

## DEVELOPMENT OF A TRAINING AND CONSULTANCY WEB PLATFORM FOR ECO-BUSINESS ENVIRONMENT

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**Keywords:** eco-business, web platform, partnership

**Abstract:** In this paper the authors present a research work proposed, regarding the improvement of business environment in sustainable economy conditions for ecological reasons. Starting from these considerations the authors propose in this work the concept of eco-business, the creation of an integrative, innovative and effectiveness system for support processes with the business environment destination (as training and consultancy), generating a direct impact on the competitiveness improving level and the economical development based on knowledge.

### 1. INTRODUCTION

This paper wants to present some ideas and considerations in the frame of a proposed project, in order to answer technical, economical, social and industrial multidisciplinary challenges. It is addressing to „effectiveness systems and approaches regarding the managerial training and consultancy”, simultaneously with the implication growing degree of the RDI entities (in our case a consortium of entities) in specific activities required by actors of the business environment (especial SME).

The project aims the development of multidisciplinary RDI activities for building an integrated platform (web portal type) for the managerial training and consultancy needs satisfaction, needs required by the companies, for favorable strategies and policies elaboration, in the context of their ecological modernization and for the creation/implementation of the organizational culture focused on the environment preservation (in the terms of eco-efficiency and environment responsibility).

At macroeconomic level, more and more policies focus on environment protection. Governments engage in a competition trying to reduce the negative effects of economic development on the environment. Public authorities as well as NGOs are encouraging environment-friendly technologies.

At microeconomics level, in order to have success in the long-run, companies cannot neglect the environmental dimension of business development. While for the moment some companies are still successful, even though they waste a lot of scarce energy and don't care about polluting the environment, this situation will soon change. Because the public becomes more sensitive towards the needs of the environment and the consumers will ask companies to act responsively. Corporate responsibility gets a new dimension.

Already more and more companies use environment friendly technologies and present them as a strong competitive advantage, in their commercials and advertisings.

### 2. IMPORTANT SCIENTIFIC AND TECHNICAL ISSUES

In this context, by joint RDI activities, developed by all the project involved partners, it is necessary to create modern theoretical and practical solutions at the national and international level regarding:

(a) the real modalities analyze of partners' implication for realization of a critical absorption mass determinate by new training and consultancy tools with immediately use in business

environment and the direct, efficient contact assure between the knowledge owners and the knowledge beneficiaries;

(b) the business support processes approach (as training and consultancy) that assume a theoretical develop through specifically knowledge management tools (a knowledge map with the training and consultancy needs, an ontology and their contra-balance with the partners competencies offer; the creation of a collaborative learning system using videoconferences), with the purpose of results using for reducing competitiveness disparity, in the European context;

(c) the support processes of training and consultancy changes prominence and analyze as a result of the new economical-social-technical paradigm regarding the environment responsibility, through the multidisciplinary approach generated by the continue evolution of the social-economical European models, the economical and social cohesion models in the enlarge Europe, and also, by the generalize using of the information and communication technologies;

(d) theoretical and practical approaches (through the realization of a center for virtual information associated with the web portal, correlated with the collaborative learning system through videoconference development) for an formative and informative system necessity in the field of the managerial know-how transfer for training and consultancy business activities, in Romania;

(e) collaborative multidisciplinary researches development for methods and system development dedicated to products/processes on-line eco-efficiency evaluation, including their test and validation by the implication of some beneficiary companies;

(f) the development of new research results effectiveness methods, policies and models, for effects measurement, generated at the level of the beneficiary companies, in the filed of eco-business (products/processes that suffer ecological modernization), induce by: the evolution based on innovation; technological transfer as a support of the knowledge based society development; the collaborative research integration in the value chain; the innovation stimulation as a source for competitive advantage etc.

All of these are convergent to the definition and the implementation of the organization culture model, oriented on environment preservation (in the terms of eco-efficiency and environment responsibility).

The support activities as training and consultancy become key elements for eco-business. There were demonstrated that the Environment Management System implementation has to be join with intense innovation processes that can be stimulated (with 20%-30%) through organization learning and consultancy programs (frequently by public-private partnerships).

On the base of these considerations, such web platform proposes to develop multidisciplinary integrative researches that will offer an effectiveness, innovative system not only for training (based on web methods, tools and videoconferences), but also, for consultancy dedicated to the business environment with impact on competitiveness and sustainable development assurance.

