

## Environmental Strategy, A Potential Win-Win for Business and Environment? – Can Environmental Management Strategies Create Sustainability and Competitive Advantages?

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### **Abstract**

Most environmentalists agree that “*business activity is the major contributor to environmental destruction*” (Wedford, Gouldson, 1993, p.1). But an increasing number also claim that “*businesses are [also] central to [...] the solution*” (Wedford, Gouldson, 1993, p.1), a heavily debated argument. Can business while staying true to its purpose, to maximize profit, achieve sustainability? This paper discusses the potential impact of environmental strategies on the various drivers of competitive advantage for the two generic strategies identified by Porter (1985).

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**Keywords:** small-and-medium-sized enterprises (SMEs), environmental management systems (EMS), strategy, sustainability, business case, competitive advantage

### **Introduction**

#### **Why worrying about the possible positive impact of environmental management on companies’ strategies?**

Environmentalists around the world have been worried for years about the environmental impact of businesses on the environmental conditions of our planet, including environmental sustainability. “*Because of the resources that they consume, the processes that they apply or the products that they manufacture, business activity is the major contributor to environmental destruction*” (Wedford, Gouldson, 1993, p.1).

But the often used environmentalist approach to fight against business is not the solution, because “*businesses are at the core of the environmental debate and are central both to the problem and the solution*” (Wedford, Gouldson, 1993, p.1). Therefore environmentalists have to find ways to cooperate with businesses to make them move towards sustainability.

“*One of the main barriers to moving companies towards sustainability is the assumption of many business people that sustainable development may be the right thing to do, but it is not necessarily good for business*” (SustainAbility/UNEP, 2001, p.1).

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To convince businesses to improve their environmental performance, a strong business case is needed, as stated by UNEP in its approach to prove the business case of environmental sustainability (SustainAbility/UNEP, 2001, p.1). In other words, “*spreading the message that ‘good environmental management — and more broadly sustainable management — is making good business sense’*” (SustainAbility/UNEP, 2001, p.1) is a key challenge to achieve better, more corporate efforts for environmental sustainability.

This challenge has been recognised by many scientists all over the world and a growing amount of literature appears on this topic. Not only research supporting a positive impact of environmental management exists, but also opposition to this win-win theory. Opposition is formed by two groups, first group being environmentalist, stating that corporations can simply not achieve environmental sustainability if their key goal is to increase financial performance through continuous growth, and the second being business managers and politicians, stating that Environmental Management can only produce costs for corporations, but can not increase their business value.

The purpose of this paper is to provide an overview about the argumentation for and against the win-win opportunity, listing the suggested potential drivers for business success through the implementation of an EMS, derived from a literature review conducted for this paper. Based on the arguments provided, this paper will come to a conclusion upon the opportunity for achieving sustainability in a win-win situation.

### **Note on the historical background of environmental strategy**

*“The current approach to environmental management developed in two eras over two decades, beginning in the early 1970s.*

*In the first era, which lasted from roughly 1970 to 1985, companies (...) did little more than comply with the regulations and often fought or stymied them. (...) phase of resistant adaptation. During this period, companies were generally unwilling to internalize environmental issues, a reluctance that was reflected in the delegation of environmental protection to local facilities, a widespread failure to create environmental performance-measure systems, and a refusal to view environmental issues as realities that needed to be incorporated into business strategy.*

*During the mid to late 1980s, a shift in the regulatory context and the maturing of the environmental movement created an incentive for managers to look beyond the narrow, predominantly technical approach. With regulations focused more on ultimate environmental results and less on the mechanics of compliance, managers began to exercise greater discretion in their environmental response. For the first time, environmental strategy became possible.”* (Walley, N., Whitehead, B., 1994, p.47-48, summarising Fischer, K., Schot, J., 1993).

### **Theoretical basis**

#### **Environmental sustainability and Environmental Managements Systems (EMS)**

In environmental literature the terms ‘Environmental Sustainability’ and ‘Sustainable Development’ are often used synonymously, although Sustainable Development consists of three dimensions (environmental, social, economic). For a detailed discussion about the definition of ‘sustainability’, referring to both terms ‘Environmental Sustainability’ and ‘Sustainable Development’ see Henriques (2001, p.31-51). In this paper these two terms are used synonymously and are generally referred to as defined by the Brundtland Report “*development which meets the needs of the present without compromising the ability of future generations to meet their need*”. This definition of the Brundtland Commission is clarified by Welford and Gouldson, defining sustainability as “*the continuing ability of the environment to supply raw materials and assimilate waste while maintaining bio-diversity and a quality of life*” (1993, p.4). To ensure that this ability of the environment is not further derogated by the extensive use of raw material and the increase in waste production, Environmental Management Systems should be implemented in businesses.

