

CHALLENGES OF INTEGRATING ENVIRONMENTAL SUSTAINABILITY ISSUES INTO BUSINESS SCHOOL CURRICULUM: A CASE STUDY FROM THE UNIVERSITY OF JYVÄSKYLÄ, FINLAND

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This article evaluates the challenges of integrating environmental sustainability issues into business school curricula reflecting the experiences of the University of Jyväskylä in Finland. Lessons learned in Jyväskylä are summarized as central pieces of advice for other business schools planning a program of corporate environmental management.

Keywords: *business school curriculum; corporate environmental management; corporate social responsibility; environmental sustainability; master's program*

Environmental issues, as one dimension of corporate social responsibility, are an important element in the management of both private and public organizations. Today, companies are facing increasing demands from various

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stakeholders concerning the environmental performance of their products and processes. They not only face the requirements of environmental regulation but also the additional demands from stakeholders and society at large (Sinding, 2000). Consumers are asking for green products, public authorities place growing demand on companies' environmental performance, employees and neighborhood residents are concerned about the health and safety aspects of production, and nongovernmental organizations are running campaigns for the environment and sustainability. In addition, when environmental issues are successfully incorporated into corporate strategy, they can be transformed into competitive advantage.

According to a recent Finnish study by the marketing research agency Radar (2002), most Finnish people consider it important that companies bear their social responsibilities. Further, when the respondents were asked to name Finnish companies that are setting a good example and acting in a socially responsible way, half of them were not able to mention any such Finnish company. Does this mean that Finnish companies have not been able to respond to the requirements of corporate social responsibility? Or is it simply a matter of communication? Anyway, it seems to be correct to conclude that there is a need for improvement in the management of social responsibility issues in Finnish companies.

Management education at universities has a decisive role in training future business leaders and providing them with skills that are needed in the turbulence of the changing requirements concerning social responsibility issues. As Radar's (2002) survey indicates, demands about corporate social responsibility are already reality for Finnish companies today, and these demands are expected to increase in the future. This seems to be equally true for all dimensions of corporate social responsibility. Corporate social responsibility covers practically all of the functions of an organization: for example, product development, production management, human resources management, and communication. Therefore, management of corporate social responsibility issues is not the task of a small expert group in an organization, such as an environmental department.

The former discussion includes a pedagogical challenge for management education: Skills needed for analyzing and managing corporate social responsibility issues are something required from every business manager in the future. How should the education of business school graduates be organized to prepare them for these new, growing requirements? This article evaluates the challenges of integrating environmental sustainability issues into business school curricula by reporting the experiences of the University of Jyväskylä in Finland.

Method and Material

The main objective of this article is to describe and evaluate the development of corporate environmental management at the School of Business and Economics of the University of Jyväskylä from the early 1990s until present. Three questions were identified: (a) What phases can be distinguished in the history of the program? (b) What successes and difficulties could be identified in the history of the program? and (c) How has the content of the program been constructed? Answers to these questions are used to construct a framework of advice for other business schools planning a program of corporate environmental management.

The main data collection method used in this article has been participatory observation supported with an analysis of various written documents, mainly from the University of Jyväskylä. The author has been working in the program of corporate environmental management at the School of Business and Economics since the launch of the program, which has given her an excellent perspective for observations about the history and phases in the development of the program. The author has not just been a passive observer—she has had several roles during the history of the program. She has worked as a researcher, senior lecturer, and professor of corporate environmental management. In January 2001, the author was appointed as the professor responsible for the entire program of corporate environmental management.

The internal documents from the School of Business and Economics used in this article have included course brochures, statistics about the students and their studies, and internal administrative and strategy reports. In addition, some external reports have also been relevant for this article. These include, especially, the annual reports of the surveys of the University of Jyväskylä (Kemikangas, 2000; Tauriainen, 2001) about the employment of the graduates from the university and the Beyond Grey Pinstripes evaluation report of the World Resources Institute (WRI) (2001a).

History of Corporate Environmental Management at the University of Jyväskylä

The School of Business and Economics at the University of Jyväskylä has been proactive in integrating environmental sustainability issues into its curriculum. The history of the program goes back to the early 1990s, when environmental issues were gradually emerging in both research and teaching at the school. Master's and doctoral theses that include environmental consider-

ations can be found from the beginning of the 1990s. At the same time, a few pioneers of the faculty started to include environmental considerations in their course contents. Next, first courses dedicated to environmental issues in economics (environmental economics) and management (introduction to environmental management) were created.

