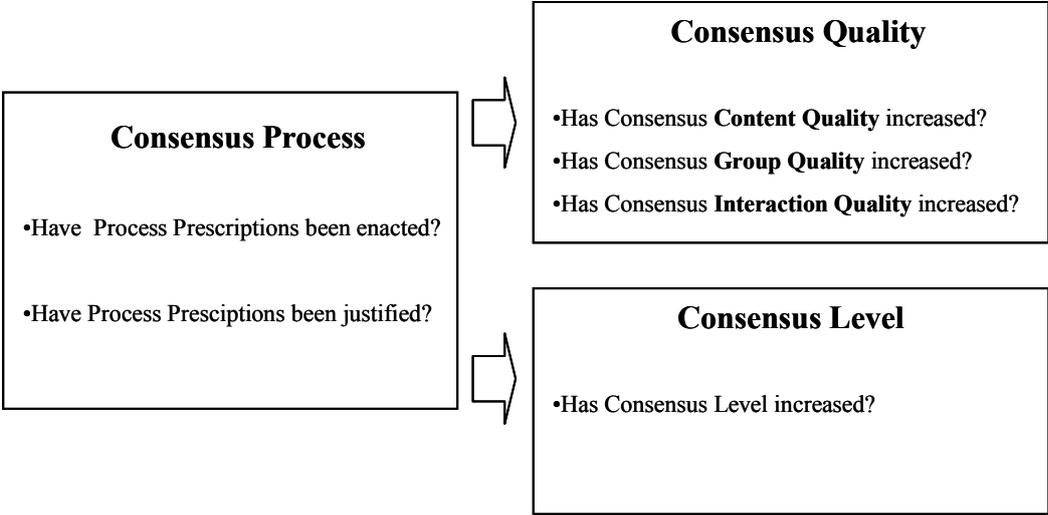


**Figure 1.5**     The evaluation framework

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.

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

<table>
<tr><td colspan="4" align="center">**DATA QUALITY**</td></tr>
<tr>
<td>**INSTRINSIC**<br>**Data Quality**<br><br>1. Believability<br>2. Accuracy<br>3. Objectivity<br>4. Reputation</td>
<td>**CONTEXTUAL**<br>**Data Quality**<br><br>5. Value-added<br>6. Relevancy<br>7. Timeliness<br>8. Completeness<br>9. Appropriate amount</td>
<td>**REPRESENTATIONAL**<br>**Data Quality**<br><br>10. Interpretability<br>11. Ease of Understanding<br>12. Representational consistency<br>13. Concise Representation</td>
<td>**ACCESSIBILITY**<br>**Data Quality**<br><br>14. Accessibility<br>15. Access security</td>
</tr>
</table>

**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].**

Another natural side-effect of strict collaboration and co-inquiry is that people should, as a result, learn to carry out this type of process without the help of the researcher **[4].** Finally, the process of inquiry should feed back into the original knowledge base and enrich it. This is of course also an important objective of this research. Participation in this research process aims at bringing the discussion to a higher level of sophistication and detail. For instance, while an overall framework of process options is still lacking today, tomorrow, with the help of such a framework, research will be able to delve more specifically into optimising certain process elements **[5]**.

## 1.6.1  Spiral of action research cycles

*Action Research* is linked to the general idea that *change* will only happen if one participates in projects aimed at bringing about change.  In the course of this research we hope to change the way the TMG looks at its own strategy and, hopefully in doing so, also spark some questions about the relevance of environmental issues for the company.

The original methodology for this type of research was introduced by Kurt Lewin (1946) and comprises three main 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 needed.



**Figure 1.7**      Spiral of action research cycles in this study

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[13])*

*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*[14]. The tool inspiring the specification of means and ends is the Balanced Scorecard (BSC)[15]. 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.
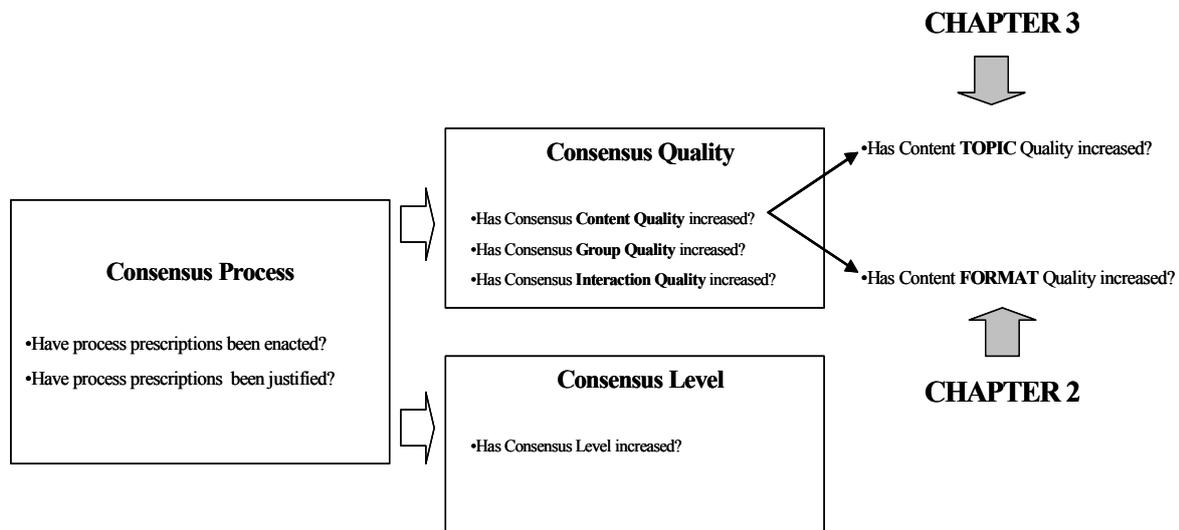


**Figure 2.1**      Evaluation framework elements defined in Chapters 2 and 3

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[13] The research problem will change again further down this study in **Chapter 2**

[14] *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**.

[15] 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[16], Indicators[17], Targets, Projects[18], Cause-Effect Links[19],Responsibility, Units[20] 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*).

