

## SUSTAINABILITY OF ORGANIZATIONAL SYSTEMS - A POSSIBLE STRATEGIC MODEL

### Doctoral Thesis - Summary

For obtaining the scientific title of Doctor at the  
Politehnica University Timisoara  
in the PhD field of Engineering and Management

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Sustainable development transcends national boundaries and requires concerted and cumulative efforts from companies and profit-oriented institutions as well as from non-profit organizations, regardless of the nature of their activities; therefore all organizations will have to carry out their activities in a sustainable way, in order to preserve the environment and to act in a socially responsible way, beyond mere economic orientation.

It is very important to understand the current state of our own life and the lives of others as well as the current state of the planet. The path to sustainable development is both human and material. The way people engage in ecological processes within cities or regions is extremely complex and from both social and environmental perspective, these commitments cannot be interpreted pertinently on the basis of a single time frame. Two points of view on the world dominate our way of thinking today. The global economic point of view is currently being replaced by the global environmental point of view. Concerns about climate change and its effects and sustainable development are more present in the media and, of course, are considered priorities for decision-makers (Fistis et al., 2015).

In recent years, the global context marked by energy security, fuel price volatility, greenhouse gas emissions as well as the acquisition of sustainable raw materials, corporate ethics and Corporate Social Responsibility (CSR) has led to widespread adoption of sustainable, energy-efficient and low-emission business models. The United Nations Sustainable Development Division confirms this reorientation in its 2010-2011 report entitled "Trends in Sustainable Development - Towards Sustainable Consumption and Production". The report shows a significant increase in the number of companies holding ISO 14001 and ISO 26000 certifications (international standards on environmental management and social responsibility).

In the year 2016, 1,643,523 certificates were issued worldwide, compared to 1,520,368 in the previous year, reflecting an increase of 8% in the number of certifications, but also an increase in the number of consumers concerned with social and environmental issues. Thus, the turnover generated by Fairtrade products increased to € 2.9 billion, despite recent economic difficulties<sup>1</sup>.

The same report highlights the adoption by governments of sustainable development strategies by establishing proactive procurement protocols in both developed and developing countries.

The Rio + 20 conference has provided the perfect opportunity to be critical, to realize

<sup>1</sup> According ISO. International Organization for Standardization, 2016, disponibil la: <http://www.qualitiso.com/iso-survey-2016-certificats-13485-9001/>

that it can be otherwise, that we can redefine ourselves and think as we may never have done. Let us be altruistic and not selfish, to contribute to the progress of humanity, but not to destroy it. Caring for everything that surrounds us and the awareness that we are not living alone on this planet are very important individual and organizational concerns today.

The economic and technological progress of the past few years has made "miracles" in many parts of the world, but has also generated a lot of damage, new problems that some analysts, managers or politicians do not see or avoid in discussions or different approaches. In this context, we can say that if mankind has reached a level of development that is unimaginable or impossible to estimate in the past, it must have the capacity to become aware of the situation and generate change so that the current trajectory and progress follow but with the assumption of responsibility for Earth and other living beings on the planet. It therefore requires a reconsideration of how sustainability is defined and applied at individual and organizational level, at the level of local communities, regional and national.

Change must occur at an individual level, which will lead to changing the groups, then the masses and then the global organizations. The paradigm shift must take place simultaneously at all levels of society and organizations through a combination of top-down and bottom-up actions.

The results of the Rio Conference on the Institutional Framework for Sustainable Development, highlighted in the report published after the United Nations Conference on Sustainable Development on 20-22 June 2012 (Rio + 20), provide a detailed overview of the path to this historic event as well as the results of the conference itself that *considers the dimension of sustainable development as a continuing need for knowledge and increase knowledge for the development of skills and means of implementation, highlighting the role of technology in the interface between science and politics, focusing on the need to facilitate informed decision-making policies in terms of sustainable development issues*. In the light of these statements, skills development gains an important status along with the development of human resources, including *"professional training, exchange of experience and expertise, knowledge transfer and technical assistance on skills development"* (Pisano et al., 2016 ).

Looking beyond the economic aspects, which can only contribute to the development of some regions, the social and environmental aspects that converge greatly with the social ones, *sustainable development is a matter of ethics, principles and values born at individual level*. A better world, an interdependent world, requires a global ethic.

