Implementing an Environmental Management Web-Portal

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Abstract

Ecoradar (www. ecoradar.org) is the name for an innovative Internet portal that sets out to use the simplest and most persuasive means to motivate sustainable management in those enterprises which have so far taken little or no interest in this aspect. This major project with participation from over 80 German enterprises and institutions is part of the new funding focus 'Integrated Environmental Protection - Instruments for Sustainable Business Management' set by the German Federal Ministry of Education and Research. The 'platform project' is initially planned to run for three years and its total expenditure (external funding and own resources) amounts to around DM 6 million. It receives technical and administrative support from the German Centre for Air and Space Travel (DLR). The institutional base for the joint project is the German Competence Centre for Sustainable Management (Deutsches Kompetenzzentrum für Nachhaltiges Wirtschaften – dknw) at the private University of Witten/Herdecke, and it is run in cooperation with the Chair in Environmental Management at the University of Hohenheim, Germany. As a joint project, ökoradar tackles the problem area of 'globalization and sustainable management'. In this connection, partner organizations in southern Africa, India and Central America are already included among the ökoradar project partners.

One aim of oekoradar is the Monitoring and assessment of environmental costs in the widest sense (calculation of a company's pollution control costs, anticipation of external costs and the costs of neglecting environmental aspects, identification of potential cost reductions) is a permanent task within early detection. In particular, deducting - at least mentally - the costs of environmental degradation (today's external costs - tomorrow's operating costs) is a strategic element of eco-controlling.

1. Knowledge Management for SME

Representatives of the joint project's target group, enterprises in Germany, have already given it broad approval in its start-up phase. Some 40 enterprises employing an estimated one million members of staff have made the decision to support production and development of the prototype. The development of so-called 'eco-radar' screens is to be carried out in eighteen workshops, hand in hand with business representatives and numerous experts. The organization of the high-calibre working groups has been taken on by Europe's largest business-led environmental initiative, the German Environmental Management Association (BAUM e.V.), Hamburg. The main thrust of cooperation with Carl Duisberg Gesellschaft e. V. is to promote the international expansion of the system. The first workshops will begin in the autumn of this year. In preparation, the Ifo Institute for Economic Research, Munich, will produce a 'Report on sustainable management practice in Germany' – essentially a stocktaking exercise. In addition, in the summer of 2001 a representative written survey will be conducted in around 9,000 enterprises.

2. Guidelines for action

ökoradar is a prototype early detection system which will enable German enterprises to identify technical, political and economic risks – but also market opportunities – of an environmental nature much earlier than their competitors, and to assess them more competently. The ökoradar system portal consists of eight ökoradar screens which users can view as an ensemble – or individually if preferred – to scan a company profile (Company Radar – 'micro-level') or the wider economic setting (Macro Radar – 'macro-level').

Company Radar
The Company Radar is a system component that can be accessed from any ökoradar screen, enabling users to systematically record and evaluate their company Environmental Data, their company Environmental Policy and their company Environmental Goals.

Macro Radar
The Macro Radar, a similar system component that can be accessed from any ökoradar screen, enables users to record and evaluate the 'macro-level' on the basis of the latest research – for instance global, national and regional Environmental Data and Environmental Goals.

3. Four-point menu for the Company Radar

ökoradar will use the Internet to provide structured communication of the latest expertise on sustainable management in a way that assists decision making and is comprehensible and relevant to enterprises. A four-point menu – which once again is integrated into all ökoradar screens – will ease this task for companies.

1 'Getting Started'
The 'Getting Started' menu shows companies the fundamental points they should take into account.

2 'Stumbling Blocks'
The 'Stumbling Blocks' menu shows how common mistakes can be avoided.

3 'Checklists'
The 'Checklists' contain guidelines for action which can be used interactively.

4 'Benchmarks'
The 'Benchmarks' allow for comparison with other enterprises by 'looking over their shoulder'.

4. Portal structure

ökoradar is the result of a wealth of research which has mounted up over at least two decades. There are copious research findings under all eight of the sub-headings, along with applications that have been tested in practice, in some cases. Some parts of the ökoradar system rely heavily on the latest environmental performance standards. The ökoradar sequence of 'Environmental Data – Environmental Policy – Environmental Goals – Environmental Organization – Environmental Knowledge' largely follows the thought processes of the European Union Eco-Management and Audit Scheme (EMAS) and ISO 14001. The integration of the ökoradar screens 'Environmental Costs', 'Environmental Market' and 'Environmental Technology' in the overall system is largely attributable to experience reported by companies. In business practice apparently there is plainly a recurring need for this kind of information.