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

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[16] Kaplan and Norton refer to an *Objective* using also the words *goal, strategic goal*, *strategic objective, performance driver* and *performance outcome*.
[17] Kaplan and Norton also refer to *Indicators* with the word *measures* for the purpose of this study taken as exact synonyms.
[18] Kaplan and Norton to refer to *projects* using also the words *initiatives, strategic initiatives, actions* and *action programmes*.
[19] Kaplan and Norton refer to *Cause-Effect hypothesis* also using the word *Cause-Effect relationships*.
[20] *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 Objective**s 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.

In crease Satisfaction of
Client Segments 1&3

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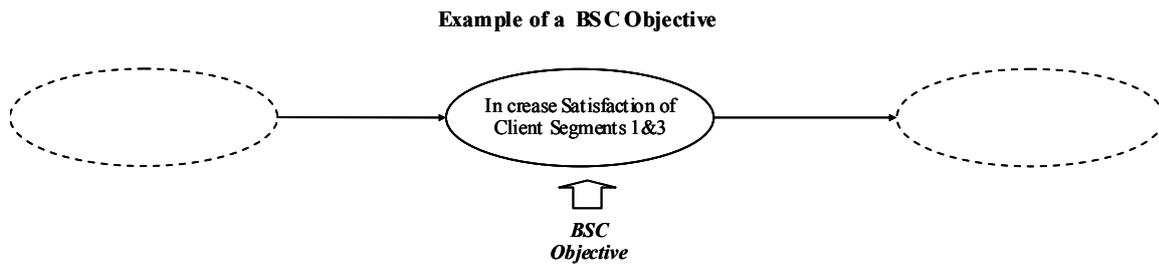
**Figure 2.2**     Example of a *BSC Objective*

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*.

**Example of an Environmental Objective**

Reduce Environmental
Impact of the product

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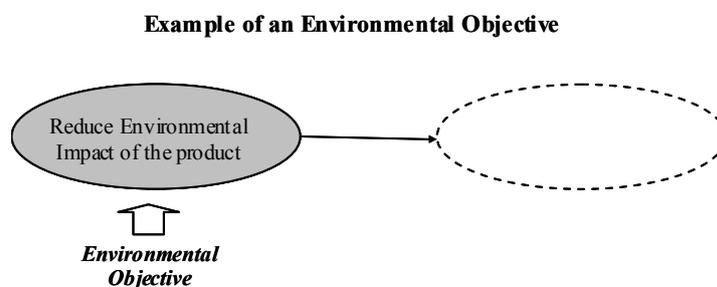
**Figure 2.3**     *Example of an Environmental Objective*

**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.



BSC Objective

Increase Customer Satisfaction

• Be well received
• Good Quality Product
• Excellent Service in case of product break-down

BSC Sub-Objectives

**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, discretional 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**

In crease Satisfaction of Client Segments 1&3

**Indicator 1:** *Satisfaction Index of Client Segment 1*

**Indicator 2:** *Saitsfaction Index of Client Segment 3*
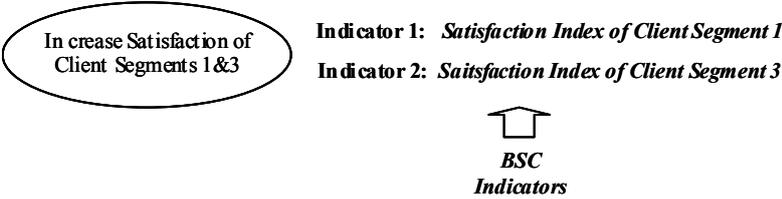
*BSC Indicators*

**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*[21] 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).

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[21] 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…** |
| | *Neely, Adams and Kennerly, 2002* | |
| *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 *alive* is entered correctly and timely. |
| *6* | …have a target level… | …that forces managers to set expectations and couple with projects. |
| *7* | …be fueled 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. |
| | *Additional for this study* | |
| *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 Testing

| Test name | The issue at stake | Rationale and Examples |
|---|---|---|
| **Truth Test** | 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). |
| **Focus Test** | Are we measuring ONLY what we set out to measure? | Sales to existing clients tracks both customer retention and cross selling. You can separate. |
| **Relevance Test** | 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. |
| **Consistency Test** | 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. |
| **Access Test** | Can data be easily accessed and understood? | Typically you ask whether a smaller data sample would do just as good as a bigger one |
| **Clarity Test** | Is there ambiguity in the interpretation of the results? | People that don't want to be measured question the validity and appropriateness of it. |
| **So-What Test** | Will the data be acted upon? | If you don't act on measures you might as well not measure them in the first place |
| **Timeliness Test** | Can the data be analyzed and accessed rapidly *enough* for action to be taken? | Sales reports at the end of the months are only historical; you cannot do anything about them anymore. |
| **Cost Test** | 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. |
| **Gaming Test** | 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)

## Checklist for Indicator Content Building

| | |
|---|---|
| **Measure:**<br>- What should the measure be called?<br>- Does the title explain what the measure is?<br>- Is it a title that everyone will understand?<br>- Is it clear why the measure is important? | **Target Level**<br>- What level of performance is desirable?<br>- How long will it take to reach this level of performance?<br>- Are interim milestone targets required?<br>- How do these target levels of performance compare with competitors?<br>- How good is the competition currently?<br>- How fast is the competition improving? |
| **Purpose:**<br>- Why is the measure being introduced?<br>- What is the aim/intention of the measure?<br>- What behaviors should the measure encourage? | **Frequency:**<br>- How often should this measure be made?<br>- How often should this measure be reported?<br>- Is this frequency sufficient to track the effect of actions taken to improve? |
| **Relates to:**<br>- Which other measures does this one closely relate to?<br>- What specific strategies or initiatives does it support? | **Source of data:**<br>- Where will the data to track this measure come from? |
| **Metric Formula:**<br>- How can this dimension of performance be measured?<br>- Can the formula be defined in a mathematical terms?<br>- Is the metric/formula clear?<br>- Does the metric/formula explain exactly what data are required?<br>- What behavior is the metric formula intended to induce?<br>- Are there any other behaviors that the metric formula should induce?<br>- Are there any dysfunctional behaviors that might be induced?<br>- How accurate will the data generated be?<br>- Is the scale being used appropriate?<br>- Are the data accurate enough?<br>- If an average is used how much data will be lost?<br>- Is the loss of granularity acceptable?<br>- Would it be better to measure the spread of performance? | **Who measures:**<br>- Who – by name, function or external agency – is actually responsible for collecting, collating and analyzing this data?<br><br>**Who acts on the data:**<br>- Who – by name and function – is actually responsible for initiating actions and ensuring that performance along this dimension improves?<br><br>**What do they do:**<br>- How exactly will the measure owner use the data?<br>- What actions will they take to ensure that performance along this dimension improves? |

