

# THEORETICAL EMPIRICAL INSIGHTS ABOUT THE INCREASING ROLE OF ENVIRONMENTAL MANAGEMENT SYSTEMS (EMS) IN HUNGARY

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## *Abstract*

*Mainstream economics usually delineates economic success as the only criteria for measuring business performance. The concept we intend to analyse in our study defines environmental and social performance – besides the economic one – also as indexes of organizational success. Environmental and social aspects, corporate social responsibility (CSR) and environmental management systems (EMS) recently play a more and more important role in the western societies. Their role in the Hungarian business sphere has also been growing continuously since the regime change at the end of the 80's. This process is strengthened by two other factors: Hungary's EU accession and the Germany-oriented Hungarian economy. Recognizing this process, the purpose of this paper is to give an overall picture of the present state of environmental-conscious company management in Hungary, based on our own preliminary research and on the results of former Hungarian researches.*

**Key Words:** *Corporate social responsibility, environmental conscious corporate management, environmental management systems, competitiveness.*

## **1 Introduction**

The emergence of CSR and EMS was an answer as trust in corporations has been severely declined since the 1970s. Industrial accidents and company scandals have led to poor company reputation and even decreased economic performance in several cases.

In Europe, according to the Green Paper 'Promoting a European framework for Corporate Social Responsibility', the main factors fostering corporate social responsibility are 'expectations from citizens, consumers, public authorities and investors in the context of globalisation and large scale industrial change', investment decisions considering social interest, 'the increased concern about the damage caused by economic activity to the environment' and 'transparency of business activities brought about by the media and modern information and communication technologies' (Green Paper,

p. 5). In summary, both the demand for and opportunities of monitoring companies' behaviour have increased.

The core idea of the CSR concept is that business should play a deeper (non-economic) role in society than only producing goods and making profits, including society and environment driven actions. It means that business has to go beyond its profit-oriented commercial activities and increase the well-being of the community – making the world a better place (Robins 2005).

## **2 Literature Overview**

### **2.1 Motivation**

After taking a look at the business sector in general we examine the motivation of single companies. Four possible explanations for environmental investments are: stakeholder pressures, competitive positioning, corporate social responsibility, and financial analysis. Each of these – except CSR – are business motivations. According to Drechsler (2004), they do not have to appear separately, but may rather appear simultaneously. Business motivators appear to a lot stronger extent than their responsibility counterparts. The same result – based also on empirical researches – appears at Fryxell & Szeto (2002), Fryxell *et al.* (2004), Kwon *et al.* (2002) and Biondi *et al.* (2000). According to Máté Kriza, the director of the Hungarian Business Council for Sustainable Development, the main motivating factor of the business sector is that the management of a sustainable company looks at CSR as a business chance. Bertrand Collombs, the president of WBSCD, also regards CSR as a necessary tool for successful business (Figyelő 2005).

CSR and EMS thus seem to be mainly motivated by economic reasons (must- and should-responsibilities). That reminds us of Friedmans' view of CSR, according to which 'the business of business is business' and social and environmental development beyond business reasons are not corporate but governmental responsibilities (Figyelő 2005).

### **2.2 CSR and Corporate Success**

According to the international special literature the critical majority of the companies are going to be socially and environmentally responsible from business reasons. Therefore we can assume that there is a positive correlation between being a socially responsible actor and gaining higher profits.

The business case for sustainability has been a very popular research area at recent years. It examines the affect of CSR and EMS on corporate (financial) performance. We can find a stream in EMS research which states that there is a direct connection between environmental conscious corporate management and financial success. According to this view, it is worth introducing corporate environmental protection as a strategic tool, since it is a win-win position – both in an economic and an environmental sense. Also, not handling environmental issues on a strategic level but only giving sudden solutions to the problems will soon cause a serious disadvantage in competition. However, the situation is not that simple (Pataki 2000). E.g. Vastag and Melnik (2002) raise the question why not more managers are interested in applying it, when it really is such a success story. The overall rate of companies implementing these standards in the EU is below 1% (Evangelinos & Halkos 2002). According to empirical research carried out in the US, there is no economically based reason to

introduce EMS certification. The benefits that can be gained are not strategic, but ‘soft’ ones (e.g. improved corporate reputation).

