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STRATECOLOGY: the Competitive Advantage of Sustainable Development

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From space, the Earth appears amazingly blue, a beautiful and shimmering planet. Other planets in our solar system are grey, brown or red and lifeless...

Although, the Sword of Damocles is hanging over the Earth: Homo Sapiens rapid development and discoveries brought all Planet's species to the edge, including human being himself.

Envisioning tomorrow's businesses, therefore, requires a clear understanding of environmental problems, but the call for active and creative environmental thinking and a positive approach to the issue is not always heard. For some companies, the environment still remains a side issue, to be avoided if it is possible, rather than a central issue to be squarely addresses at all levels. There are a number of powerful reasons besides the public pressure, why companies should have active and innovative environmental policies. The reasons for this are simple - the sustainable development, innovation and competitiveness.

Indeed, the world could never hope to reach the goal of sustainable development without business and industry; only this sector can develop the necessary technologies that will both satisfy human needs and, at the same time, inflict fewer demands on the environment. Some companies have defined sustainable development as something easy to achieve, or even something that is in place already. Companies, which present false or shallow environmental credentials may avoid a negative public eye for the moment but will unlikely continue to do so, as public awareness and scrutiny continue to grow, not to mention the loss of competitiveness.

What is becoming essential now is more than only a competitive strategy for the business, and more than an environmental strategy to cope reactively with outside pressures. The need is for integral "business and environment strategy" or "strategic ecology - stratecology", concerned with the future of the business as a whole in the context of an "environmental revolution" that threatens or promises to be one of the major determinants of business development as well as corporate survival in the coming decade.

Sustainability - a unifying goal

The concept of sustainability - organising our society and economy in a way, which does not exceed the long term "carrying capacity" of the planet - is simple enough.

The continuing ability of the environment to supply raw materials and assimilate waste while maintaining biodiversity and quality of life is being increasingly undermined. If growth and development are taking on new responsible paths we have to find a way of doing it that will not further degrade the environment in which we live. In its simplest form, "sustainable development is defined as development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs" (World Commission on Environment and Development, 1987). Such a simple statement has profound implications. It implies that, as a minimum, all human activity must refrain from causing any degree of

permanent damage through its consumption of environmental resources.

As an ultimate objective, the concept of sustainability is immensely valuable. But how do we translate it into practice? Where do we draw the line? How much consumption, pollution or waste is too much? Do the answers to these questions have to remain a matter for speculation, controversy, guesswork and risk avoidance? Or is it possible to establish and un-sustainable approaches?

However, strategies are needed to translate conceptual theories into practical reality. This requires a more radical assessment of environment strategy that we have seen to date. The challenge that faces the economic system is how to continue to fulfil its vital role within modern society whilst ensuring sustainability. The sustainability is not something what will be achieved overnight, but in the longer term, entire economies and individual businesses need to look towards a new type of development and growth. This in turn, requires them to look at their own ethics, their objectives and their own forms of organisation, corporate culture and communication.

New challenge to business

If the accumulating evidence can be believed, environmental issues are emerging with increasing frequency as strategic problems for a growing number of industries. Corporations and other organisations are re-examining their relationships with the natural environment. Beyond greening lie an enormous challenge - and an enormous opportunity. The challenge is to develop a sustainable global economy: an economy that the planet is capable of supporting indefinitely.

Business gains its customers, and its legitimacy as an activity, from meeting society's needs. As a result of our newly acquired knowledge of environmental damage to the global systems that support life, society has begun to express overtly its need for clean, wholesome and stable environment.

Many business managers believe that achieving excellent economic results and protecting the environment are conflicting concepts. However, the potential business opportunities inherent in meeting society's demands are vast and must be considered alongside with the more obvious constraints on operating practice, which such changes will bring. It is the combination of opportunity and pressure for major change that makes the environment as strategic issue "par excellence".¹ Companies that carry out environmentally friendly business development in a cost-effective manner will dominate their industries in long term, while those, which treat environmental issues as being secondary or only a form of good citizenship will lose out.