*“Environmental management systems, EMSs, are tools that companies can use in order to achieve a high degree of environmental protection within the context of sustainable development“* (Giménez Leal et al., 2003, p.101). The EMSs usually applied are the following standards:

- ISO 14001:1996 or
- BS7750 (only applicable to UK companies) and
- The European Eco Management and Audit Scheme Regulation 1836 / 93 (EMAS)

## Business strategy

### Definition of strategy

To see whether there is an opportunity to create a win-win situation by including environmental management in business strategy, it is first necessary to define company's strategy is and its purpose. No unified definition of strategy exists in business literature. A definition of strategy, which is useful for the purpose of this paper, is provided by Hansemann (1990, p. 256):

*“A company's strategy is the collectivity of measures (...), which have significant influence on the result of the competition, for example on the in competition gained market share or profit.*

Elements of a strategy are:

- Definition of competition relevant variables of corporate policy
- Definition of highly aggregate variable of corporate policy
- Creation and exploration of potential long-term (defendable) competitive advantages

### Influence factors on strategy

Hansemann's "collectivity of measures" to increase "results of competition" is influenced by different forces. Almost all models on Business Strategy state that strategy is influenced by internal (company related) and external (environment related) factors:

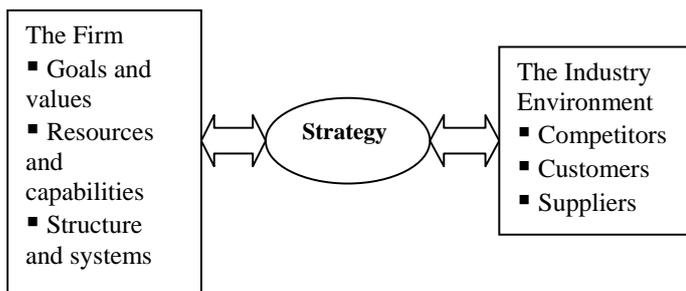


Figure 1: "The basic framework: strategy as a link between the firm and its environment" (Grant, 2002, p.15), with a focus more on industry environment.

Whereas Grant, as shown above, focuses on the industry environment as external forces influencing a company's strategy, another very often quoted model of strategic management, the model by Tichy et al., emphasizes the importance of other environmental forces beside economic (industry) forces:

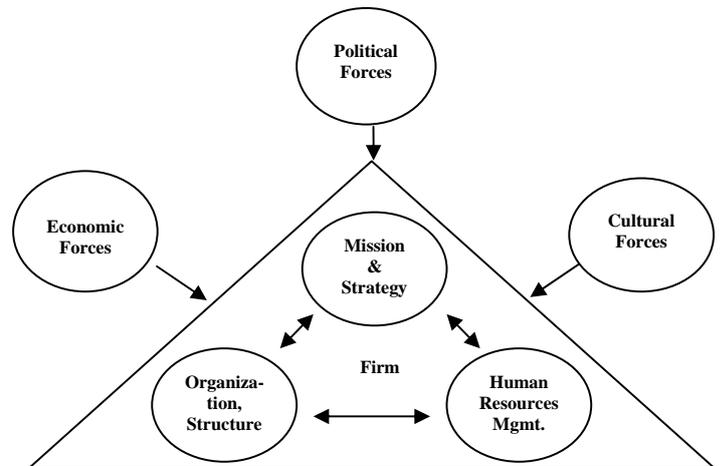


Figure 2: Environment for Strategic Management (Tichy/Fombrun/Devanna (1962) shown by Hahn in: Hahn/Taylor, 1992, p62.)

### Two generic strategies

The objective of strategy is to balance these forces (See Figure 2) in order to achieve a competitive advantage to increase shareholder value. Porter (1985) identified in general two different sources of competitive advantage leading to two generic mutually exclusive strategies; his concept is the most generally accepted basic concept of strategies.

- 1.) Cost leadership: "Cost leadership is a unique position in the industry that requires that the firm must find and exploit all sources of cost advantage and sell a standard, no-frills product" (Grant, 2002, p.246, partly quoting Porter (1985))
- 2.) Differentiation: "Differentiation by a firm from its competitors is achieved when it provides something unique that is valuable to buyers beyond simply offering a low price" (Grant, 2002, p.246)

Some of the principal features of these two strategies are shown in Table 1.

GENERIC STRATEGY	KEY STRATEGY ELEMENTS	RESOURCE AND ORGANIZATIONAL REQUIREMENTS
Cost Leadership	Scale-efficient plants Design for manufacture Control of overheads and R&D Avoidance of marginal customer accounts	
Differentiation	Emphasis on branding advertising, design, service and quality	Marketing abilities Product engineering skills Strong cross-functional coordination Creativity Research capability Qualitative performance targets and incentives

Table 1: „Features of Cost Leadership and Differentiation Strategies” (Grant, 2002, p.247)

### Value distribution: shareholder vs. stakeholder

“Business is about creating value” as stated by Grant (2002, p.38) and strategy is the tool to increase the value creation, but the most important questions are:

- 1.) How do I define value?
- 2.) Who are the benefactors of the value creation of a company?