Salzman *et al.* (2005) give an overall analysis on the topic on the basis of a wide range of formal empirical researches. They report that different theoretical and empirical investigations come to different conclusions; there is no evidence what effect (negative, positive or neutral) CSR and EMS has on corporate financial performance. It is small wonder if we consider the complexity of the research area and measurement, the various types of social and environmental problems and responsibilities emerging in different geographical areas and industries. In addition, the authors assume that the inconclusiveness of the results also have other reasons: the use of a wide variety of sometimes poor measures, lack of effort to empirically test definitions and concepts, lack of significance testing and control for interaction with other variables, inadequate sampling techniques, to limited data availability, and the use of a variety of measures, presumably for reasons of convenience.

These facts – seen also at Castaldo & Perrini (2005) and Gazzola & Mella (2005) – show that there is no direct connection between CSR and corporate success. The same can be told in the case of environmental investments (Drechsler 2005). Although the relationship between environmentally and socially conscious corporate activity and business success is uncertain, the opinion that business success can not be separated from CSR is more and more common in the international business life. Financial and stock exchange comparisons show that the value and index of shares of firms applying sustainable strategic approach are higher above the average level (Figyelő 2005). Other studies show that SMEs can also benefit from EMS (Biondi *et al.* 2000). It seems that it is difficult to measure the effects of CSR on companies’ economic performance. However research so far shows that these are not conflicting. Companies’ long-term economic success is dependent on stakeholders (customers, investors, business partners, authorities, etc.), and these stakeholders more and more expect CSR from them.

### **3 The Results of Our Research**

#### ***3.1 Research Questions***

On the basis of the literature analysis, we deduced the following research questions:

1. What is the reason for the relatively high number of EMS certified companies in Hungary? Also, what is the motivation of introduction: which motivating factors (e.g. improving business success and compatibility, commitment to long term environmental sustainability) are the ones which influence Hungarian companies in introducing EMS, and to what extent? Also, which motives (like accepting responsibility, the use of the opportunities provided by the situation, reducing and abolishing risks) are real motivators for Hungarian companies?
2. As a business organization has to be economically sustainable, we also examined what effect EMS has on economic sustainability.
3. Finally, we surveyed how organizations regard the internal and external conditions of corporate environmental protection.

#### ***3.2 Hypotheses***

Related to the above research questions, we set up the following research hypotheses:

*H1:* The high rate of EMS in Hungary is caused by the high rate of western companies being present in the country. EMS spread mainly among them. Most of the Hungarian companies introduce EMS because of economic and competitive reasons.

*H2:* EMS contributes to the success of companies and means a real advantage in the competition.

*H3:* The external and internal circumstances of environmental management are unfavorable in Hungary at present.

### **3.3 Introducing the Sample**

The quantitative survey has been carried out in two steps in October and December 2004. In the first round we sent our questionnaires to 150 EMS certified companies on the basis of the database of KÖVET-INEM Hungary. We sent our questionnaires to the environmental representatives of the companies because we considered them to be the most competent to answer. In the second round we sent out our questionnaire to app. 90% of the companies we could not contact during the first round. In the cases where we could not get direct access to the environmental representatives, we asked the companies to forward our mail to the responsible persons. In the end we managed to get to know the opinions of more than 90 firms out of the overall 771 EMS certified companies in Hungary. App. 50% of the companies in the sample are large companies (with more than 250 employees); the rate of small enterprises reaches 20%. If we do not consider the companies being specialized in environmental protection (we think that those took our survey more seriously and had a higher willingness to answer, so they could probably be overrepresented in the sample), we determine different rates: the rate of small enterprises falls to 14% and the rate of large ones raises up to 55%. The rate of companies that do not operate by themselves but as a part of a larger holding is around 58%.