All of these are convergent to the definition and the implementation of the organization culture model, oriented on environment preservation (in the terms of eco-efficiency and environment responsibility). So, the project proposes a solutions portfolio creation with immediately applicability, focus on aspects as processes and critical (disperse) resources management for the business environment support, for competitiveness increasing of the RDI-UNI-SMS partnerships, in totally accord with the P4 Program objectives and with the particular research direction

The general objectives of the WEBT&C projects are:

1. The development of a partnership between different RDI entities (universities, a company and a RD institute), to unroll multidisciplinary research activities and for the innovative mechanisms creation for the results implementation in the business environment;

2. The creation of an integrative, innovative and effectiveness system (virtual centre for formative and informative associated with a web portal, correlated with a collaborative learning system using (videoconference and an interactive tool for products/processes eco-efficiency on-line evaluation) for support processes with the business environment destination (as training and consultancy), through collaborative multidisciplinary research activities developed in partnership and generating a direct impact on the competitiveness of Romanian companies;

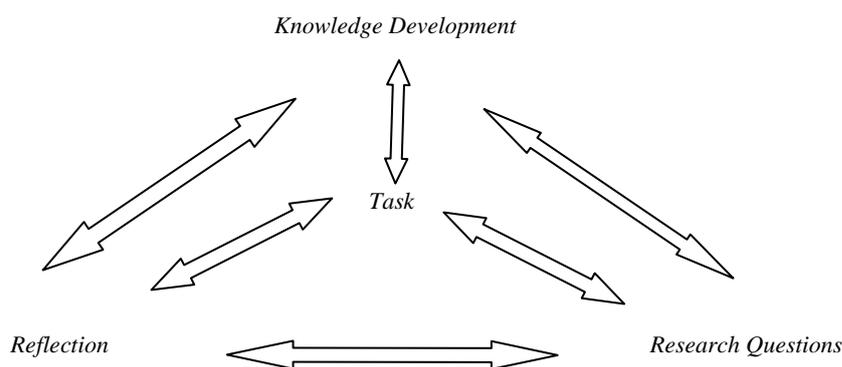
3. National and international visibility growth for the project teams and their research results, through publications (scientific papers published in national/international conferences proceedings and national/international journals ISI and/or other international recognized indexed data bases) and through the implication in the European association EMIRAcle activities (building international partnership for participation in the FP7 or other European projects).

### 3. AN ECO-COLLABORATIVE, ECO-EFFICIENCY AND ECO-BUSINESS ENVIRONMENT

The **collaborative environment** was developed based on a model consist four key activities that comprise the research/design and learning process model interact and provide a framework for analysis of successful collaboration based on shared goals, shared understandings, and a common ground of knowledge in virtual network.

The components of INPRO<sup>1</sup>'s research/design and learning model, presented in figure 1, include:

- a) *Authentic task* - identifying and taking ownership of a task whose cognitive challenges are consistent with the cognitive demands of the research/design environment for which we are preparing ourselves and our team members;
- b) *Knowledge development* - building a relevant, common base of knowledge, shared experiences and understandings, and associated skills;
- c) *Research* - formulating questions concerning the research/design process and group dynamics that emerge as a result of working on our task;
- d) *Reflection* - consciously reflecting, monitoring, and making explicit our own cognitive orientations and processes in relationship to the group goal.



**Figure 1. A Model of the Collaborative Design Environment**

The distributive, collaborative environment supports knowledge construction and sharing of ideas while enabling individual members to continue work in their own teams or projects. We also found, that the use of computer-mediated communication and our

<sup>1</sup> Romanian Research Network for Integrated Product and Process Engineering.

shared space on the Web servers evolved from tools for simply transferring information and building an on-line research reports to a full-fledged learning environment.

On the other hand, because every company is interested in increasing its efficiency for at least competitiveness reasons, to decrease the total cost (manufacturing, selling, supplying costs) becomes a major objective, and support activities as training and consultancy in the protection of environment in sustainable development (settled by European and international legal regulations), becomes the key element for eco-business. The purpose of eco-efficiency is to maximize the value creation in conditions of minimize both the resources use and the emissions of pollutant (Michelsen, 2006, p.290). Measuring eco-efficiency is important for establish the pressure of economic growth over environment (relation 1):

$$Eco - efficiency = \frac{\text{Product or service value}}{\text{Environmental influence}} \quad (1)$$

Usually, while calculating the eco-efficiency, absolute values for the product value and environmental influence are used.

The use of eco-efficiency indicators allows us to avoid the traditional problem referring to the fact that environmental performance indicators might fluctuate as a result of changes in production volume and thus hide real changes in environmental performance.