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

## 2.4  Concept 4:  BSC Project

**Example of BSC Projects**

Improve Quality of the Product

- **Project 1:** *Implement Quality Management System*
- **Project 2:** *Quality Award to best performers*

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[22].



```
┌─────────────────────┐              ┌─────────────────────┐
│  In crease Satisfaction of │  ───────→  │  Increase Profits by 100% │
│  Client Segments 1&3       │           │  in 5 Years               │
└─────────────────────┘              └─────────────────────┘
           ⬆                                        ⬆
       *Leading*                                *Lagging*
       *Objective*                              *Objective*
```

**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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[22] See Section 2.8

that can only be proven by empirical investigation, and as such it is invariably uncertain[23]. *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[24].

**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*).

---

[23] 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.

[24] 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.
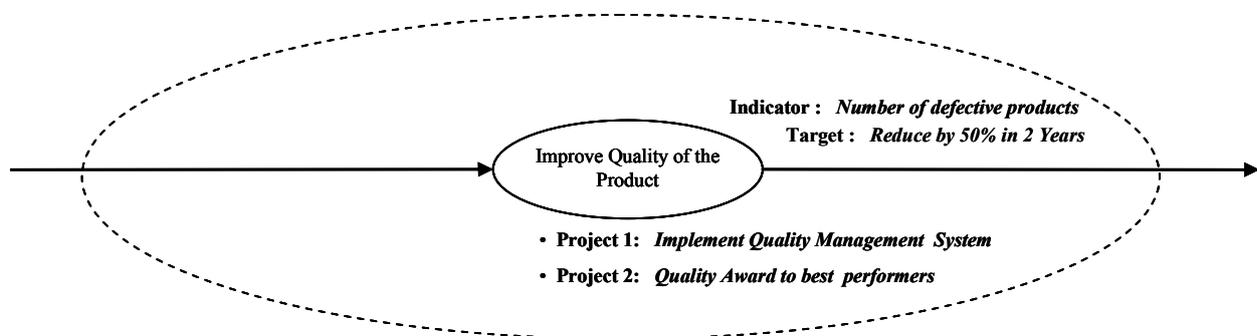


**Figure 2.8**      Example of *BSC Unit*

<div align="center">**BSC Unit**</div>

*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.*

<div align="center">**Environmental Unit**</div>

*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.
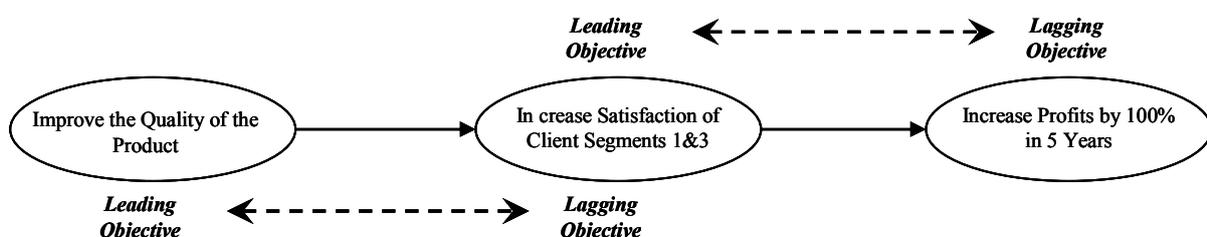


**Figure 2.9**      Example of a *BSC Cause-Effect Chain*

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*[25] 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).
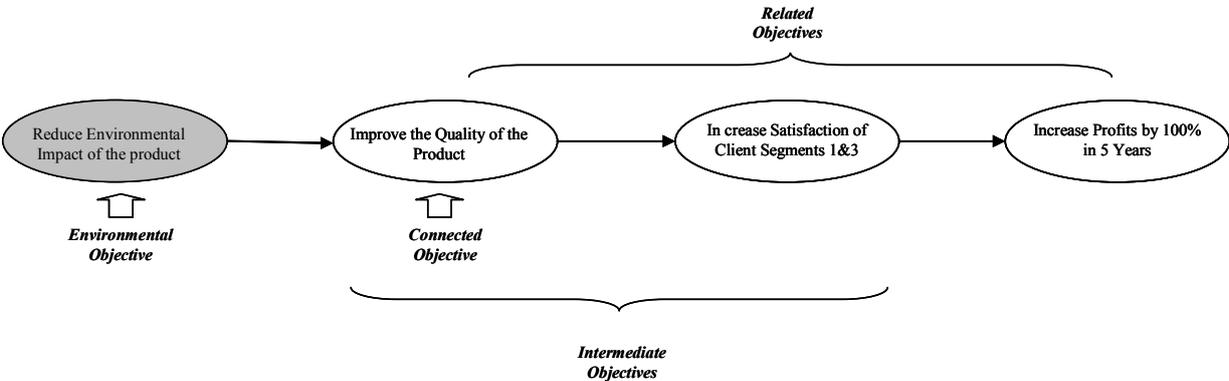


**Figure 2.10**     Example of an *Environment Cause-Effect Chain*

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.