The fundamental human rights that should not be called into question and that are acquired by birth (or at least that should be!) must be recognized as universal and non-discriminatory. The responsibility of a citizen of a city must be assumed naturally and not be transposed only if something returns; there must always be a balance between these approaches, otherwise major imbalances will cause major problems.

At the level of organizations, their culture is very much influenced by the values and guiding principles of management and staff, which is reflected in the wide variety of organizational behaviours. Organizational development goes through different stages and its performance depends greatly on the strategy adopted, the medium and long-term objectives. The degree of maturity of an organization will create the basis for the balance between its systems and subsystems. Thus, the organization will be sufficiently aware that it is going through the natural stages of its sustainable development.

Therefore, the main question to be answered by this research and its results included in the PhD thesis is: *What is the "path" to follow for the successful implementation of sustainable development at an organization level?* The research conducted and presented in the PhD thesis has attempted to define not only a "path", but a framework of logical evolution and coherent pro-sustainability (this is the mission of the researcher, but also of the thesis!).

*The overall objective of doctoral research was to characterize the features of organizations (seen as a whole, as systems) from the point of view of their sustainable development, as well as their degree of maturity in the implementation and use of sustainable development principles and which can lead to an intrinsic approach to operational sustainability management.*

Organizational characterization pursued the perspective of features and values at the individual management level (for example, leaders of various workgroups in organizations) and that can positively influence the evolution and sustainable development of these complex socio-techno-economic systems. Thus, it is considered that individual values influence organizational values and define organizational culture under the auspices of which the system is defined and creates value in and for the community.

*The underlying idea in substantiating research into the concept of a self-evaluation model of organizational maturity in terms of implementation and use of principles, concepts, and pro-development behaviour has started from the need to identify the essential aspects that should be supported by an organization to create a baseline (notional, of knowledge, operational) that will allow the strategic objectives to be restructured and support the potential change of the business model into one that integrates sustainable development.*

Thereby, the identified *breach of research* is related to the emergence of new *paradigms of sustainable development* (evolved from the concept of sustainable development and today increasingly connected to the concept of circular economy or the economy of the blue economy<sup>2</sup>) (Pauli, 2010)) that require changes at all levels of organizational management, as well as *the need to investigate specific aspects at the levels of business processes and individual behaviour* that effectively and efficiently support change towards sustainability. The research is based on the Triple Bottom Line (3BL), and its dimensions (economic, social and environmental) have been considered as having real potential to be balanced at the organizational level if management has an approach, a methodology and a means of diagnosing how to evolve towards sustainability.

In the context of the research, some clarifications (analyses and syntheses) regarding some specific aspects from the levels of business processes and individual behaviour were considered appropriate, and the aspects considered as having a great potential to be influenced by balanced responsibility (economic, social and environment) were oriented towards:

- Material aspects and organization context;
- Individual values and organizational culture;
- The image and reputation of the organization;
- Level of information and internal coordination;
- Organizational (strategic) management;
- Risk management and potential impact;
- Innovation and the potential for change (especially in terms of social and environmental responsibility).

Part of the research presented in the PhD thesis was funded through the international project „*LeadSUS - Leadership in Sustainability*” (LLP - LdV / TOI / 2013 / RO / 022), that I designed, developed and implemented during November 2013 – November 2015 (LeadSUS, 2015).

<sup>2</sup> Blue economy, <https://www.theblueeconomy.org/>

**The overall objective of the PhD thesis is to design an innovative model that allows the diagnosis of the level of sustainable development at the organizational level (and which is meant to be the "essential support" in formulating and implementing the strategy in the field).**

The way to achieve this goal is defined by the accepted logic of interdisciplinary, theoretical and applied research (methodology), which aimed at assessing the training needs in the field of sustainability management (as a component designed to support the definition and development of the knowledge base in the field), on the one hand, and the development, elaboration of an innovative model for assessing the level of sustainable development of organizations, on the other hand.