Today the radical changes are necessary in order to stay competitive over the long term. Companies are competing for the future but can only do so if they have a strategy: if they are farsighted, can make choices, set goals and choose the paths for reaching them, innovate, and use new ways of thinking to transform their organisations. The future is about sustainability. Such choices as ignoring the environment, fighting against attempts to improve it, making money from destruction of resources, which are essential to survival, supporting strong-arm tactics against defenders of natural resources, are simply enough to make by pretending to have no strategy. Learning to leverage solutions to environmental problems and rapid innovations is the only way to gain competitive advantage - but it is not easy. Almost the whole of business will have to be organised differently to meet this objective²:

Table No 1: Traditional management versus a new management	Traditional way of thinking	A new way of thinking
	Fragmented world view	Holistic world view
	Goals: Economic Growth and profits	Sustainability and quality of life
	Shareholders wealth	Stakeholder welfare
	Values: Anthropocentric	Biocentric or Ecocentric
	Rationality and packaged knowledge	Intuition and understanding
	Patriarchal values	Post patriarchal feminist values
	Products: Designed for function, style and price	Designed for the environment
	Wasteful packaging	Environment friendly
	Production system: Energy and resource intensive	Low energy and resource use

Technical efficiency Environmental efficiency Organization: Hierarchical structure Non-hierarchical structure
 Self interest Service Secretive Open with information Simplistic thinking Complex, system thinking Top
 down decision making Participative decision making Centralized authority Decentralized authority High
 income differentials Low -income differentials Environment: Domination over the nature Harmony with the
 nature Environment managed as a resource Resources regarded as strictly finite Pollution and waste are
 externalities Pollution/waste elimination and management Business Functions: Marketing aims at increasing
 consumption Marketing for consumer education Finance aims at short-term profit maximization Finance aims
 at long-term sustainable growth Accounting focuses on conventional costs Accounting focuses on
 environmental costs Human resource management aims at increasing labour productivity Human resources
 management aims to make work meaningful and the work place safe/healthy Domination Partnership
 Adversarial deals (win-lose) Reciprocal relationship (win-win-win) Sources include: Shrivastava P.,
 "Ecocentric Management for a Risk Society", Academy of Management Review, No.1, January 1995; Block
 P., "Stewardship", 1993, San Francisco; Et Al. C., "EcoManagement", 1994, San Francisco; Collins J.C. and
 Porras J.I., "Built to Last", Century, 1993, London; Hawken P., "The Ecology of Commerce", Weidenfeld &
 Nicolson, 1994, London.

The dual assessment of current and desired ways of thinking defines the gap, which needs to be closed as a
 part of the business's strategic development. This shift in thinking is essential for companies that wish to
 achieve affective integration of their business strategy and environment policy.

Today many companies have already accepted their responsibility do not harm to the environment. Products
 and production processes are becoming cleaner; and where such change is under way, the environment is on
 the mend. In the industrialised countries, more and more companies are "going green" as they realise that they
 can reduce pollution and increase profits simultaneously. They have come a long way.

Traditionally the business-operating environment consisted of a series of sub-sectors. These sectors build up,
 layer upon layer, a model of the business world that its participants were able to control or indirectly
 influence³:

- Markets: local and global, consumer and industrial, and competition within them
- Supply factors, affecting materials, components and products
- Science and technology
- Demographic trends
- Economics and finance
- International relations and trade
- Politics and legislation
- Social trends and values.

Each of these "sub-environments" and their implications for business strategy are now affected and changed
 by what is happening to the natural environment:

Table No 2: The impact of environmental change to business units. Markets and competition:

There is a new global market for environmental protection: technologies, products, services, software, know-
 how.

Demand for less environmentally damaging products Supply of raw materials, components and products:

Increased costs of some raw materials because of vanishing sources;

Increasing costs of cleaning-up of pollution (extraction);

Higher costs of transport as local production capacity exceeds supply;

Creating opportunities for bio-engineering, plant and animal breeding. Science and technology:

Discovery of new dangers threatens existing business, such as those producing dioxins;

Development of new cleaner technologies;