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[25] 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*[26] 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[27]. 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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[26] See Intro section in Chapter 2
[27] 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[28]. 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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[28] 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).
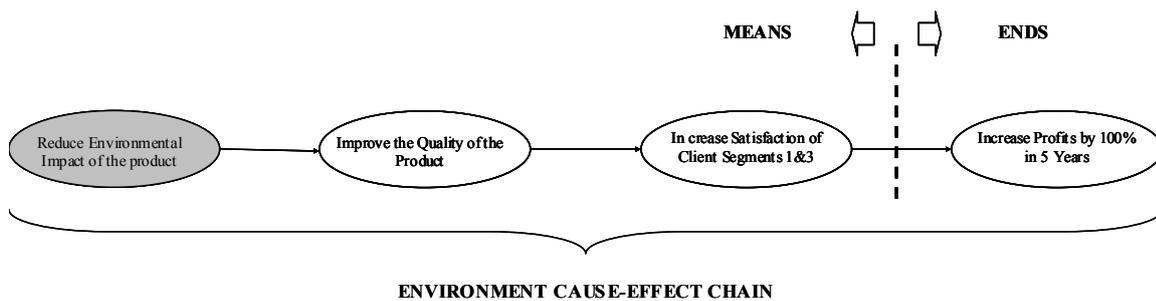


**Figure 2.11**    Means-Ends versus Environment Cause-Effect Chain

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.

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**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 de dedicated to topic quality, the part of content that relates to what the information is about (e.g. client satisfaction, product quality, etc.).

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# 3 The BSC Framework

## The Research Problem – Final Version

*What consensus process can increase the environmental manager and TMG **consensus level**[29] and **quality** over the environment chains?*

This chapter explains the issue of *Content Topic Quality* (See **Figure3.1**) 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.



**CHAPTER 3**

**Consensus Quality**

•Has Consensus **Content Quality** increased?
•Has Consensus **Group Quality** increased?
•Has Consensus **Interaction Quality** increased?

**Consensus Process**

•Have process prescriptions been enacted?
•Have process prescriptions been justified?

**Consensus Level**

•Has Consensus Level increased?

•Has Content **TOPIC** Quality increased?

•Has Content **FORMAT** Quality increased?

**CHAPTER 2**

**Figure 3.1**     Evaluation Framework elements defined in Chapter 2 and Chapter3.

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[29] 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 | |
|---|---|
| **Financial (or Shareholder)** | To succeed financially, how should we appear to our shareholders? |
| **Customer** | To achieve our financial objectives, how should we appear to our costumers? |
| **Internal Process** | To satisfy our shareholders and costumers, what business processes must we excel at? |
| **Development and Growth** | 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*[30]. *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**)[31].
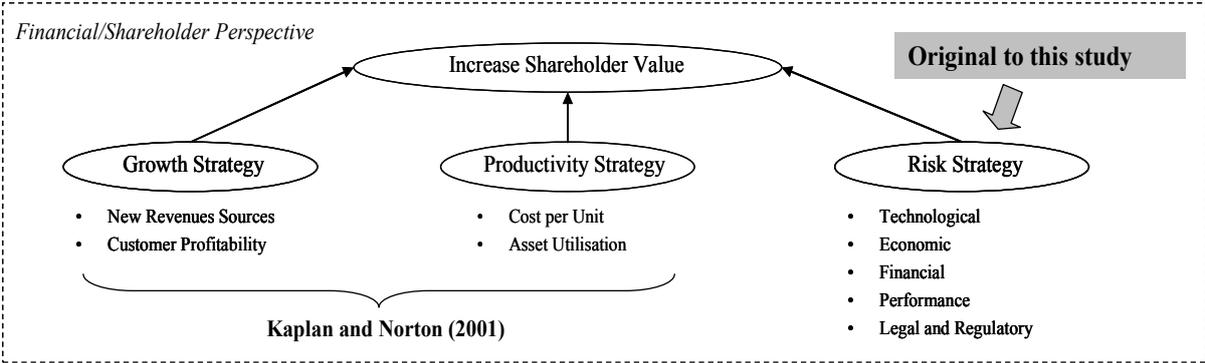


**Figure 3.2**   Revisited *Financial/Shareholder Perspective* (adapted from Kaplan and Norton 2001)


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-

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[30] 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.
[31] 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[32]) 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)[33].

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

---

[32]*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.

[33]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 r*isk* items provided by Trianitis (2000), Kleindorfer (2001) and Yazihi (2004) (see **Table 3.3**).

Take for example the risk-item *defective products*. Trianitis (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. Yazihi (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 it 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.
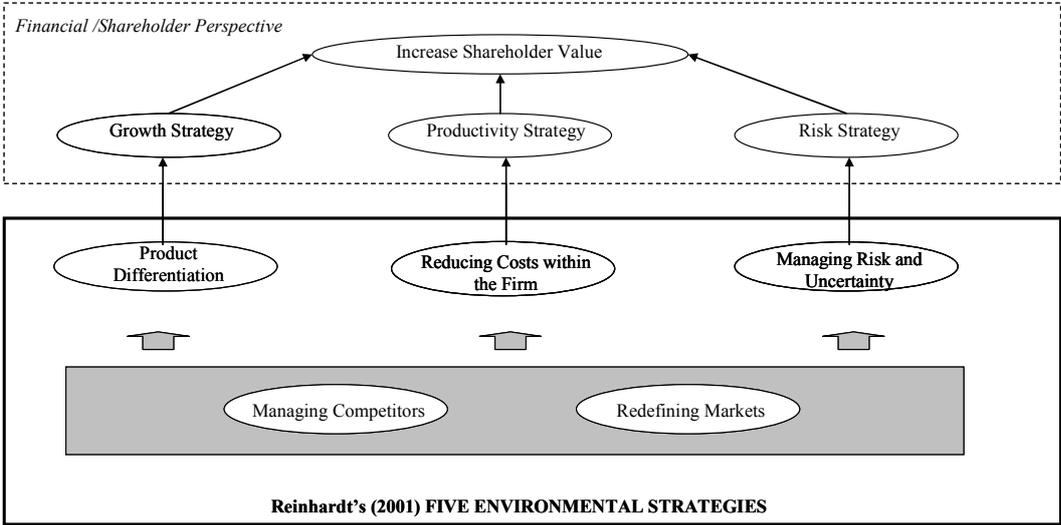