The proposed innovative approach can be considered as both *a tool of diagnosis and prediction* of individual and organizational behaviour and is based on the sustainability dimensions of the Triple Bottom Line (defined by the economic, social and environmental dimensions). Moreover, the innovative approach has been tested and validated in the case of four organizations in the real economic environment.

The main **operational objectives** pursued within the doctoral program in order to carry out the researches described in the thesis were the following:

- **Objective 1:** Research and build a bibliographic synthesis on organizational sustainability management, which is not only a foundation for the present work but also a potential source of study for future research and approaches in this area of organizational knowledge and development;
- **Objective 2:** Identifying and characterizing approaches to strategic sustainability management (defining a new model of values of the mature individual and its behavioral motors necessary for sustainability, considering the organizational development framework defined by the individual and organization level values);
- **Objective 3:** Identifying and characterizing approaches in the operational management of sustainability;
- **Objective 4:** Identification and characterization of training needs in the area of sustainability management, the basis of creating a framework for the continuous development of human resources in the organization oriented towards performance and sustainability;
- **Objective 5:** Development of a model (including associated methods and means) of (self) evaluation of sustainable development at the organizational level, which can provide the possibility of strategic reorientation, including a diagnosis of internal approaches (both strategic and level operational) to balance economic, social and environmental responsibility;
- **Objective 6:** Testing and evaluating the (self-) evaluation of sustainable development (assessing organizational maturity in the field of sustainable development, operationalizing the evaluation process and immediately visualizing the results obtained, as well as formulating recommendations for improving the business processes at strategic and operational level so that organizational development leads to increased performance at both economic, social and environmental level.

*The logic of approaching and solving the research theme associated with the doctoral program conducted between 2013 and 2018 is presented in Fig. 1.0.*