A huge step forward was taken in 1995, when a new master's program dedicated to environmental issues was launched. This marks the beginning of the structured training in environmental sustainability at the School of Business and Economics. However, since the launch of the program, some important changes have taken place. There are three important phases to be distinguished, all of which have had a significant impact on the development of the program. The first phase (1995-1999) represents the early years of the environmental management program, when the foundations for today's program of corporate environmental management and its structure were laid. The second phase (1999-2000) brought a crisis to the program. Original funding of the program from the European Union was running out, and when new sources of funding were looked for, the need to have such a program at the School of Business and Economics was reevaluated. The third phase, starting in 2001, has brought a new beginning for the program with new funding, a new structure, and also a revised name: corporate environmental management.

EARLY YEARS OF THE PROGRAM: 1995-1999

In 1995, the University of Jyväskylä decided to launch a whole set of new master's programs, that were targeted to new fields of society and business, where more expert knowledge and thus more scientific research and training were expected to be needed in the near future. The need for business managers with an understanding about environmental issues (as discussed in the introduction of this article) led to the launching of the master's programs on environmental management at the School of Business and Economics.

From the early days of the program, environmental management at the School of Business and Economics of the University of Jyväskylä has provided an integrated and interdisciplinary approach to environmental issues. Since fall 1995, the program has included courses in material flow management, environmental management systems, environmental accounting, environmental economics, and environmental strategy and marketing. Also, from the very beginning, environmental management has had close cooperation with the Department of Environmental Sciences of the university.

A large part of the instruction in environmental management at the School of Business and Economics, since the launch of the program, has been given in English. The School of Business and Economics has an extensive exchange student program, and the intention was that the courses on environmental management could offer new insights to foreign management students who were spending a term or a full academic year in Jyväskylä. The courses on environmental management have turned out to be very famous among exchange students. Most of them attend at least one environmental management course during their stay in Jyväskylä, and many have indicated these courses as one of the primary reasons for coming to Jyväskylä, because only a few universities in Europe have as extensive a program to offer in environmental management as does Jyväskylä.

The School of Business and Economics received the first external recognition for the launch of the environmental management program in 1997 from the Finnish Association of Management Graduates SEFE. This reward was given for "important innovation in management training" in the annual competition of university-level business training.

EVALUATING THE PROGRAM: 1999-2000

The funding for the program from 1995 to 1999 had been rather generous. Teaching staff of the program included four full-time teachers and several external experts from both Finland and abroad, who were invited to give special courses each year. However, when the initial funding from the European Union was running out in 1999, the environmental management program had to start considering and negotiating for new sources of funding. This turned out to be a period of crisis for the program. The purpose and value of teaching environmental management for business students was questioned once again. The staff of the environmental management program had to reassure both the university and the Ministry of Education that there was a need for experts on environmental management in business and society. Several scenarios about the future of the program were set up, ranging from eliminating the program, to saving some basic courses, to establishing a stable, permanent position for environmental management at the School of Business and Economics. When the fall term 1999 started, there was only one member of the teaching staff left. During that term and the following year, no new students were accepted to the program and the number of courses offered was reduced to a minimum.

However, because the results of the program were encouraging (graduates had found good positions in the labor market, and there was stable interest

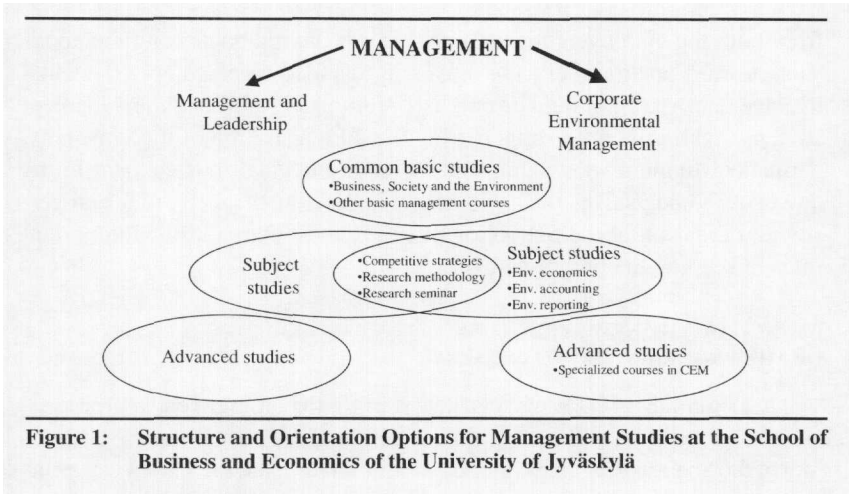
from both the employers toward our students and graduates and the applicants toward our training), the university decided to place environmental management as a top candidate on a list of future programs in its development strategy. With important support from the administration of the university, permanent funding was guaranteed for environmental management in the university's budget from the beginning of 2001. Both the rector of the university and the dean of the School of Business and Economics had important roles in keeping the program alive.