**Figure 3.3**     BSC Financial/Shareholder Perspective vs Reinhardt's (2000) environmental strategies

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.*
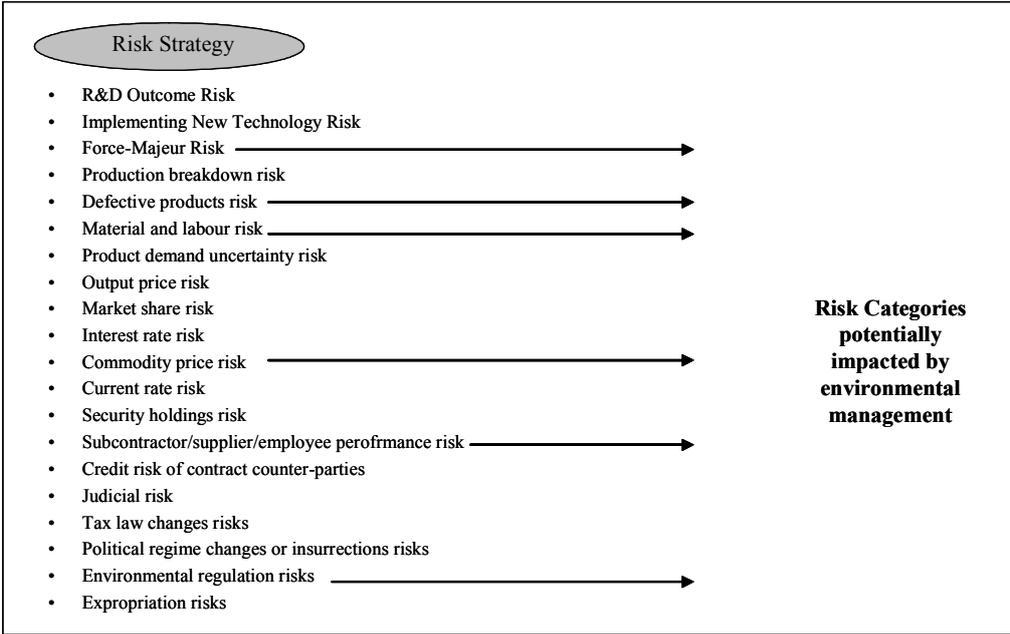


**Figure 3.4**     Risk Categories potentially impacted by environmental management

*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**).

| **Financial/Shareholder Perspective Questions** |
|---|
| **Q1.** What do Shareholders want from your firm? |
| **Q2.** Should you improve your performance in terms of new revenues sources, profitability, cost per unit, asset utilisation and cash flow? |
| **Q3.** What are the financial impacts of your risks? |
| **Q4.** How about the technological, economic, financial, performance, legal and regulatory risks? |
| **Q5.** 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 |
|---|---|---|---|---|
| **Technological Risk** | *What are the risks arising from the R&D and the Operations?* | R&D outcome risk | …R&D investment outcome? | Trianitis |
| | | Implementing New Technology Risk | …operational problems related to implementation of new technologies? | Trianitis |
| | | Force-Majeur Risks | …consequences of major natural catastrophes on supply, production or delivery? | Trianitis |
| | | Production Breakdown Risk | …having catastrophic accidents and fires? | Trianitis |
| | | Defective Products (Trianitis) 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? | Trianitis, Kleindorfer, Yazihi |
| **Economic Risk** | *What are the risks arising from fluctuations in supply, demand and competition?* | Material and Labour Costs | …consequences of fluctuations of material/labor costs? | Trianitis |
| | | Product Demand Uncertainty | …consequences of fluctuation of product demand? | Trianitis |
| | | Output price Risk | …consequences of fluctuation of price? | Trianitis |
| | | Market Share Risk | …consequences of fluctuations in market share? | Trianitis |
| **Financial Risk** | *What are the risks related to Financial Markets trends?* | Interest Rate Risk | …consequences of fluctuation of interest rates? | Trianitis |
| | | Commodity Price Risk | …consequences of price fluctuation of basic resources (e.g. petrol)? | Trianitis |
| | | Current Rate Risk | …consequences of fluctuation of currency rates? | Trianitis |
| | | Security Holdings Risk | …consequences of fluctuation of securities value? | Trianitis |
| **Performance Risk** | *What are the risks related to failure of contracting counter party to fulfil obligations?* | Subcontractor/Supplier/Employee Performance Risk | …consequences of variation in performance of subcontractors, suppliers or employees (e.g. fraud, defection) | Trianitis, Kleindorfer |
| | | Credit Risk of Contract Counter Parties | …consequence of client failure to pay within given time | Trianitis |
| | | Judicial Risk | …my ability to collect damages from breaching party? | Trianitis |
| **Legal and Regulatory Risk** | *What are the risks of changing regulations and regulatory environments?* | Tax Law Changes Risks | …consequences of tax law changes? | Trianitis |
| | | Political Regime Changes or Insurrections Risks | …consequences of regime changes or insurrections risks? | Trianitis |
| | | Environmental Regulation Changes | …consequences of environmental regulation? | Kleindorfer |
| | | Expropriation | …consequences of expropriation? | Trianitis |