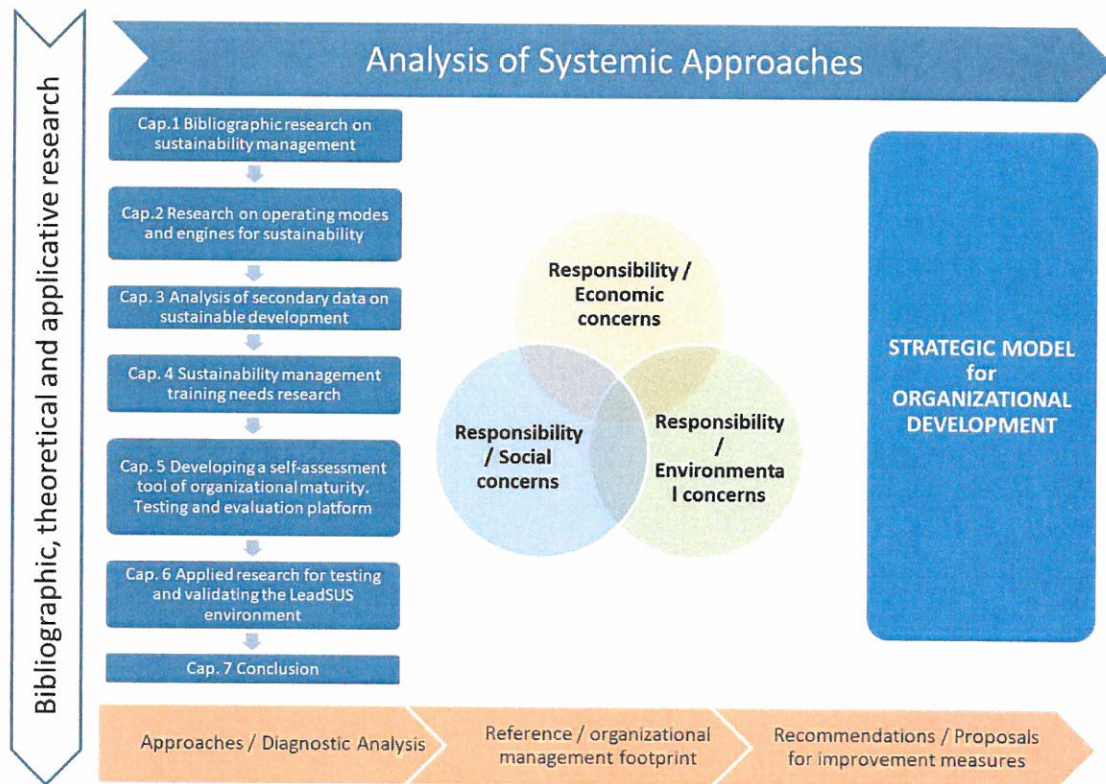


Fig. 0.1. Schematic of the logic of the approach and the solution of the thesis

The structure of the PhD thesis includes an introductory chapter, 6 chapters dedicated to the presentation of the researches and the results obtained, a final chapter dedicated to the original conclusions and contributions, a bibliographic list (with 156 titles consulted and quotations) and 7 annexes. The doctoral dissertation runs on 220 pages (182 pages allocated only for the description of the researches and the obtained results), the research being supported graphically and synthetically by 75 figures and 60 tables.

The structure of the thesis is presented in Fig. 2, the theme of each chapter is convergent on the achievement of the general objective of the thesis, and the content of each chapter is further elaborated.

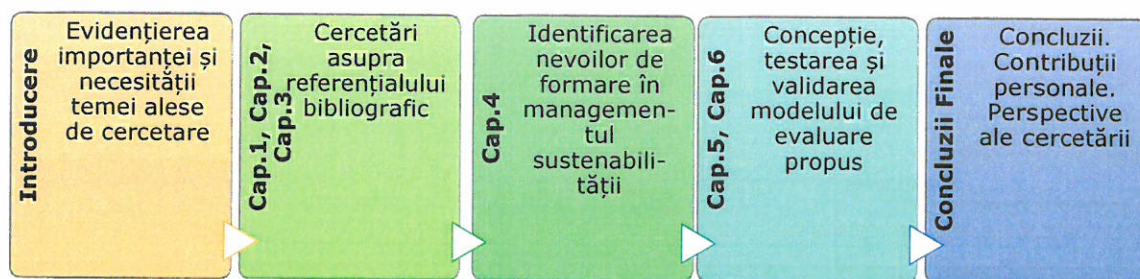


Fig. Error! No text of specified style in document.0.2. Structure of the doctoral thesis

In *Chapter 1*, entitled "*Bibliographic research on defining the contextual and conceptual framework for research*", a series of bibliographic analyses and syntheses on the concept of sustainability and the process of its development were presented. The scientific debate was structured in six subchapters, followed by conclusions, as follows:

1. Defining sustainability, concept history by reviewing the succession of events, and policies that marked the transition to the current global sustainable development goals and principles (as defined and adopted by the United Nations);
2. Inventory of sustainability dimensions from the perspective of two categories of models (classical and advanced or modern) which are common practice for organizations in defining viable sustainable development strategies;
3. Presenting the current context of the sustainability management approach at organizational level, considering their current priorities and benchmarks at European level, all generated by the legislative, normative and political framework;
4. Presenting premises and paradigms in addressing sustainability management, with explanations of the various considerations related to global pressures and exercise that requires generation change at the organizational level. The highlighted issue emphasized the elements of innovation and the development of organizational processes as well as the absorption of different concepts related to the stages of development and maturation related to business organizations and processes;
5. It was considered appropriate to present the challenges of sustainable development recorded after 2015, an inventory of them and the impact of climate change caused by anthropogenic actions;
6. At the end of the chapter the approaches and modalities for implementing international standards on sustainable development, as well as the benefits of adopting them by organizations (the generated organizational impact), have been synthesized. The elements and the sequence of the transformations over time of these standards, as well as aspects related to the influence exerted by their application on the process of continuous improvement, were scanned.

Within *Chapter 2*, entitled "*Defining Elements of the Sustainable Organization Model*", an analysis and synthesis of models adopted by organizations (present in their practice) regarding management and leadership of sustainable development was made. The subject of this chapter was structured in two sub-chapters, as follows:

1. The analysis and synthesis of sustainability models within organizations including the classic model (system vision of the organization), the panorama of the innovative, distinct elements introduced by the models based on individual values and the evolving model, as a superior valorisation of the existing values at the individual level. Thus, during the presentation, the emphasis was on integrated (holistic) models that lead the organization to competitive performance and success, simultaneously with the attainment of stable maturity of its sustainable development (ensuring success in sustainability management);

2. Address the current issues and challenges for pro-sustainability leadership by synthesizing the defining behavioural characteristics of this type of leader able to exercise a performant sustainability management.