### **3.4 Reasons and motivations for introducing EMS**

Economic and competitiveness factors are dominant among the motivations for introducing EMS (fig. 1). Only 20% of the companies mention environmental protection and environmental responsibility, and if so, then mostly in connection with other economic motivators.

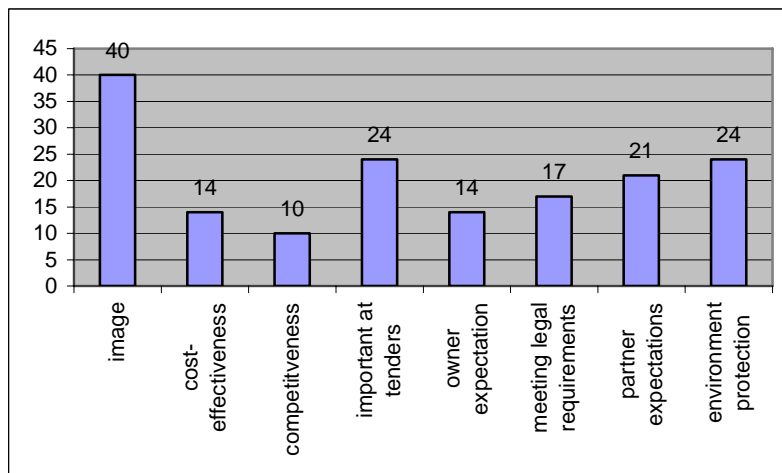


Figure 1: The frequency of mentioning the different motivators for introducing EMS

The number of companies mentioning only environmental reasons is negligible. To our open question, the 91 companies of the sample mentioned 107 economic reasons altogether. Besides economic and environmental factors the significant motivators are the expectations of the (usually foreign) owners and legal requirements. It is also important to emphasize that the factor 'important at tenders' means the tenders of multinational companies, and not public procurement – EMS certification does not mean an advantage at public procurement in most cases.

### ***3.5 The introduced environmentally conscious management tools***

In the next part of our questionnaire we examined what other environmental tools companies have introduced besides EMS. We also examined whether companies consider the introduced tools as being economically refundable. Based on the number of companies that introduced those tools we can divide the tools into three different groups:

1. *Tools used by most companies*: more than 70% use the following tools: waste minimization (82 companies), energy rationalization (74 companies), internal trainings, motivation system (85 companies), external communication (72 companies), and environmental indicators (72 companies).
2. *Tools used to a medium extent* (used by 30-70% of companies): cleaner technologies (60 companies), transformation of supplier systems on the basis of environmental aspects (54 companies), and rebuilding environmental friendly offices (40 companies).
3. *Tools used by several companies*: less than 30% of companies used the following tools: development of certified environmental friendly products (14 companies), lifecycle analysis (10 companies), ecological bookkeeping (3 companies), eco-controlling (17 companies), transformation of distribution systems on the basis of environmental aspects (11 companies), and environmental consultation (23 companies).

We can see that the tools directly related to EMS are known and used by the majority of the companies. However, only a low rate of the EMS certified companies use tools which are not directly connected to the system. We can find several tools in the last group that are above all connected to production, e.g. the development of certified environmental friendly products, lifecycle analysis, and the transformation of distribution systems on the basis of environmental aspects. The low rate of firms with a production activity could cause the relatively low rate of using these tools. This is probably not the right reason because 63 of the 91 interviewed firms belong to the industrial sector.