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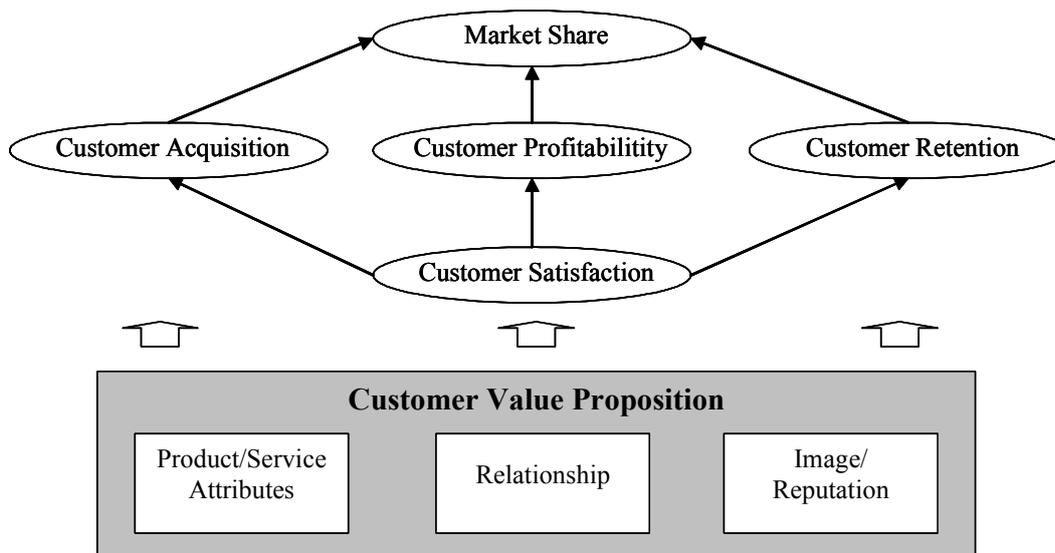


**Figure 3.5**     The Customer Perspective contents (Kaplan and Norton, 1996a, pp.68-73)

*Product/service attributes* include issues of product price, quality, time and functionality[34]. *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*

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[34]*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.
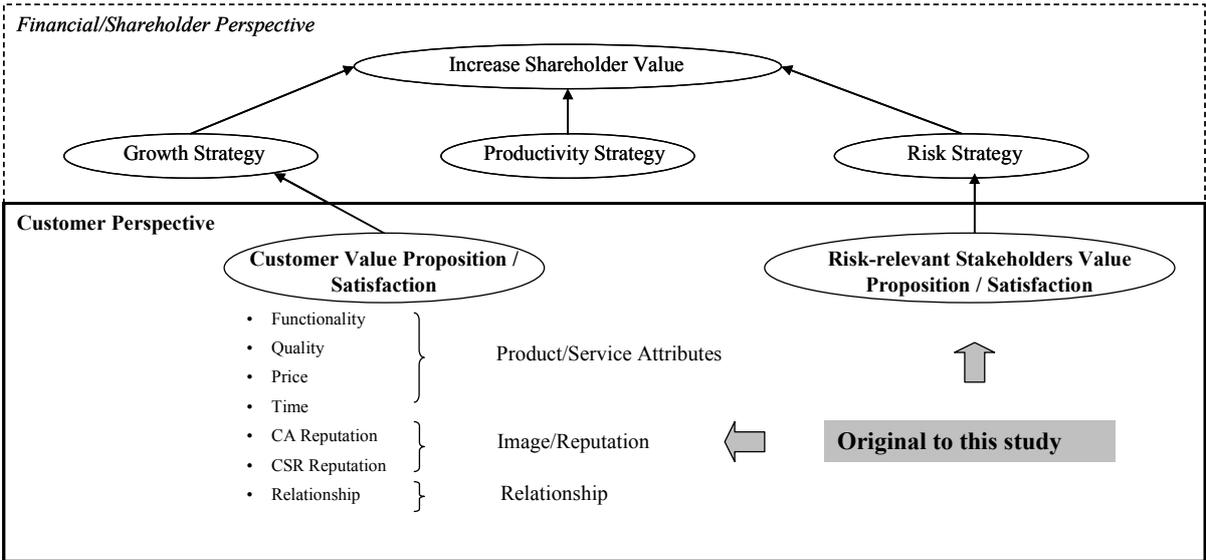


**Figure 3.6**    Revisited *Customer Perspective*.

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

**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**).

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### 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 to the market?

**Q11.**  How will Political, Economical, Social and Technological trends influence your business in
  the next five 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 and CSR impact on the desires of these risk-related stakeholders?

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**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.
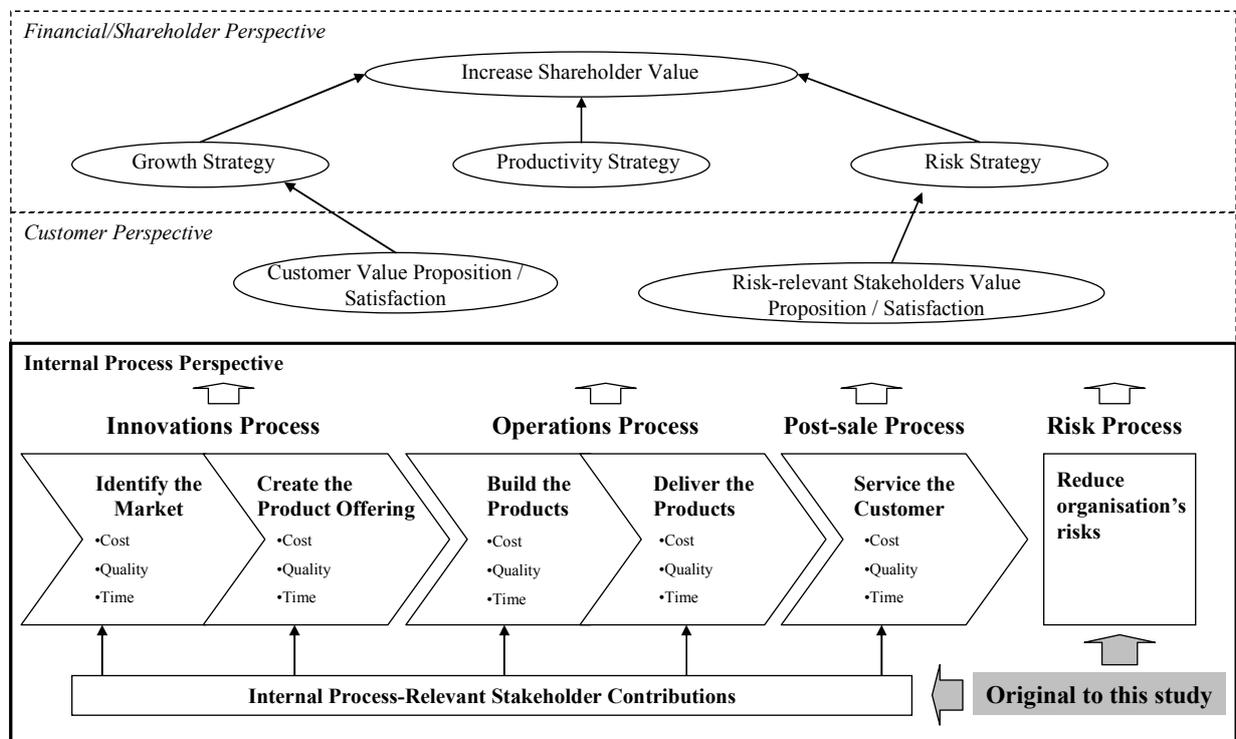