Investment demands increase to meet these new challenges; Demographic trends:
 Increase in global population what will cause increase of productivity;
 The possibility for companies producing sustainable technology at price levels that are affordable in developing countries; Economics and finance:
 Global governmental commitment to the principle of sustainable development leads to changes in many economic structures;
 Increased cost of waste disposal, energy and water use for all organisations;
 Increased cost of insurance in some industries and in some countries insurance will no longer be available;
 International relations and trade:
 A large impact on the environmental quality in exporting and importing countries;
 Changes in the international distribution of pollution;
 Some countries, particularly those that suffer from trans-boundary pollution have a strong will to participate in international cooperation; Politics and legislation:
 Growth of environmental legislative programs, for example the Rio Declaration or in other words - Agenda 21 which contains overall guidelines for the environment and global development. It is politically and morally binding to the 180 states that have signed the agreement;
 The supply of insufficient information; Social trends and values:
 The change of attitudes and values, what affects institutional and business standards
 Growth of global communication systems Source: Crosbie L. and Knight K., "Strategy for Sustainable Business: Environmental Opportunity and Strategic Choice", McGraw-Hill Book Company, 1995, Berkshire

As a company develops an environmental policy, it must also develop a reputation for that policy, since such a reputation is in itself a source of a market advantages. An environmental reputation must be built on the top of an overall reputation for the quality. Once gained, a pro-environmental reputation is itself a valuable inimitable resource.

Just ten years ago, such statements coming from environmentalists were either greeted with incredulity or ignored. Ultimately, the only reason why companies have begun to address environmental issues in a strategic way is because of social concern about impacts on human health and ecological systems. Broad social concerns are converted into specific pressures on companies through a few well-recognised mechanisms⁴.

There are three forms of power beginning to be harnessed making business sustainable - politics, public and market.⁵ These steering powers are interrelated and a clear distinction is sometimes not possible. In most cases, the steering power "public" initiates environmental conversion processes. Emerging environmental problems are discussed by exponents in the public and are then taken up by "politics" when they become "fashionable" enough, until they in the end reach the "market"⁶. For instance, waste taxes or emission charges. However, in some cases public requirements are translated directly into market forces, for instance, in the case of consumer boycotts of certain products after accidents or other "bad" discoveries.

The cornerstone of sustainable development is a system of open, competitive markets in which prices are made to reflect the costs of environmental as well as other market resources⁷. That sounds simple, but implies an enormous agenda for change. There is a parallel between the progress being made with government and within individual business. Environmental issues have changed the understanding of the limits of the nation state. Likewise, business has discovered a need to work collaboratively to secure changes in their environmental performance.

"Green" and competitive?

Many arguments with different approaches have emerged in the last years to explain, "it pays to be green". Such arguments say that it does not have to be a trade-off between environmental protection and economic performance, but in contrast, there is a link between improved environmental performance of a company and

better economic performance.

"A competitive advantage is said to be sustainable if it cannot be copied or eroded by the actions of rivals, and is not made redundant by environment developments"⁸. The question to be debated is how a sustainable competitive advantage can be created. An approach to creating competitive advantage must be chosen.

Competition is the core of the success or failure of firms. It determines the appropriateness of a firm's activities that can contribute to its performance, such as innovations, a cohesive culture, or good implementation. Competitive strategy is the search for a favorable competitive position in an industry, the fundamental arena in which competition occurs.

Environmental competition can be interpreted as the environmental problems of a sector, the solution of which can lead to competitive advantages or, on the other hand, non-compliance can lead to considerable competitive disadvantages. The key for the company to benefit from the changed sector constellation is to take appropriate strategies to solve the environmental problems. A distinction could be made between several types of environmental competition: actual, latent and potential.

Whereby actual environmental competition is environmental impacts that have already been taken up by market stakeholders and are developing competitive effects.

Furthermore, latent and potential environmental competition is the environmental impacts that are being discussed in public and politics. However, it has not yet had a direct impact on competitiveness. In latent environmental competition, environmental product variations are only existent in some niches and are only promoted by some single pioneer companies. Environmental properties as differentiation criteria are only important to small customer groups. The corresponding environmental problems do cause costs to the companies, however they are strategically not important. Latent environmental competition exist if⁹:

Environmental quality is an important purchasing criteria for a minority of the customers,
Environmental product alternatives have a small market share and are only offered by a few pioneer companies, or
Environmental marketing and communication plays a subordinated role.