Actually the second question is the leading question, as it is a general economic concept that the value of services, products or of company results is determined by the degree to which it fulfils people’s needs and the trade-of between the different needs necessary to achieve the results. Therefore different “stakeholders” in the company would define the value created by the company also differently.

In general two types of capitalism exist, the “stakeholder capitalism and the shareholder capitalism” as described by Grant (2002, p.39): “company boards are required to act (only) in the interest of shareholders” or “business enterprise (...) operating for the benefit of multiple constituencies.

*This view, which sees the business enterprise as a coalition of interest groups with different, often conflicting interests, is referred to as the stakeholder approach to the firm. A key role of top management is to balance the interests of the different stakeholders.”*

These two different approaches to value distribution

and importance of groups of interest in companies are mainly cultural differences and therefore a regional issue as described by Grant (2002, p.39). On the one hand, it is the “shareholder capitalism of Anglo-Saxon countries (...), US, Canada, the UK and Australia”. On the other hand, “in Japan and continental Europe, the notion of corporations balancing the interests of different groups has a long tradition”. This difference in the recognition of non-shareholder interests is of importance for this paper, as it is of importance for the relevance of a strong business case for environmental management. Companies using a Stakeholder approach are more likely to include environmental objectives in their strategy, since they want to comply with the needs of all stakeholders, including their neighbourhood. But a very strong business case is needed for companies under the regime of the shareholder value concept, since their single purpose is seen as to increase financial wealth for their shareholders. “We raise capital to make, concentrate and sell it at an operating profit. Then we pay the cost of that capital. Shareholders pocket the difference” (Former Coca-Cola CEO Robert Giozueta in Black and Moersch, 1998, p.22).

## Discussion of the potentially positive influence of environmental management on companies' competitive advantage (so called win-win)

### Definition of the win-win situation

Win-win situations for the purpose of this paper are determined as situations in which a strategic decision results in better ecological performance of the company, meaning increase in eco-efficiency, and at the same time also results in better economical performance, meaning that the revenues from this decision outweigh the cost incurred. Eco-efficiency is defined by the World Business Council for Sustainable Development (WBCSD, 1992) as *“the delivery of competitively priced goods and services that satisfy human needs and bring quality of life, while progressively reducing ecological impacts and resource intensity throughout its life cycle to a level at least in line with the Earth's estimated carrying capacity”* (Quoted by the EPA Online-Glossary).

### Argumentation against win-win

#### Win-win situations alone are not sufficient to achieve environmental sustainability

As mentioned in the introduction, opposing the group of supporters of a win-win situation, is a large group of scientists, business people and politicians stating that the win-win situation is just a minor case.

Opponents to the win-win theory state that environmental improvements creating financial benefits only exist in the case of efficiency increase and/or in the case of waste/pollution reduction per unit. But these efficiency increases are not enough to achieve environmental sustainability. Achievements in environmental efficiency are outweighed by increases in overall production, so that the total 'ecological footprint' of the corporations does not decrease, but increase as the equation presented by Welford and Gouldson (1993, p.3.), using the approach of Ehrlich and Ehrlich (1991) and Stikker (1992) shows:

$$\text{Global env. burden} = \text{Global population} \times \text{GNP per capita} \times \text{Environmental impact per unit of GNP}$$

Welford and Gouldson state that Stikker, using this equation and the assumptions that *“the 1987 population of 5 billion people generates the maximum acceptable environmental burden”*, that *“world population will double its 1987 level to reach 10 billion within 40 years”*, and that *“GNP per capita should increase by 5 per cent*

*per year, (...) therefore rise by a factor of 5 within 40 years* came up with the conclusion that to maintain this maximum acceptable environmental burden *“the environmental impact per unit of GNP must fall by 90 per cent within 40 years”*. This postulate indicates that it is almost impossible to achieve sustainable development through win-win situations in form of efficiency increases alone. Although some western countries are doing fairly well to achieve great results in eco-efficiency, developing countries are mainly behind on the issue of eco-efficiency, so that on a global scale the 90% reduction of environmental impact per GNP seems impossible to achieve within this timeframe. Nevertheless, this discussion is still disregarding the fact that many environmentalists regard the 1987 global environmental burden as already too high for SD (see also Welford and Gouldson, 1993, p.4). Therefore a decrease in GNP would be necessary, which would totally oppose an economic win-situation for companies.