**Figure 3.8**     Revisited *Internal Process Perspective*

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**).
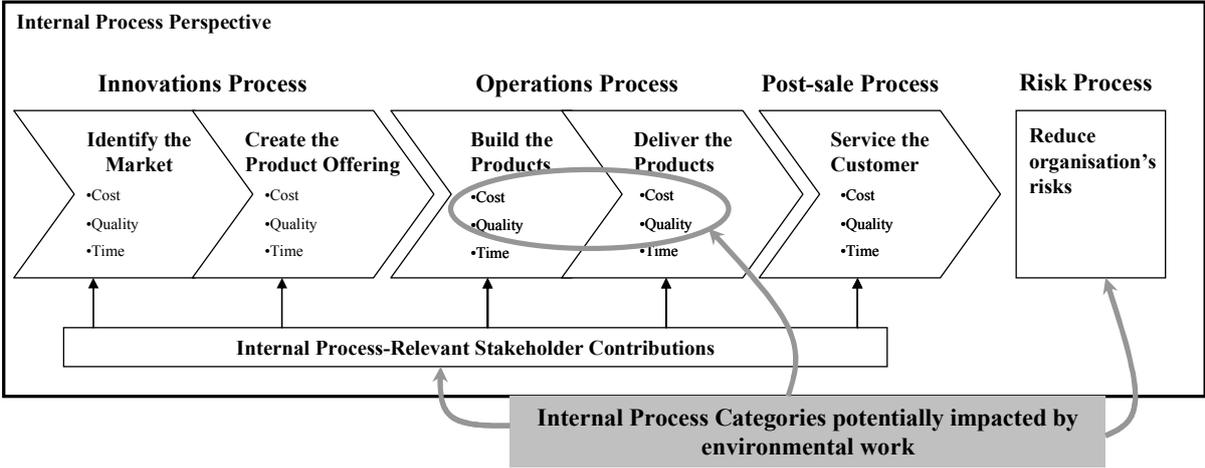


**Figure 3.9**     Internal Process Perspective categories potentially impacted by environmental work

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**).

**Internal Process Perspective Questions**

**Q16.** What do you think are the main issues the company 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 work 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 work contribute to reduce risk? How?