LAUNCH OF THE NEW STRUCTURE OF THE PROGRAM: 2001 TO PRESENT

The beginning of 2001 meant a new start for the program on environmental management. Now the program has a permanent position in the curriculum of the School of Business and Economics. However, the school was planning to restructure its organization and this meant some radical changes to environmental management as well. As a conclusion of the restructuring process, a new discipline, Management, was created.

The management program has two orientation options for the students: (a) management and leadership and (b) corporate environmental management. The ideas of corporate social responsibility have had an important role in the development of the management program. The management program at the School of Business and Economics includes all three dimensions of social corporate responsibility and sustainability: economic, social, and environmental responsibility. The vision of management is summarized into "good management and sustainable development." The first orientation option of the program (management and leadership) incorporates ethical and social responsibility issues into its curriculum, and corporate environmental management concentrates on environmental sustainability issues. The structure and sharpened vision of the new management discipline led to the launch of the program's new name, "Corporate Environmental Management," in which the focus of the orientation toward environmental sustainability issues in organizational (and most relevant in business) context is stressed.

The structure of the management program is presented in Figure 1. In the Finnish academic system, basic and subject studies make up undergraduate studies and advanced studies correspond to graduate studies. Basic studies are common in both orientation options. In basic studies, there is an introductory course to corporate social responsibility, "Business, Society, and the Environment," which includes introduction to environmental sustainability issues. This course is compulsory for all management students. This new



compulsory basic course was added to the curriculum to make sure that every management graduate of the School of Business and Economics has basic knowledge about corporate social responsibility issues.

Subject studies within management have some core courses, that are common for all management students regardless of their orientation. These courses include competitive strategies, research methodology courses, and research seminars. There are, however, some special courses on environmental sustainability issues (environmental economics, environmental accounting, and environmental reporting) for the corporate environmental management students. The environmental sustainability issues are concentrated at the advanced level. At this level, the two orientations of the management program are completely separate. The content of the advanced-level studies (i.e., graduate studies) is discussed in detail in the next section.

The University of Jyväskylä has been regularly assessing the employment of the graduates from the university. A survey is sent every year to the students who have graduated from the university during the previous year. According to the last two surveys (Kemikangas, 2000; Tauriainen, 2001), the graduates of corporate environmental management from the School of Business and Economics have made a successful start in their careers during the first year after their graduation. They have had no problem in finding a job after graduation. Our graduates can be found in various types of organizations, ranging from private consulting business, industry, trade, and research to governmental organizations. Their job titles are also diverse. Even though the employer organizations and job titles are diverse, the position level of the

graduates seems to be similar in that they have typically reached management positions during their first year in the labor market. This could be interpreted as an indication that employers trust the skills of our graduates.

A second indication of there being a successful start to our graduates' careers could be the salaries they are paid. In 1999, they earned the second highest salaries of all the students who graduated from our university that year. In 2000, they ranked eighth. The University of Jyväskylä has a strong faculty of information technology, and considering the fact that we are in the home country of Nokia, the salaries paid in the information technology sector are not low. Taking that into consideration, the salaries of our students are very good.

In October 2001, the School of Business and Economics at the University of Jyväskylä was honored with an award for its outstanding leadership in training MBA students in environmental stewardship skills by the World Resources Institute. The University of Jyväskylä was among just five schools in the world who earned the "cutting-edge MBA program" distinction in environmental stewardship in the "Beyond Grey Pinstripes 2001: Preparing MBAs for Social and Environmental Stewardship" report (WRI, 2001a). This report is the only survey that evaluates how well MBA programs are integrating social and environmental coursework, activities, and research into business curricula worldwide. The survey, first conducted in 1998, is a joint project of the Aspen Institute Initiative for Social Innovation Through Business (Aspen ISIB) and the WRI. Every accredited business school in the United States, as well as more than 60 international schools, was surveyed. In the arguments for giving the award to the University of Jyväskylä, the WRI (2001b) states,