*Chapter 3*, entitled "**Bibliographic Analysis and Synthesis on Sustainable Development of Organizations**" includes research on bibliographic referencing as well as organizational and managerial practices for understanding intimate processes, how to approach and integrate concepts and principles of sustainability in organizations (including processes, business activities). The analysis and synthesis achieved focused on the main concepts, principles and practices of sustainability applied by organizations of the present. Particular attention was paid to the ways to implement the requirements of relevant international standards and in connection with sustainable development, as well as the issues of innovation of products and services that must become environmentally friendly, with minor impact on the environment and therefore sustainable. Thus, the key elements about the need to change the business model, as well as the organizational strategy, were surprised.

There is a particularity in addressing the topics related to this chapter, generated by the need for immediate capitalization of bibliographic syntheses and analyzes and the implications of standards and norms in the field of sustainability. This ultimately led to the elaboration of a conceptual and methodological (procedural) framework for the sustainable organization and the synthesis of all the bibliographic research presented in chapters 1, 2 and 3, and anticipates the theoretical and applied research in chapters 4, 5 and 6.

In *Chapter 4*, entitled "**Theoretical and Applied Research to Identify Training Needs in Sustainability Management**", the results of an applied research conducted with the financial support of **LeadSUS - Leadership in Sustainability** (LLP - LdV / TOI / 2013 / RO / 022) were highlighted (LeadSUS, 2015). The survey was conducted in 2014 and included a sample of subjects (207 managerial or non-managerial positions) from organizations in Romania (mostly in the Western Region). The research method was that of the investigation, and the instrument used in the investigation was the LeadSUS questionnaire (Annex 3 and 4).

The main interest in this research started from the desire to identify and characterize topics or themes of interest for the design of a potential training program in the field of sustainable development and sustainability management. The statistical processing of the experimental data resulting from the application of the survey (using the PASW solution) led to the definition of the Sustainability Training Matrix which includes, in the training package, topics of high interest to the respondents group (employed in different types and in different fields of activity) that comprised the sample surveyed.

In *Chapter 5*, entitled "**Theoretical research on developing an organizational sustainability assessment model**", the adopted approach and the results obtained in the LeadSUS design process were synthesized. Initially, the premises and concepts of developing the model, the methodology and the means associated with it were presented, by considering the requirements of the (self-)assessment of sustainability. It has been established that the outcome of the evaluation is associated with a level of LeadSUS organizational maturity that reflects its achievement in terms of implementing sustainability management practices. In line with the results of a focus group (consultation with the specialists involved in the international partnership of the Lead-SUS project), four levels of maturity have been defined for the sustainable development of an organization, such as Low LeadSUS, Medium LeadSUS, High LeadSUS, and Excellence LeadSUS.

In order to achieve the transfer of the model in the practice of the organizations, it was operationalized by defining a methodology of (self-) assessment and a means of supporting the

mathematical calculations corresponding to the maturity level. This chapter also describes the concept of the (self-) assessment of organizational sustainability that will be "exploited" in experimental research.

*Chapter 6*, entitled "*Applied Research on Testing and Validation of Organizational Sustainability Assessment Model*", is dedicated to experiments conducted with the LeadSUS model for four organizations operating in different sectors of activity and having different dimensions. In each experimental case study, the context, the general results obtained through the evaluation of the organization using the LeadSUS model, methodology and mean were described, and finally there were some recommendations for improving the level of maturity (subjective statements, which mirror not only the perspective the researcher in relation to the identified situation, but also the consultant in the field of sustainability management).

*Chapter 7* presents "*General Conclusions. Personal contributions. Future Research Directions*".

The results of the researches were disseminated in *14 papers / scientific papers* (detailed in Annex 4) published in scientific journals and proceedings of international events at home and abroad, indexed in international databases, as follows: *10 papers indexed on the basis of Thomson Reuters data (ISI Web of Science); 4 papers indexed in BDI* (Springer, ECONPaper). These define the publishing activity of the author of this PhD thesis, but also her involvement in different research groups.

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