#### Eco-efficiency does only pay off if little change is required

Decreasing this ecological footprint is not possible as a win-win situation, as Walley and Whitehead (1994), two consultants of McKinsey state: *“After all, the idea that environmental initiatives will systematically increase profitability has tremendous appeal. Unfortunately, this popular idea is also unrealistic. Responding to environmental challenges has always been a costly and complicated proposition for managers. In fact, environmental costs at most companies are skyrocketing, with little economic payback in sight”* (p.46). *“The emergence of the win-win mind-set is a direct result of the extraordinary success companies achieved in reducing pollution (...). Many of the reduction programs made good financial sense, while few required truly fundamental changes in production process or product designs.”* (p.48)

#### Argumentation for win-win

*“One of the most pervasive concepts underlying the business-environment debate of the 1990s has been that of the environmental/economic ‘win-win’ – the idea that certain measures can bring benefits in terms of both environmental and economic performance”* (Howes et al., 1997, p.1).

## EMS and generic strategies

“An environmental leadership strategy can provide competitive advantage for a company in two ways: firstly, by catering for a demand in the market place for environmentally responsible products or services ahead of its rivals; secondly, by generating cost savings from practices that conserve energy and materials and reduce waste.” (Robinson and Clegg, 1998, p.6) This statement of Robinson and Clegg links the potential impacts of EMSs to create competitive advantages, with the two generic strategies defined by Porter.

Therefore, to analyse the potential drivers they will be assigned to one of the two generic strategies they support, Cost Leadership or Differentiation.

### Main studies used

Different models have been created by different authors to show the advantages derived from including EMS in Business Strategy, mainly showing the same influences with a difference in valuing them. In order not to show all of these different models, this paper will start with one model (7 drivers of competitive advantage by Giménez Leal et al.), explaining the different influence factors on business performance suggested in this model and stating to what extent other authors support the relevance of these drivers. Drivers which have been identified by other authors, but are not included in this model, will be described later.

To start the discussion on positive influence factors of EMS on Business Strategy this paper uses the model used by Giménez Leal et al. (2003, p.102) to present their findings in a survey among Spanish firms on the impact of EMS on their performance. The benefit of using this model, which is a condensed form of the model presented by Welford and Gouldson (1993, p.11), is that the supposed positive drivers have been tested in a survey and that the model focuses on the main issue of business strategy identified above, which is the creation of competitive advantage.

Another major study used in this paper is the report by SustainAbility/UNEP “Buried Treasure, Uncovering the business case for corporate sustainability” (2001). The UNEP paper is based on different studies since 1987 and business experience in consulting practice by SustainAbility. In the paper by SustainAbility/UNEP 10 dimensions of sustainability (including Focus on environmental products and on environmental processes as 2 dimensions) are tested against 10 measures of



Figure 3: “Constituent elements of competitive advantage” (Giménez Leal et al., 2003, p.102)

business success to identify correlations in 15 different companies. These measures of business success can be related back to drivers of competitive advantages and can therefore be used to support this paper. The overall conclusion of the SustainAbility/UNEP study on the impact of Environmental Management on Economic success is as follows:

“Of the ten dimensions of sustainable development performance, environmental process focus is supported by the strongest business case. This dimension should continue to play a prominent role in any business case assessment.” (SustainAbility/UNEP, 2001, p.2)

### Potential drivers supporting cost leadership

#### Resource optimization

Resource optimization is the main argument used by authors supporting EMS and is also acknowledged by sceptics of the overall success of EMSs in achieving competitive advantage. Under resource optimization authors understand the increased efficiency in resource transformation, which has two different aims:

1.) Reduction in required input to produce the same amount of output through better resource utilisation. A better resource utilisation represents the typical win-win, since lowering the necessary input to produce a new product reduces the variable costs of this product (economic win) and on the other hand it reduces exploitation of natural resources to produce the input or used as input (ecological win).

2.) Reduction of waste during production achieved through better resource utilisation of by-products and through better resource planning and procurement (buy as much as you need). A reduction in waste is also a typical win-win situation, as it first lowers the procurement costs, since less un-transformable input is purchased, as well as the fee for waste disposal (economic win), on the other hand less resources are

depleted and the ability of the environment for biodegradation of waste is less exploited (ecological win). See also Welford and Gouldson (1993, p.124-139) on the impact of waste minimisation.

The point of resource optimisation is covered under “operational efficiency” (p.18-19) in the report by SustainAbility/UNEP (2001), referred to as “the ability of a company to turn inputs into productive outputs in a cost-effective manner” (p.18). Their survey found that „Strong empirical support exists for the argument that superior environmental performance reduces costs over time. For companies, this expectation is often the primary driver for ‘going green’” (p.19).