The events of the past weeks have certainly underlined the urgent need for business and academic institutions to engage in a real dialogue about the role of social and environmental issues in academic research and in the education of future business leaders. Environmental training has been broadly integrated into curriculum and faculty research at the school. The environmental management concentration provides a wide array of coursework from the computer modeling for life-cycle analysis and environmental management systems to environmental economics and reporting. The school is recognized for its leadership in preparing MBA students for a global marketplace where we can no longer separate social or environmental issues from business issues. This interdependency necessitates a broadening of the traditional MBA program, and the School of Business and Economics at the University of Jyväskylä is extraordinary in its successful academic integration of environmental management issues. (pp. 1-2)

SCIENTIFIC-PEDAGOGICAL BACKGROUND OF THE MASTER'S PROGRAM IN CORPORATE ENVIRONMENTAL MANAGEMENT AT THE UNIVERSITY OF JYVÄSKYLÄ

The content of the program of corporate environmental management is presented in Figure 2. As was discussed in the historical overview in the previous section, this structure is a result of developments started in the early 1990s. The curriculum of corporate environmental management is based on three levels: (a) identifying environmental impacts of organizations and products, (b) managing environmental impacts (i.e., improving the environmental performance of the company), and (c) creating ecocompetitiveness through excellence in the previous levels.

According to the philosophy guiding both the education and research underlying corporate environmental management at the School of Business and Economics, corporate environmental management should always be based on information about the environmental impacts of the company and its products. Tools for identifying environmental impacts include different types of material flow models including life-cycle assessments or ecobalances. When the environmental impacts are known, it is possible to actively decrease the negative environmental impacts and increase positive environmental impacts by managing the environmental impacts in a systematic way. The most important tool for the management of environmental impacts of one organization is the environmental management system. However, it is often necessary to manage environmental impacts in a wider context than a single organization to include the entire production chain of a product or industrial networks. In these cases, environmental management systems that are primarily designed for a single organization are not an appropriate tool. Rather, management of value chains is needed. On the third level, after the environmental impacts are controlled from an operations perspective, it is possible to start taking advantage of environmental issues in business. This refers to possible ecocompetitiveness in the market. Central considerations at the third level are environmental strategic and marketing issues.

The three levels of corporate environmental management shown in Figure 2 represent the learning process of our students to develop core environmental competencies. The advanced level courses of corporate environmental management are constructed as follows (details about the course syllabi can be found at <http://www.jyu.fi/economics/studying>):

**Levels of Corporate
Environmental
Management:**



Figure 2: Content of Corporate Environmental Management at the University of Jyväskylä

- Level 1: Material flow management; life-cycle assessment computer demos
- Level 2: Environmental management systems; environmental management systems project
- Level 3: Corporate environmental strategy and marketing
- Master's thesis, related methodological studies, and optional studies that build on the understanding of all three levels

In the first-level courses on material flow management, the principles of material flow analysis are explained and different types of material flow models (life-cycle assessment, ecobalances, MIPS) and management applications of material flow analysis (e.g., introduction to ecodesign) are discussed. This level also includes computer demonstrations where the students work together with their instructor on a real-life case about life-cycle assessment. Second-level courses about environmental management systems discuss the development and content of environmental management systems (especially ISO 14001 and EMAS systems) and give guidelines about building and auditing an environmental management system. This level includes a project related to the development of an environmental management system. Projects are prepared in groups, working in companies on an actual environmental management system during one term. The course at the third level,

concerning corporate environmental strategy and marketing, includes theory and cases about environmental management and marketing choices of a company at both the strategic and operational level.

In addition to the major studies in corporate environmental management, students of corporate environmental management complete compulsory basic studies in environmental science and technology. These studies are organized by the Department of Environmental Sciences of the university and include basic courses in environmental chemistry, environmental physics, environmental and energy technology, and environmental administration and legislation. Environmental science and technology courses have not been exclusively designed for management students but are part of the curriculum of the environmental sciences. Environmental science and technology studies form the basis for understanding and identifying environmental impacts of organizations and/or products, and therefore, they also contribute to the first level of the studies of corporate environmental management.

Interdisciplinarity has been considered extremely important for environmental management students because environmental issues are interdisciplinary in nature and they do not respect the traditional boundaries of disciplines, such as natural sciences, technology, and management sciences. The vision at the School of Business and Economics has been that the students of environmental management must have basic knowledge of physical environmental impacts—their causes, effects, and remediation possibilities. Without this basic understanding, it is impossible to improve the environmental performance or ecocompetitiveness of organizations and their products. However, basic studies in environmental science and technology are not sufficient to prepare the students for designing any technological solutions to minimize environmental impacts. Students of environmental management have their primary competence in management, not in technology or natural sciences, and therefore, the graduates of the program do not compete with engineers or natural scientists on the labor market.