4.1 Environmental Data
Basis for action towards sustainable management
Environmental data are generally held to be the 'oxygen' of environmental policy. The regional, national and global environmental data provide a key basis on which companies can take action. Wherever the environmental situation is monitored and observed, wherever citizens are surveyed on their subjective experience of environmental problems, this can provide the impetus for action in environmental policy. Elementary company environmental data, for example, might be figures relating to energy, water, wastewater, waste, emissions and hazardous substances. Carbon dioxide emissions would be one example of key global environmental data.

4.2 Environmental Policy

Approaches for action towards sustainable management

The future environmental standards imposed on enterprises are moulded partly by their own environmental policies but especially by external government and party programmes. For example, national environment policy approaches for action form an important basis for the future use of 'command-and-control' instruments. In Germany, for instance, the ideas of the coalition parties, the opposition and the separate parties at national, federal state and municipal level are not the only matters of importance. A considerable influence is exerted on future environmental policy by the policy-making bodies of the European Union and numerous other international organizations.

4.3 Environmental Goals

Principles for action towards sustainable management

While environmental data represent a significant basis on which to take environmental policy action, environmental goals provide principles for action which, for their part, form the basis for the future application of environment policy instruments. Society should come together and use environment quality objectives to define core elements of environment policy action, working towards sustainable management in years to come. A company's own environmental targets, in contrast, are an element of the internal early detection system. Basically these should be geared to continuous improvement of environmental performance.

4.4 Environmental Organization

An effective environmental early detection system can only be incorporated successfully within the enterprise once an efficient organization is in place for the structure and processes of environmental performance. Because then, and only then, is it possible to perform the target-performance comparisons which are necessary for early detection. For early detection, another important factor is to work closely with the public environmental authorities and associations: environmental authorities are the pivotal interface between the letter of the law and its enforcement. Enterprises that maintain good contacts with environmental authorities have swift access to information on new requirements under environmental law. Associations are viewed as powerful environmental policy actors and can pass on to their corporate members targeted advance information on environmental performance, picked up during the course of their lobbying.

4.5 Environmental Knowledge Management

Environmental know-how, both inside and outside a company, is a central element of environmental early detection. A cornerstone for knowledge transfer in the environmental sphere is formed by institutions such as the German Federal Environmental Agency, the Federal Agency for Nature Conservation, the Federal German Foundation for the Environment, and the International Transfer Centre for Environmental Technology. Likewise the media, as environment policy opinion-formers, play an important part in early detection.

4.6 Environmental Costs

Monitoring and assessment of environmental costs in the widest sense (calculation of a company's pollution control costs, anticipation of external costs and the costs of neglecting environmental aspects, identification of potential cost reductions) is a permanent task within early detection. In particular, deducting – at least mentally – the costs of environmental degradation (today's external costs – tomorrow's operating costs) is a strategic element of eco-controlling.

4.7 Environmental Market

Environmental protection has developed into a significant economic factor over the past 30 years. In the year 1997 alone, German private and public sector spending on environmental protection was around DM 65,000 million. Studies predict that the market for environmental

technology and environmentally friendly products will continue to grow internationally in the coming years. Admittedly Germany still has a high market share in this area. However, other industrial nations – notably the USA, Canada and Great Britain – have developed strategies for gaining targeted access to new markets and supporting exports of environmental technology by their suppliers.

4.8 Environmental Technology

Technical indicators play an important part in the early detection process. In particular, specialist trade fairs and exhibitions not only forge new contacts and stabilize business relationships but also provide advance information on technical innovations. Delphi surveys are increasingly conducted as part of this technology preview process, and these can serve to guide future strategic orientation.

5. Information Technology (IT)

IT research should contribute to ensuring that ökoradar actually fulfils the quality criteria it has set itself, namely coherence and effectiveness, capacity for integration, clarity and, in particular, user-friendliness. The ökoradar system must measure up to the latest developments in IT so that it can do full justice to its future-oriented role. Intelligent solutions must be developed for three fields in particular:

5.1 ökoradar as a workable tool

The concern here is to create interactive, creative opportunities for the user (examples: automatic generation of indexes on the basis of a personal database; form-filling assistance; checklist programmes). The success of the ökoradar system may well critically depend on the level of convenience built into the system architecture.

5.2 Integrating ökoradar into existing business processes

The better environmental performance is integrated into typical business procedures, the greater the prospects of success for sustainable management.

5.3 Mounting ökoradar technology on the Internet

The core parts of the ökoradar system should be placed on the Internet as soon as possible (no later than one year into the project) and continually updated so that the feedback coming from users can be integrated reasonably quickly into the current research and development process. ökoradar forms an ideal foundation for an Internet portal for ‘sustainable management’ and can be seen as the seed from which such a portal may grow.