### Reduced risk exposure

The EMS Standards (ISO 14001, EMAS and BS7750) explicitly focus on risk reduction through standardised handling procedures of hazardous material to avoid accidents as well as “emergency preparedness and response” (Sub-clause 4.4.7 ISO 14001:2004). The SustainAbility/UNEP paper (2001) covers reduced risk exposure under “risk profile” (p.28-29), defining it as “the degree to which a company’s tangible and intangible assets are at risk through exposure to potential ‘disasters’ or gradual erosion due to long-term decline”.

The reports also provide some of the economic benefits achieved from reduced risk exposure (p.28): “The ‘polluter pays principle’ now applied in many western countries means that polluting processes will invariably cost companies. Incorporating environmental concerns in process design reduces the risk of these liabilities as well as the impact they have on corporate image. From a legal perspective, irregularities in the environmental, product liability and business ethics arenas can result in high cost court cases that also affect corporate reputation and image.”

The economic benefits from reduced risk exposure are often linked with the 4th driver mentioned in this paper (Cheaper finance and lower insurance), which is discussed below.

The ecological win is established through the lower risk of pollution and therefore a lesser potential for biodegradation exhaustion.

This point of view that EMSs reduce risk exposure and therefore reduce costs is also supported by Mohammed (2000), who focuses on the reduction in risk of accidents through the handling procedures of hazardous material in ISO 14001.

The argument could be countered with the argument that most companies apply Quality Management Systems which include security measures and handling procedures. The benefit in using the EMS-Standards over using a QMS, is that QMSs do not include a plant specific audit of potential risks, which are a key element of EMSs, but only provide for publicly known risks.

### Assured present and future compliance

EMSs offer different economic benefits related to present and future compliance with environmental regulations:

1. No costs resulting from penalties for not complying with current environmental regulations.
2. Since EMSs usually apply higher environmental standards than regulations, they are most likely to have established production processes complying even with future environmental regulations, which results in a series of competitive advantages:
  - a) No future costs from aligning production process to future legislation or penalties
  - b) Preventive production design usually less expensive than ‘end-of-pipe’ technology to comply with new legislation: „Capital intensive environmental investments such as end-of-pipe technologies are less attractive investments than life cycle approaches” (SustainAbility/UNEP, 2001, p.20).
  - c) Immediate ability to provide products complying with requirements set up through environmental legislations.

The viewpoint that the reduction of sanctions because of implementing EMSs, complying with current legislation, is a driver for competitive advantage is also supported by Patton and Baron (1995), Madsen and Ulhoi (1999), Van der Veldt (1997).

### Cheaper finance and lower insurance

The argument that the introduction of EMS leads to cheaper financing is a very dominant one in the argumentation for the increase in competitive advantage through the implementation of EMSs. It often relates back to the point of Reduced Risk Exposure (see previous section), as stated in the SustainAbility/UNEP paper (2001), which covers this driver as “Access to Capital” (p.20-21): “Poor environmental performance reduces a firm’s access to, and increases the cost of, debt and equity capital,

particularly in countries where legislation follows the 'polluter pays' principle" (p.20).

Dobers and Wolff argue that "companies are as much dependent on flows of physical resources as they are on financial resources", therefore financial resources can be seen as "strategic resources" having a great impact on competitive advantage (2000, p.145). They state that the "recently introduced Dow Jones Sustainable Group Index" is an example of "financial actors' demands regarding business' transparency about management systems and objectives for sustainability". But in their study, Dobers and Wolff were unable to prove that environmental management allows cheaper financing, since they found that environmental funds in 2000 had "relatively little impact on companies' environmental performance". The authors refer this to the fact that consumers are not yet entirely informed about the kind of funds they invest in and that environmental conscience is not yet sufficiently built. But they claim that the development of these funds will increase awareness and therefore pressure companies to change behaviour towards more sustainable behaviour. This would be especially the case since a back-testing of the DJSI has claimed "that companies that work actively with economic, environmental and social issues in their business processes actually would have been beating Dow Jones' own World Index" (Dobers and Wolff, 2000, p 147-148).

## Potential drivers supporting differentiation

### Improved product quality

An EMS improves product quality through a strong focus on process and input quality control. Supporting the point of view that EMSs in firms improve product quality and therefore achieve competitive advantage are also Robinson and Clegg (1998). Arguing against this being a special driver deriving from an EMS it could be said that other Quality Management Systems would also achieve an improved product quality, but if quality is understood as including a reduced potential harm to customers using the products, then the implementation would have this advantage over other QMSs, as it further reduces potentially harmful materials than the sheer compliance with current regulations.

### Improved media coverage and community relations

This driver identified by Giménez et al. includes two usually separately discussed potential drivers of competitive advantage, improved marketing - through improved media coverage resulting in an improved corporate image - and the "License to operate" as referred to by the SustainAbility/UNEP paper (2001, p.32-33).