We asked about the period of recovery of the particular tools with the help of a scale. The values of the scale referred to the different periods of recovery: 1 stands for a refund term of shorter than 1 year, 2 stands for 1-3 years, 3 stands for longer than 3 years and 4 means that the tool is not remunerative. We took the average of the answers as an average period of refund, which is evidently not completely precise, but gives a very good approximation. There are two things we consider important to emphasize. Firstly, the measurement of the recovery of the different tools causes problems to a significant part of the companies. This can be a result of the fact that companies' accountancy systems are not able to follow the beneficial financial results of the given tools and additionally managers fail to appreciate the full extent of their

introduction (Evangelinos & Halkos 2002). Secondly, companies that are able to measure recovery consider each tool being remunerative – most of them in a short term. This megfelel to the results of different studies according to which EMS has a payback period from 1.5 to 2.5 years (a shorter recovery period is familiar to large companies, and a longer one to SMEs) (Freimann & Walther 2002). The authors also emphasize that it is very hard to get proper data on recovery periods on a quantitative basis because of the following limits: limited reliability of corporate costing system (on which these data are based on); getting financial governmental aid by the introduction of the system (actual costs do not match planned costs quoted to the sponsors – political circumstances); and corporate actors (environmental experts) try to communicate their work their job within the company as something that saves costs rather than increases them. And monetary benefits are even harder to estimate (Freimann & Walther 2002).

We have also examined whether the faster remunerative tools were more popular than the slower ones, but did not find any relation between the period of recovery and the number of the companies introducing the particular tools.

### ***3.6 The role of environmental protection in particular corporate functions***

In the next part of our survey we examined the role of environmental protection in the different functions of the companies. We measured it with a 5-point scale. 1 stands for environmental protection playing absolutely no role in the given function and 5 means that it is very important.

Table 1: The role of environmental protection in the particular corporate functions

<b>Function</b>	<b>n</b>	<b>Minimum</b>	<b>Maximum</b>	<b>Mean</b>	<b>Std. Deviation</b>
Research and development	67	1	5	3,7	1,279
Purchase	90	2	5	3,8	0,985
Production	84	3	5	4,25	0,82
Sales	77	1	5	3,51	1,284
Logistics	80	1	5	3,58	1,111
Marketing	79	1	5	3,65	1,291
Accounting	71	0	5	2,01	1,201
Controlling	79	1	5	3,75	1,276

Source: own illustration

We can see that the role of environmental protection exceeds the average in the case of most functions. The exceptions are production (where environmental protection plays a relatively important role) and accounting (where its role is not important).

It is logical to assume that the more environmental management tools a company introduces, the more important the role of environmental protection plays in the company. That is why we examined whether there is a relation between the number of tools the companies introduced and the importance of environmental protection in the particular companies. However, we found no significant relationship between the two variables.

### 3.7 Environmental Protection as a Success Factor

We asked the companies to value the effect of environmental protection on corporate success. App. 21% of the companies consider environmental protection very important from the aspect of corporate success, whereas according to 45% of the interviewed companies, it does not have an important effect on it. If we avoid the opinion of the companies belonging into the environmental protection industry, the rates are not the same – 12% and 55%.

The answers we got in connection with the particular corporate success factors harmonize with the chart above. The firms valued the effect of environmental protection on the different success factors with a 5-point scale – 1 stands for environmental protection having no positive effect on the given factor and 5 means that it has a very strong positive effect. According to this, environmental protection can be held a success factor to a medium extent – or bit less than that. The companies consider the effect of environmental protection relatively important concerning only corporate image (3.79 on average). These results are similar to other studies where managers mentioned overall image improvement as an effect of EMS but only slight positive concrete market effects (Freimann & Walther 2002). Also, according to the study of Evangelinos and Halkos (2002) the most important opportunity rising from acting environmental consciously is better company image.