Potential environmental competition is even less developed. Principally every important ecological problem of a sector represents a potential environmental competition. Concrete approaches might already be existent on concept level. Potential environmental competition offers considerable opportunities. The potential for getting first-mover benefits are bigger- however the risks are also bigger, for example, for investing too early into "wrong" technology or that the environmental transformation process takes too long and environmental investments are not offset by the potential benefits in the future. There is great uncertainty in the time dimension, and the question of right timing is in this respect a very crucial issue.

The goal of the company strategy in a relevant environmental competition is to achieve the competitive advantage. The ultimate aim is to satisfy the customers' needs in a superior way compared to the competitors. There are two dimensions of competition: costs and differentiation¹⁰. A company can either offer products at a cheaper price than comparable products or at a higher quality (or "different" quality).

Going further, two types of cost advantages can be distinguished in the context of environment:

Absolute cost reductions: These are absolute reductions of production costs under the level of the costs of competitors who are mainly externalising the effects of their production.

Relative cost reductions: This means keeping environmental costs on a significantly lower level than competitors, who have to comply with approximately the same environmental legal requirements. With the

right strategies, systematic competitive advantages can be gained, especially if environmentally caused costs constitute a considerable part of the total costs.

Differentiation through environment is possible through:

Providing an environmental additional benefit to an existing product, or
Creation of new products and services responding to emerging environmentally induced needs.

Models for success

Management systems aim to pull a potentially disparate system into an integrated and organized one. To that end the system covers not only management's responsibilities, but also the responsibility and tasks of every individual in an organization. It is an integrated system, which covers the totality of operation and recognizes the interdependence of all aspects of an organization. Though establishing clear communications and reporting channels it should pull a potentially tangled web of structures and tasks into a clearly defined matrix of relationships with clear horizontal and vertical links.

For most organizations the ultimate aim of zero negative impact on the environment, widely defined, simply cannot be met. The only way to ensure such position would be to have virtually no industry at all. The environmental management system has to be firmly tied to a regular assessment of company performance and audit of environmental damage. The central importance of commitment must not be lost if it is, the system will collapse. The never-ending improvement cycle will mean that the organization learns from its successes and failures and improves operations and outputs. This have to be done in a planned, systematic and documented way in order to create an organization culture, which protects the environment and the reputation of the company, that permeates the whole organization.

It is no longer sufficient to see environmental strategy as an add-one to other corporate policies.

Environmental improvement and the avoidance of accidental damage, like the culture of total quality management (TQM), needs to be firmly embedded at all levels of the organization. Of central importance there is a need for a proactive stance and an evolutionary approach to the improvement of environmental performance. This can be achieved by adopting environmental management systems¹¹.

It has been argued that natural linkages between quality management and the improvement of environmental performance exist through the need for environmental management systems and that the general approach, such as TQM mirror the desired approach for environmental improvement¹². The aim of these approaches is to achieve a continuous cycle of improvement.

Quality management, often TQM, is recognized as a basic need for successful companies operating in increasingly competitive world markets. Environmental Quality Management (EQM) involves the pursuit not only of compliance with regulated environmental standards, but also of real improvements in the quality of a company's internal and external environments. The links between TQM and EQM are strong, and growing stronger¹³:

Quality, like environmental protection, is a matter of survival;
Total quality requires a cultural change, often initially driven by a disaster or major upset
It takes time: "if you don't have time, don't start it", warned Westinghouse chairman John Marous
Top management has to be deeply committed and involved
Everybody in the company needs to be informed, trained and motivated.

In order to realize a competitive advantage based on environmental management, companies must seek to develop strategies, which translate actions into benefits, improving their environmental performance and addressing the environmental demands placed upon them by government and stakeholders. By incorporating

the increasingly important environmental dimension into the decision-making processes and strategies of the firm, managers can seek to reduce costs and exploit the opportunities offered by increased public environmental concern within a dynamic marketplace.¹⁴ Such strategy must be proactive and honest. It may also be evangelical, educating and campaigning. But more than anything it must be ethical. The environment is too important an issue to be treated as a gimmick for short-term advantage.

How the company organizes itself to put its environmental strategy into practice is a strategic choice in its own right, and the success of the strategy depends on it.