### License to operate

SustainAbility/UNEP found in their study a moderate positive impact of focusing on environmental process on the "License to operate":

"A licence to operate gives a company both the legal and 'non-legal' legitimacy to conduct its operations. (...) The licence to operate can be 'granted' by stakeholders such as regulators, politicians, local communities, the general public, the media and civil society. (...) A firm's licence to operate is highly dependent on the extent to which it is accepted by local communities, public opinion and NGOs.(...) Evidence of its importance can be found in the huge sums of money that corporations spend on PR and lobbying. Having a strong licence to operate also gives firms a margin of error when negative events occur. (...) The strongest link between environmental performance and licence to operate is at local community level, where perceived poor performance can significantly erode a company's welcome." (SustainAbility/UNEP, 2001, p.32-33) This driver has become more important with the introduction of the so called Regional Environmental Management Systems (REMS), see also Welford and Gouldson (1993, p.189-203) on "regional development and environmental management". More and more countries are encouraging or enforcing local environmental actions like the Local Agenda 21 (Dyllick and Hockerts, 2002, p. 131). Dyllick and Hockerts mention as examples, Econtour (2001, no longer available on the web) to report 344 German municipalities with their own Local Agenda process, Tony Blair to require each local authority in the UK to produce its own Local Agenda 21 strategy by the year 2000, and also the European Commission expert panel "European Sustainable Cities" 1996.

### Marketing

In their survey, Giménez Leal et al. found that companies having introduced EMS (24%) as well as companies not having introduced an EMS (25%)

thought that introducing EMS improves media coverage, improving the corporate image, and therefore leads to competitive advantage. Other authors in support of the opinion that the introduction of EMS improves corporate image and therefore enhances the competitive position of the company are Strachan (1999), Hillary (2000).

Dobbers and Wolff (2000) also support the argument that competitive advantage can be achieved through increased awareness, but demand carefulness while designing strategies to exploit this advantage:

*“The ongoing discourse on ‘environmental awareness’ in society seems to have indicated for many activists and companies that consumers de facto behave according to their expressed values, which would imply that they consume better environmentally adapted products when these are offered in the market. This belief has created some overoptimistic marketing strategies amongst those companies that have tried to gain ‘first-mover-advantages’ in a market that is obviously highly insecure and differentiated. Consumers seem to express positive environmental attitudes, but when it comes to behaviour the challenges for companies are much more ambiguous. Also, when looking at segmentation and marketing strategies there is a strong indication that the ‘green’ consumer differs considerably, depending on what part of the world we look at. From a business marketing point of view a differentiated marketing strategy is required”* (Dobbers and Wolff, 2000, p.144-145). The problem of a required differentiated marketing strategy is also supported by Bragd and Wolff (1996) as quoted by Dobbers and Wolff (2000).

Also there’s some concern that *“although consumer polls often show a strong willingness to purchase ‘green’ products, this will is not always translated into behaviour, because consumers do not want to compromise on price and product quality”* (SustainAbility/UNEP, 2001, p.16). Therefore it seems that only for a limited group of customers the price increase, associated with Differentiation strategy, can be achieved, since only a *“small segment of consumers are willing to pay more for eco-products”*. (SustainAbility/UNEP, 2001, p.17).

Nevertheless, creating a “green product” as part of a differentiation strategy can play an important role as found by the UNEP, as long as “being green” does not result in higher prices: *“However, these products can generate revenue when they help differentiate between*

*‘equals’.(...) All else being equal, a product’s superior environmental performance boosts sales.”* (SustainAbility/UNEP, 2001, p.16-17).

## Potential drivers supporting both strategies

### Improved global management and control

In their survey, Giménez Leal et al. found that the highest percentage (31%) of companies having an EMS in place found that it improved their global management and overall control in the company and therefore increased their competitive advantage. This driver has not been mentioned by other authors in the literature review. Since Giménez Leal et al. do not make further comments about the specific drivers, this driver is rather unclear.

One could argue against this particular driver that any other Quality Management System could be able to achieve this result as well as an EMS.

### Increased attractiveness to high potential employees

The SustainAbility/UNEP report (2001) found a moderate positive impact from a focus on both, environmental products and processes, naming the potential driver *“Human & Intellectual Capital”* (p.26-27). *“A positive reputation specifically in the areas of the environment and human rights will also increase a company’s ability to attract and retain staff, while a negative reputation in these fields and a lack of ethics and integrity will decrease it”* (SustainAbility/UNEP, 2001, p.26). And also *“A niche group of employees will proactively choose an environmentally focused company”* (SustainAbility/UNEP, 2001, p.27).