In order to help companies transform their businesses into eco-businesses, and, by doing so, to reach eco-efficiency, innovative forms of training and/or consultancy systems were conceived and realized.

A good example in the field is the Ecodesign platform developed in Austria ([www.ecodesign.at](http://www.ecodesign.at)) – a web platform that offer: general information for product ecological design; courses; references; legislation and other links to service suppliers; examples of good practices; events; e-learning in ecological design; on-line questionnaire for a convenient optimization strategy identification for products, based on a checklist.

The platform was developed by a consortium in which one of the main partners is the Technical University of Wien.

Other examples can be found in:

- Holland ([www.greenfacts.org](http://www.greenfacts.org)), a web portal for non-specialists general information on health and environment;
- Australia ([www.ecobusiness.com.au](http://www.ecobusiness.com.au)), web portal with information for sustainable business change, mainly information regarding capabilities, projects, examples of good practices;
- Columbia ([www.tecnesoft.net](http://www.tecnesoft.net)), a company portal that offer training and consultancy in the field of information technology;
- Greece (Kritikou Y, et. al., *User Profile Modeling in the context of web-based learning management systems, Journal of Network and Computer Applications, vol 12/6, 2007*), with an e-learning platform development modality, based on a requirement and user behavior model;
- Romania ([www.advancedelearning.com](http://www.advancedelearning.com)), where Siveco Romania has developed and implemented AeL, an universal e-learning platform for schools (480 beneficiaries), business environment and administration (general and specific elements for general qualification).

Started from these minimal, but representative reasons, Politehnica University of Timisoara launched an initiative aiming at developing multidisciplinary integrative researches that will offer an effectiveness, innovative system not only for training (based on web methods, tools and videoconferences), but also, for consultancy dedicated to the

business environment with impact on competitiveness and sustainable development assurance.

The WEBT&C project reunites 4 universities (from Timisoara, Oradea, Brasov and Bucharest), a RD institute (RTD National Institute for Electrochemistry and Condensed MATTER) and a company (Vision Systems Brasov). The partners have decided to join their knowledge and material base for multidisciplinary CDI activities development that will aim to promote the concept of eco-business in Romania.

This objective can be achieved by building an integrated platform (web portal type) for managerial training and consultancy, adapted to the needs expressed by the companies (and identified by the project partners), for favorable strategies and policies elaboration, in the context of ecological modernization, as well as for the creation/implementation of the organizational culture focused on the environment preservation (in the terms of eco-efficiency and environment responsibility).

Through the activities plan structure, through the *consortium quality*, through the research teams competences, but also through the *proposed theme actuality* (both at national and international level), focusing mainly on the *way of using the results* (derived from participation in international projects as FP7 projects), the project demonstrate viability and interest. The competences, distributed on action directions, covering all the research fields associated to the project (essentially, focusing on demonstrated capabilities in the field of knowledge management, of education and on realizing support tools for economic activities) are fully insured by the experience of the team's members (who share a common history in implementing other research projects), so that the risks concerning an eventual non-accomplishment of the proposed objectives are minimized. The partner research teams have *experience in participating to national and international research programs*. The *distribution of the resources*, both human and financial, are *equilibrated* (considering the importance of each partner's contribution for the project development), so that the level of complexity of activities, required by the proposed objectives, is covered

#### 4. CONCLUSIONS

There is a clear trend of adding an ecological dimension to any business that wants to be competitive. Especially in Europe, environment protection is seen as extremely important, and the main players responsible for it are considered to be the companies.

Eco-efficiency is a component of the companies' efficiency, whose importance is continuously growing. Soon, eco-efficiency will be just as important as the economic efficiency, for every company trying to stay competitive on a global market, in the long-run.

Through this project we want to achieve a theoretical and applicative researches regarding the systems and the approaches for support activities as training and consultancy, in the field of eco-business for Romania preparation in the "competitiveness era" through the transfer of new technologies, through human capital valorization and through managerial practices absorption capacity growth in the XXI century; theoretical and applicative researches regarding the support processes (training and consultancy) for the business environment through knowledge management specific tools – the analysis of the appear changes as a result of the new economical-social-technical paradigm; theoretical and applicative researches for developing the web platform designated to training and consultancy support activities, in the field of eco-business – strategy formulation for the research results promotion through the business environment, in Romania; the development and implementation of new methods, policies and models for research results effectiveness evaluation, for measurement of the generated effects at the

beneficiary companies' level and their implementation, in the terms of eco-efficiency and environment responsibility for sustainable development achievement.

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