Constructiveness is a central guiding pedagogical principle in corporate environmental management. Constructiveness is presented in two ways in our program: (a) in a continuing dialogue between theory and practice during the entire learning process, and (b) in a strong social interaction between the students and the instructors. An important guideline in the master's program on corporate environmental management at the University of Jyväskylä is the strong connection to scientific research done within the program; there is continuous cooperation with leading research institutions, other universities, and companies, both nationally and internationally. This philosophy can also be distinguished in the research agenda of our faculty, whose interests are

defined by the three levels of corporate environmental management represented in Figure 2.

Conclusions

The School of Business and Economics at the University of Jyväskylä has made a commitment to integrate environmental impact management as part of its core management program because environmental considerations should not stand outside the main arena of business decision making. This has not always been easy, as the history of the environmental management program shows. Now corporate environmental management has an established position in the curriculum and organization of the School of Business and Economics. The question of whether these issues belong to the business school is already behind us. We are proud of the award that was given to us by the WRI for this work in 2001. We are also proud of how we are preparing our students to lead in a world where environmental stewardship skills are just as important as technical, financial, or marketing skills. Since the very beginning of the program of corporate environmental management at the University of Jyväskylä, 66 students have enrolled in the master's program. Until April 2002, 32 master's and 6 doctoral degrees have been awarded. The reasons behind the success of the program are many and the lessons learned during the 7 years of its history could offer some valuable insights for other business schools planning to launch a similar program.

First, a clear commitment from the business school management is important when launching a new program. When bringing environmental sustainability issues into a business school, this is even more important. Environmental issues are, in most cases, adding a completely new area into a business school curriculum, and any new issues tend to raise diverse opinions and reactions unless there is strong support from the management. Commitment and support of management is, of course, also decisive in getting financing for a new program.

Second, the experiences in Jyväskylä suggest that the content of a corporate environmental management program should be based on a basic understanding of environmental science and technology. This makes it possible to identify the environmental impacts connected to organizations and/or their products. That, in turn, leads to effective management of the identified impacts and finally to ecocompetitiveness. This rationale for the content of the program of corporate environmental management was presented in Figure 2 and could also serve as an example for other future programs of corporate environmental management.

Third, one of the most important reasons behind the success in Jyväskylä seems to be the interdisciplinary approach of the corporate environmental management program. Since the very beginning, there has been strong cooperation with the Department of Environmental Sciences of the university. In addition, the curriculum and courses of corporate environmental management integrate elements from all management disciplines and economics. Therefore, cooperation in teaching environmental issues across disciplines should be organized by the faculty of corporate environmental management when starting to plan a new program.

Fourth, the approaches for addressing environmental sustainability in the curriculum of the School of Business and Economics have been diverse: (a) As the unit leading the way, there is a specialized program, corporate environmental management, that is training specialists for environmental management positions; (b) Business, Society, and the Environment, a required course for all management students, offers basic knowledge about environmental sustainability issues to future business managers; and (c) environmental issues have been integrated into several courses in all the disciplines of the school to ensure that environmental issues are not just a specialty area of a small expert group. Integration of sustainable development issues into academic training has been understood widely in Finnish universities. According to a recent study in 2000 (Loukola, Isoaho, & Lindström, 2001), 2% of the master's degrees earned from Finnish universities were from various sustainable development specializations, and about 40% to 45% of Finnish university students study environmental and sustainable development issues in some integrated form during their studies. In planning a corporate environmental management program, emphasis should be placed on finding various ways of bringing environmental issues into business school curriculum: Each graduate (and each future business manager) should have basic skills in environmental management.

Fifth, the integration of environmental issues with the other two dimensions of corporate social responsibility is important. In Jyväskylä, the three dimensions of sustainability are all brought together in management studies. The educators responsible for a corporate environmental management program should consider environmental sustainability within the framework of corporate social responsibility at their business schools.

Future challenges also remain: Fast changes in knowledge about environmental issues form probably the biggest. Corporate environmental management is a new discipline and progress takes place all the time. These changes need to be reacted to in the business school curricula. In Jyväskylä, this gradual development, reshaping the corporate environmental management program, will continue.

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