The criteria of successful environmental organization include not only the ability to maintain control over environmental effects by establishing accountable roles, monitoring systems and review procedures, but also the capacity to integrate and empower the efforts of different parts of the enterprise towards total company-wide solutions and goals.¹⁵ For those companies, which take the strategic view of the environmental scenario, the way they organise both for ongoing environmental compliance and improvement, as well as competitiveness, opportunity and ultimate sustainability, is the strategic question in its own right.

Current approaches to business development in companies rarely take account of the environmental agenda. Responding to competitive and external pressures calls for detachment from the company's existing operating practices and focus and for the ability to look for opportunities to use resources and situations differently.¹⁶

Two central questions underlie the choice of competitive strategy. The first is the attractiveness of industries for long-term profitability and the factors that determine it. Not all industries offer equal opportunities for sustained profitability, and the inherent profitability of its industry is one essential ingredient in determining the profitability of the company. The second central question is the determinants of relative competitive position within an industry. In most industries, some companies are much more profitable than others, regardless of what the average profitability of the industry may be. A company can shape both industry attractiveness and competitive position, and this is what makes the choice of competitive strategy both challenging and exciting¹⁷.

There are different theories about how to define and classify environmental strategies. The World Resources Institute (WRI) defines environmental strategies as "business strategies in which environmental improvement is either an explicit objective or a necessary outcome". There are different environmental strategies, which have different effects on financial fundamentals, and that environmental performance is the product of several different types of management choices¹⁸.

Companies can try to avoid environmental requirements or view environmental challenges solely as a cost factor and cope with these costs as efficiently as possible. This could be interpreted as defensive strategies. Companies can also have a more proactive approach to the environment and see new opportunities through differentiation strategies or cost strategies. The environmental strategies are not only directed towards the market, but in some cases primarily towards the public.¹⁹ Following these possibilities, four types of environmental competition strategies are distinguished, as shown in Table No3.

Table No 3: Environmental competition strategies: Strategy directed towards

Type of strategy

Public

Market Defensive Environmental market securing strategy ("clean") Environmental cost strategies ("efficient") Proactive Environmental market development strategies ("progressive") Environmental differentiation strategies ("innovative") Source: Bolli A., "Environmental Communication and Competitiveness", IIIIEE, 1998

The environmental problems do not automatically create opportunities to make money. Managers should look at environmental problems as business issues and ask themselves the question, "Under what circumstances do

particular kinds of environmental investments deliver benefits to shareholders?" There are five approaches that companies can take to integrate environment into their business thinking²⁰:

- Saving costs
- Managing environmental risk
- Managing your competitors
- Environmental product differentiation
- Redefining markets

An environmental market securing strategy ("clean") comes out of a defensive orientation. A company reacts to influences from the public, which could threaten the existing markets and businesses. Before public and political requirements become of competitive relevance, the company tries to deal with the requirements and influences (which means to normally slow down or even stop) the environmental transformation process through appropriate measures such as communication, commitments or direct influencing of the legislation process. This strategy is not only directed towards the market, but above all towards the public and politics. "Clean" strategies are not necessarily taken only by single companies. Often a whole sector or even several interconnected sectors are the targets of specific environmental requirements. An accident in one chemical firm can discredit the whole industry. This leads companies to collective actions.

Environmental cost strategies ("efficient") can also be described as defensive. The company does not oppose the environmental transformation process, but tries to live with it and solve the environmental requirements efficiently, that is, as cheaply as possible. Generally, the larger the environmental costs from the total costs of the product, the more incentive a company has for cost strategies. Often good environmental management opens the eyes to the companies to the full costs of products and not just the evident process end-of-pipe costs. This can lead to the discovery of new cost saving potentials and a more integrated approach for environmental protection. The assessment of the whole environmental life-cycle costs can become to a strategic success factor. Purely defensive cost strategies react only to already internalized costs, for example, recycling strategies and design for recycling as a response to product take-back legislation. Two crucial factors are important for the success of a proactive and broader environmental cost strategy: the expected time of the environmental cost internalization and the probability that such an internalisation will happen.