The potential to increase attractiveness to high potential employees can have an important influence in the future, since *“numerous studies suggest that superior talent will be tomorrow’s prime source of competitive advantage, and attracting and training committed employees will therefore become crucial to enhancing shareholder value”* (SustainAbility/UNEP, 2001, p.27).

The point of view that implementing an EMS increases the attractiveness to employees is also supported by Tietenberg and Wheeler (1998).

### Innovation

The SustainAbility/UNEP report (2001) found in their study a strong positive impact from focusing on both,

environmental products and processes, on the ability to be innovative. *“There is strong support for the link between superior environmental characteristics in product portfolios and general ability to innovate. However, the direction of causation could also be that the more innovative companies are more willing to throw away existing assumptions about how products should be designed and start afresh”* (p.31).

### Survey testing of the 7 drivers by Giménez Leal et al.

Giménez Leal et al. tested the 7 different drivers included in their model as discussed above, which are supposed to result from the introduction of EMS and to increase competitive advantage for the firms and therefore business performance.

As mentioned before, these potential drives have been tested in a survey by Giménez Leal et al. and the results from companies with an EMS in place are presented Figure 4.

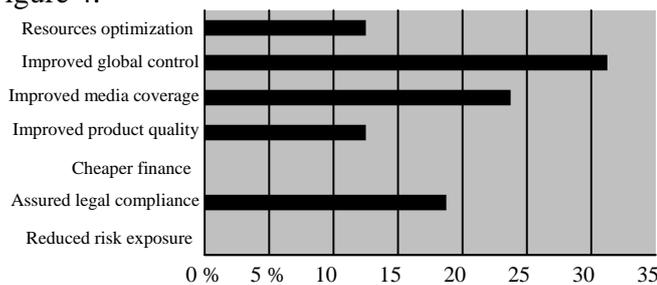


Figure 4: “Factors that influence increased competitiveness in the company” adapted from Giménez Leal et al. (2003)

Concerning the findings from companies not having an EMS in place, two have been reported in the previous section. Otherwise they will not be reported in this paper since they do not represent evidence of the potential of EMS to create competitive advantage. The two findings mentioned during the discussion of the different potential drivers are reported because of their significance and their emphasis of general public opinion on the impact of EMS.

The replies from the companies interviewed in the survey support only 5 of the 7 supposed potential drivers of competitive advantage through including an EMS in Business Strategy. Cheaper financing and Reduced Risk Exposure were not mentioned as benefits from implementing an EMS. This supports the findings and counter-arguments provided in the discussion of these potential drivers. Surprisingly, Improved Overall Control has been mentioned by the

highest number of companies (32%), whereas it seems from the literature review conducted for this paper to be rarely discussed as an influential driver for competitive advantage through the implementation of EMSs in business literature.

### Conclusion

#### Is there a potential to achieve sustainable development and competitive advantage in a win-win?

The literature review conducted in this paper has clearly outlined a potential for win-win opportunities through incorporating an environmental focus (by applying EMSs) in business strategy. Several drivers creating competitive advantage under each of the two generic strategies have been identified, which could be fostered by an environmental focus. Therefore there is potential in applying EMSs for both strategies. Nevertheless, although the positive influence on some of these drivers has been supported by surveys among firms applying an EMS, the positive impact on others is still lacking direct evidence (like cheaper finance).

What the literature review could not establish was a clear overall business case for the ability to achieve Sustainable Development through win-win situations.

As the sceptics of win-win, Walley and Whitehead (1994, p.46), state in their paper: *“We do not argue that win-win situations do not exist; in fact, they do, but they are very rare and will likely be overshadowed by the total cost of a company’s environmental program. Win-Win opportunities become insignificant in the face of the enormous environmental expenditures that will never generate a positive financial return.”*

The literature review did not lead to the conclusion that win-win opportunities are rare. There rather appears to be a huge potential for win-win situations, and the review only shows that the ability to achieve a win-win is dependent on different circumstantial issues.

#### Businesses need a more long-term focus on shareholder value

As stated briefly during the discussion on potential drivers for competitive advantage through the application of EMSs, the benefits of the implementation often only pay after time or in general only over time, whereas the costs of implementing these EMSs are created mainly immediately, and

especially if radical change requires new equipment the costs are very significant.

The currently primarily used quarterly ROI or ROC analyses to determine shareholders value, often under the pressure of financial investors and worst under the pressure of stock market performance, - using high discount rates for future, unsecured profits - are rather short sighted. Not only environmentally concerned authors, but a large group of business authors (most prominent Kaplan 1992), find these measures misleading and actually encourage managers to take arbitrary decisions favourable to decrease current costs, to achieve high quarterly results, translating into high bonuses, instead of investing into the company's long-term competitive advantage.