Table 2: The effect of environmental protection on the particular corporate success

Success factor	All companies except environmental protection industry		All companies	
	n	Mean	n	Mean
Competitiveness	72	3,44	81	3,5432
Image	74	3,88	85	3,9647
Market share	68	2,71	79	2,9114
Profit	66	2,23	77	2,4805
Quality	75	3,45	85	3,5882
Satisfactions of managers and employees	76	3,29	86	3,3837
Opening on a new market segment	69	2,8	78	2,9872
Cost reduction	74	3,04	85	3,1294

Source: own illustration

We also examined whether the environmental consciousness of companies correlates with how important companies consider the effect of environmental protection on corporate success. We found a significant correlation on a 99% certainty level. It means that the more important environmental protection in a company is, the more important is its effect on corporate success considered by the company.

### 3.8 Internal and External Circumstances of Environmental Protection

In the last part of the questionnaire, companies valued statements connected to the internal and external circumstances of environmental protection on a 5-point Likert scale.

Table 3: Internal and external circumstances of environmental protection

<b>Circumstances</b>	<b>n</b>	<b>Mean</b>
Asserting environmental aspects reduces competitiveness	89	1,7
The demand for environmentally friendly products is not satisfactory	83	3,71
The technical circumstances of environmental protection are immature	86	3,05
Environmental developments have a disadvantageous effect on the cost structure of production	87	2,64
Eco-marketing does not offer enough opportunities to take advantage of the competitive advantages	68	3,13
There is a resistance in the company against EMS	86	2
Environmental legislation is not straightforward enough	88	3,56
Distribution channels are not cooperative enough by the privileged sales of environmentally friendly products	72	3,71

Source: own illustration

We would like to emphasize two positive tendencies: according to the companies, environmental protection is definitely not considered as a factor reducing, but moreover even improving competitiveness. Also, there is no resistance to EMS within the organizations – which probably means that employees mostly identify themselves with it. But there are also negative tendencies: the companies think that the level of demand for environmental friendly products is quite low, the environmental legislation is immature and distribution channels are not cooperative enough by the privileged sales of environmentally friendly products.

### ***3.9 Different Groups of Companies***

Thus far, we mainly concentrated on averages and correlations. If we have a closer look, we can see that these averages are made up by the opinions of two different groups of the companies.

In the case of the environmentally more conscious group the role of environmental protection is higher in each function. Also, they consider the effect of environmental protection on the corporate success significantly higher. That is why we can regard them as being more environmentally conscious. On average they also introduced more tools of environmental conscious management than the companies of the other group. The rate of the companies is app. 50% in both groups – 52% in the environmental conscious one and 48 in the other. 10 out of the 11 companies of the environmental protection industry belong to the environmental conscious group.



## 4 Summary

On the basis of the results of our research we can make the following statements with regards to our hypotheses.

Hypothesis 1:

We could not prove or disprove hypothesis 1. However, there are facts that show that foreign (especially western) capital has a great importance in the spread of EMS in Hungary, since: more than half of the companies are large companies and also, more than half of them operate as parts of a holding; 26% view the expectations of – mainly foreign – business partners as a motivator for introducing EMS; 15% view the expectations of – mainly foreign – owners as a motivator. Our research confirms this hypothesis. The companies mainly viewed economic factors (e.g. improving image, cost-effectiveness, improving competitiveness, tenders and expectations of business partners) as motivators for the introduction of EMS.

Hypothesis 2:

Hypothesis 2 cannot be judged unambiguously. On one hand, EMS means an advantage in the competition by the recovery of its tools and its relatively high effect on corporate success according to app. 50% of the companies. On the other hand, its evaluation as a success factor in the different corporate functions is relatively low. On the basis of the cluster analysis we can say that the companies can be divided into two groups from this aspect as well: one of them considers the effect of EMS on corporate success important while according to the other it is rather unimportant.

Hypothesis 3:

The external and internal circumstances of environmental management are unfavorable in Hungary at present. We have to divide this hypothesis into two parts: internal circumstances (the effect of environmental protection on competitiveness and the attitude of managers and employees) can be considered favorable while the external ones (demand, relevant legislation and distribution channels) are unfavorable.

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