Environmental differentiation strategies ("innovative") are the result of the proactive orientation of a company and are primarily directed towards the market. The goal is to find innovation potentials through the environment. However, an environmental added benefit, which is not recognized or not considered to be relevant by the customer, does not contribute to a differentiation in competition. A characteristic of ecological products is that they often provide a social benefit, but not necessarily an individual benefit. Ecological products that only provide a social benefit and are more expensive than conventional ones have problems surviving in the market. However, if they are combined with an individual benefit, they can get competitive advantages. Depending on internal and external factors, environmental friendliness can be integrated into product quality, which can be declared as an important dimension apart from price and quality or marketed as dominant product property. In the latter case it is a prerequisite that the environment is integrated into all business areas of the company, otherwise the company runs the risk of losing credibility. It has to be considered that the introduction of ecological products also has consequences for the rest of the product portfolio. Also, for differentiation strategies, timing plays a crucial role. First movers have to fight against market resistance like consumer skepticism and are prone to failure if the product quality is not fully developed yet. On the other hand they can have the power to build up market entry and mobility barriers. There are advantages and disadvantages of pioneer roles, and in some cases companies with a follower's strategy can leapfrog the pioneers and become more successful. Another risk of pioneering is wrong positioning. If environmental friendliness is marketed as the dominant product property, then there is the danger of narrowing the segment and being put into a niche. There are three conditions required for success with environmental product differentiation. First, the company must identify customers who are willing to pay

more for an environmentally friendly product. Second, it must be able to communicate the product's environmental benefits credibly. And third, the product must be protected from imitators for long enough to profit on the investment.

Environmental market development strategies ("Progressive"). "Typical" eco-products are often limited to market niches. In order to encounter this, the approach of environmental market development strategies mean therefore to play an active role in changing the public perceptions and the socio-political and regulatory framework. The goal is to participate in shaping the prerequisites that lead to the build-up or increase of environmental competition fields. However, contributing to raise awareness of the public about an environmental problem caused by a sector is a difficult task for companies. There is little trust in that companies are actually interested in the problem. Companies can try to directly influence the perception of the public and sensitize them to environmental problems. However, companies can also try to influence politics. In most cases the environmental transformation processes develop over politically initiated and steered changes in the framework. Strategies of influencing policy making by companies and especially by branch associations are very common. However, in most cases their influence is used rather to slow down such processes. As branch organizations always have to represent the common interests of their members, this is often not enough to actually change the status quo. Therefore, for market development strategies, it is also important for companies to be independently active.

The line between the described strategies is not always that clear, and several strategies could be applied at the same time. It is not always that clear whether the above mentioned environmental strategies should necessarily apply to a whole corporate strategy or whether the same company could have different strategies for different competition fields. There are different environmental problems a company has to face, and different competition fields arising at different times. A company cannot necessarily respond to all of these fields in a proactive way. It might put much effort into one environmental field and miss the importance of another emerging field. Of course, in general it can be said that if a company wants to have any proactive environmental strategy, it can only be credible if it is sustained by a corporate strategy and values that embrace the environment. Cost advantages through systematic environmental management can probably be achieved in most cases, and it seems to make sense to consequently apply such strategies to a whole corporation. Environmental differentiation might bear more risks and might be more appropriate for one product of a company, whereas the circumstances can be different for another product.

In conclusion...

Every newborn infant carries a genetic blueprint: to become an adult human being, learn language, be socialized and join a cultural tradition. Making the most of these opportunities within the limits of one's capacity is among the most fundamental aspects of being human. The way we live create the social traditions, culture and physical surroundings in which the next generations grow up. The genuinely distinctive features of humankind also include a desire to reach further. Without this effort to cross boundaries, achieve progress and gain an overall view, such spheres as philosophy, art, science and technology would not exist and Homo Sapiens would not be the unique species we are. But this endeavor must involve using knowledge and insight into the boundaries that actually apply. In our time, these boundaries have been crossed in ways that are beyond the capacity of nature and human beings to withstand.

This article presented a framework for how companies could take competitive issues into consideration for setting priorities in environmental strategies. This can be done through a systematic analysis of environmental problems caused by the industry, environmental requirements and actual, latent or potential competition, and the implications that this causes for environmental communication towards the stakeholders in the different reference fields: market, publics and politics. The interdependencies between environmental problems of an industry, environmental performance, environmental communication and competitiveness are very complex and different for every company, so it is not possible to provide a general and valid "recipe" for how

environmental communication can be used to enhance competitiveness in final goods industries.

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