**Q23**. Which external stakeholder contributions does the company performance depend on? How?

**Q24**. 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).
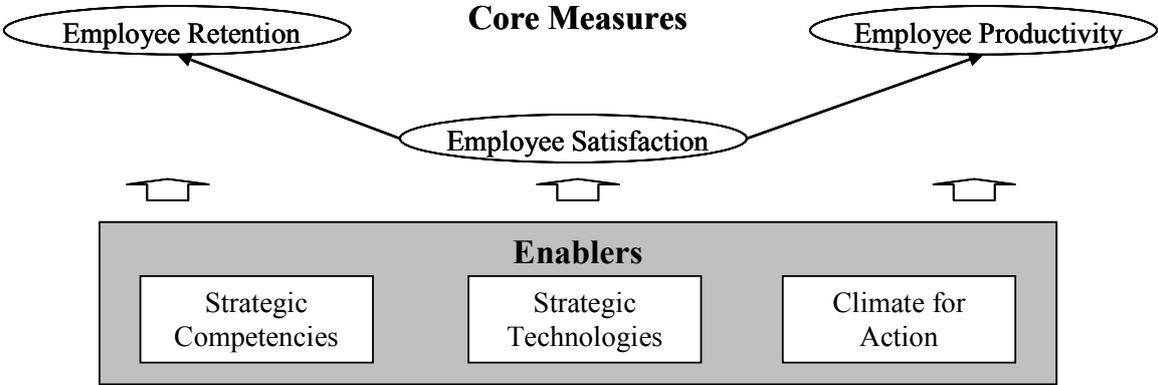


**Figure 3.10**    Enablers and measurements (adapted from Kaplan and Norton, 1996a, p.129; 2001, p.93).

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*[35] 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*[36] 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**).
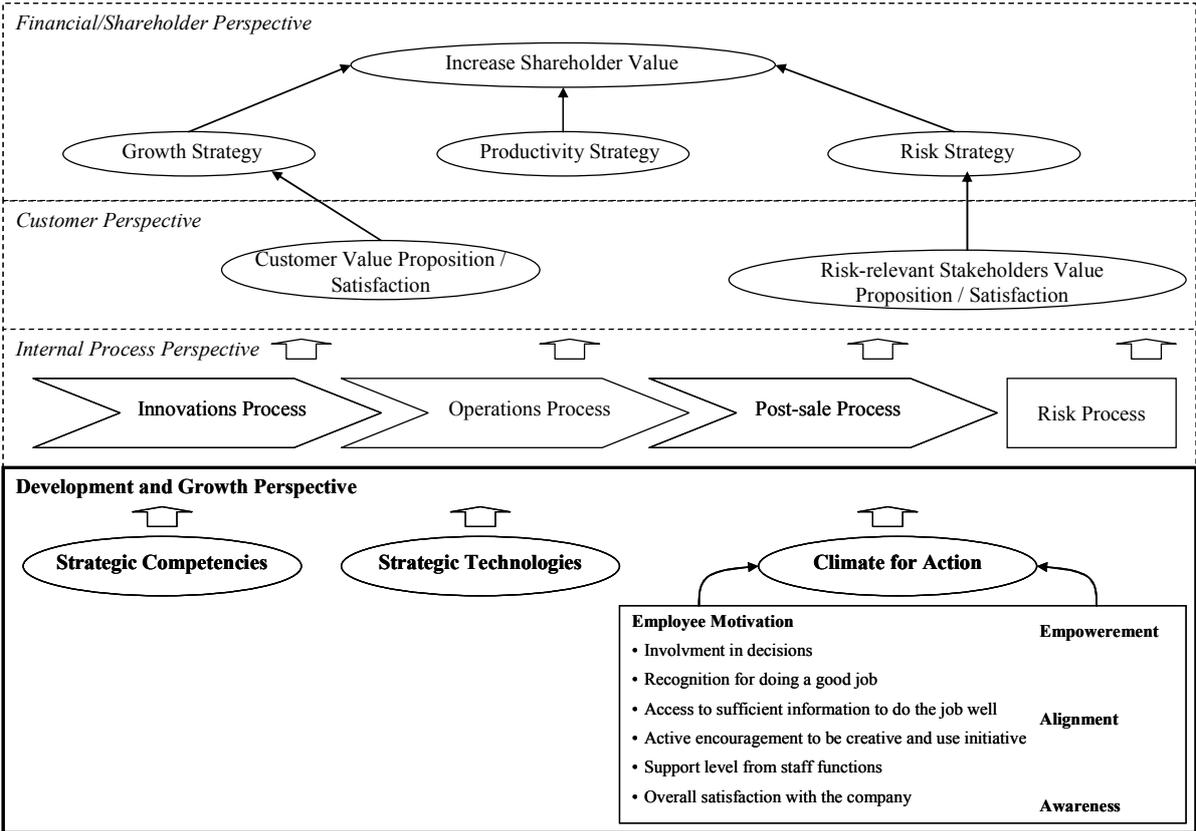


**Figure 3.11**    The *Development and Growth Perspective*

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[35] 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*.
[36] 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*[37] 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*[38], *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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[37]In 2004 they switch to the term *organisational capital* and also seem  to change its contents quite significantly.
[38]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*.
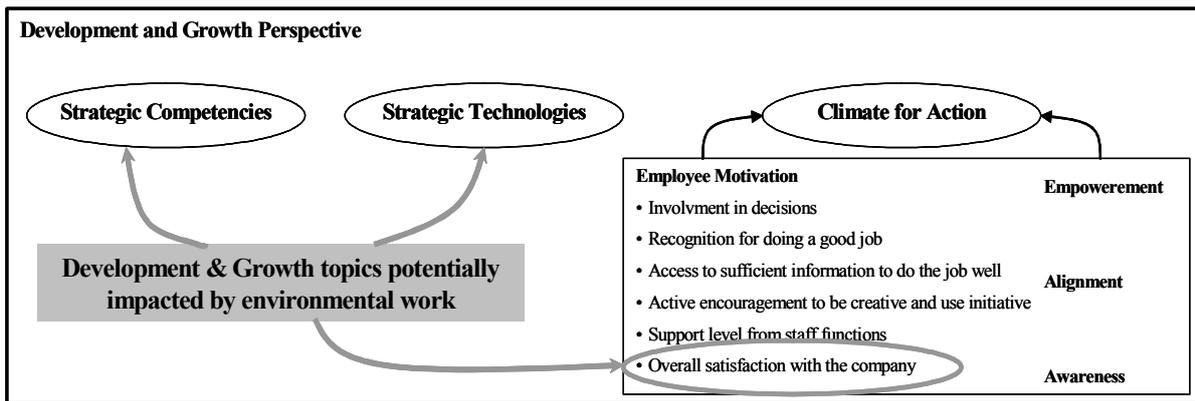
**Figure 3.12**  Development and Growth Perspective topics potentially impacted by environmental work

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.

<table>
<tr><td colspan="2" align="center">**Development and Growth Perspective Questions**</td></tr>
<tr><td>**Q25.**</td><td>What type of capabilities should your employees develop in order to improve the internal processes as desired?</td></tr>
<tr><td>**Q26.**</td><td>Can environmental work assist in increasing the desired employees capabilities?</td></tr>
<tr><td>**Q27.**</td><td>What IT systems/technologies could enable employees to perform better and learn faster?</td></tr>
<tr><td>**Q28.**</td><td>How can IT systems support the environmental work defined in the previous perspectives?</td></tr>
<tr><td>**Q29.**</td><td>What motivates your employees?</td></tr>
<tr><td>**Q30.**</td><td>How about involvement, recognition, access to relevant info, responsibility, support, positive perception of corporate image, belonging to a team?</td></tr>
<tr><td>**Q31.**</td><td>Can environmental work contribute to improve the image employees have of the company?</td></tr>
<tr><td>**Q32**.</td><td>How do you empower your employees?</td></tr>
<tr><td>**Q33**.</td><td>How do you make sure their actions are aligned with overall strategy?</td></tr>
<tr><td>**Q34**.</td><td>How do you make sure they are aware of the company strategy?</td></tr>
<tr><td>**Q35.**</td><td>Can environmental and CSR activities assist in empowerment, alignment and awareness?</td></tr>
</table>

**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*[39]. 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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[39]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.

| The changes made in this chapter to the BSC Framework |||
|---|---|---|
| **Perspective** | **Modifications / Additions** | **Literature based?** |
| **Financial** | Addition of the Risk Theme | **YES** |
| | Specification of the Risk categories and sub-categories | **YES** |
| | Specification of possible connections risk / environment | NO |
| **Customer** | Addition of the Risk-related stakeholders | NO |
| | Addition of the Stakeholders wants / needs table | **YES** |
| | Modification of the definition of reputation | **YES** |
| | Specification of possible connections customer perspective / environment | NO |
| **Internal Process** | Addition of Risk processes | NO |
| | Addition of Internal process-related stakeholders | NO |
| | Specification of possible connections internal process / environment | NO |
| **Development & Growth** | 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[40] 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[41]) 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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[40]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.
[41]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, climat for action or risk).

## 3.8  Conclusions and contributions

The objective of this chapter was to explore the concept of C*ontent 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.

### 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 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.

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**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.

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