Dyllike and Hockerts (2002) suggest to define economically sustainable companies as companies, that *"guarantee at any time cashflow sufficient to ensure liquidity while producing a persistent above average return to their shareholders"*. Therefore they suggest a more long-term sighted model to evaluate shareholder value, including TBL capital accounting - based on the discussion by Minsch (1993) and Daly (1991), *"that not all kinds of natural capital can be substituted by economic capital"*.

Another approach suggested is the Balance Scorecard (Kaplan, 1992), as suggested by Figge et al. (2002), to be more likely to show long-term benefits of EMSs as it focuses more on long-term competitive advantage than short-term financial performance.

### **Potential for win-win depends on the characteristics of firms**

The literature review has also shown that the strongest evidence for a potential of win-win through the application of EMSs is shown in larger companies in environmentally sensitive industries. The SustainAbility/UNEP report for example covered mainly companies in the Oil industry, the chemical, and the automotive industry.

Stoeckl (2004) in her study identified 7 *"key characteristics"* of firms which have most to gain from environmental programmes (p.151-152). Simpson et al. (2004), as well as Stoeckl (2004) and Giménez Leal et al. (2003), found heavy barriers for SMEs to apply EMSs, mainly due to lower scale, huge investment cost and the difficulties to deal with the overwhelming and often unstructured amount of information about environmental issues. These circumstances are espe-

cially regrettable, since SMEs form an important part of most national economies and also account in total for more than half of the total environmental pollution (Simpson et al., 2004, p.157).

### **Could increased environmental regulations be a solution?**

Authors on both sides have stated that companies achieve a win-win situation as they comply with strict environmental regulations, forcing them to decrease waste, otherwise imposing high penalties. If not imposed by governmental institutions, companies fail to internalise social benefits, as long as firms' private costs arising from corporate endeavours to achieve sustainability outweigh the private benefits, as stated by Stoeckl (2004, p.135). Therefore stricter environmental regulations asserting public interest in environmental sustainability is seen by some people as a solution for corporations to incorporate the external benefits without harming competition. *"Strict environmental regulations do not inevitably hinder competitive advantage against foreign rivals; indeed, they often enhance it, (...). Properly constructed regulatory standards which aim at outcomes and not methods, will encourage companies to re-engineer their technology. The result in many cases is a process that not only pollutes less but lowers costs or improves quality"* (Porter, M., 1991). But it has been noted that *"over time ... it became clear that these traditional regulatory approaches to pollution control were excessively costly in some circumstances and incapable of achieving the stipulated goals in others. (...). Neither staffs nor budgets are adequate for the task of regulating all the potentially harmful substances that are emitted by firms and households"* (Stoeckl, 2004, p.138, quoting Tietenberg and Wheeler, 1998).

Therefore it seems that increasing environmental regulation and strict control are not the optimal solution to the problem of achieving Environmental Sustainability. Nevertheless, one important task for authorities has been outlined by several authors (see Simpson et al., 2004, Stoeckl, 2004, Giménez Leal et al., 2003), the task to support companies in implementing EMSs. In their survey, Giménez Leal et al. found that the second most often named obstacle for implementing an EMS was the *"lack of government help"*, stated by 21% of companies interviewed (2003, p.106).

## Need for increased consumer awareness

Although this paper has outlined an important feasibility for commerce to make way on the path to sustainable development without changing our general economic system, it also outlined that this will not be enough to achieve sustainable development. The equation provided by Welford and Gouldson (1993, p3.), shown under section 3.2.1 shows that a decrease in overall consumption growth, represented by GNP, in addition with eco-efficiencies seems to be needed to achieve true Environmental Sustainability.

As stated by Welford and Gouldson (1993, p.5) “*there is also a need for education among consumers*” since “*consumers who are relatively wealthy seem reluctant to significantly reduce their own consumption*”.

Only if increased consumers awareness about the environmental impact of their buying behaviour can be achieved, will there be a real chance to achieve sustainable development. This would not only reduce overall consumption growth, but would also increase pressure on the industry to reduce its environmental impact in order to attract customers, from which to create revenues, and therefore achieve the win-win situation discussed in this paper. Hence even if a decrease in consumer consumption might be a too far reaching goal, it is definitely necessary to increase consumer awareness for environmentally friendly products to support a strong business case for the incorporation of EMSs in business strategy. Therefore more efforts on the field of environmental reporting are needed, which is another potential field for governmental actions, as well as environmental rankings to also increase shareholder awareness. If consequently following this line substantial progress will be made towards the final goal of Environmental Sustainability. As Wedford and Gouldson state:

“*Businesses are at the core of the environmental debate and are central both to the problem and the solution.*” (1993, p.1).

## Notes

1. For more information on EMSs, the different models existing (Kolk and Mauser, 2002) and step for step implementation guides see: Sheldon and Yoxon (1999), North (1992), Hundt and Johnson (1995).

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