www.mruni.eu

Ieva Misiūnė

DOCTORAL DISSERTATION

ENVIRONMENTAL SELF-REGULATION: CHANGES OF CERTIFIED COMPANIES IN LITHUANIA

SOCIAL SCIENCES,
MANAGEMENT (03 S)
VILNIUS, 2014

MYKOLO ROMERIO UNIVERSITETAS

MYKOLAS ROMERIS UNIVERSITY

Ieva Misiūnė

ENVIRONMENTAL SELF-REGULATION: CHANGES OF CERTIFIED COMPANIES IN LITHUANIA

Doctoral dissertation
Social Sciences, Management (03 S)

Vilnius, 2014

Doctoral dissertation prepared during the period 2008–2014 at Mykolas Romeris University.

Scientific Supervisor:

Prof. Habil. Dr. Vida Motiekaitytė (Mykolas Romeris University, Biomedical Sciences, Botany – 04B) (2008-2012);

Assoc. Prof. Dr. Pranas Mierauskas (Mykolas Romeris University, Social Sciences, Management – 03 S) (2012-2014).

Scientific Consultant:

Assoc. Prof. Dr. Philipp Pattberg (VU University Amsterdam, Social Sciences, Political Sciences – 02 S).

ISBN 978-9955-19-673-0

© Mykolo Romerio universitetas, 2014

ACKNOWLEDGEMENT

I would like to express my sincere gratitude to people who accompanied me along this path of work. First of all, I am extremely grateful to my former supervisor Prof. V. Motiekaityte for encouraging me to travel outside the university and to gain knowledge not only from books, but also from different people. Thanks to her, I got involved in the international project activities and met there many prominent researchers. I would like to express special gratitude to the scientist Dr. Ph. Pattberg for a warm welcome during internships, a multitude of offers to attend an abundance workshops and conferences. It was only thanks to him that I learned and realised many things about the nature and meaning of social sciences, chose the topic of my research and got acquainted with many researchers, a part of whom eventually became my friends. I would also like to express my thanks to my current supervisor, Dr. P. Mierauskas, for his support and full assistance. My special gratitude goes to Dr. P. Pereira, the informal academic consultant, for loads of time spent to discuss the progress of my work. Finally, I would like to thank my husband Dalius, who encouraged me to go down this path. If it was not for him, I would have never found so much. I thank him, my parents and the remaining family members as well as close friends for their support and belief that this work will be done. And, most importantly – I thank my daughter Ema, for coming into this world and making me to finish the work I have started.

PADĖKA

Noriu nuoširdžiai padėkoti žmonėms, buvusiems kartu per visą šio darbo kelionę. Pirmiausiai dėkoju buvusiai vadovei Prof. V. Motiekaitytei, kuri paskatino keliauti už universiteto ribų ir semtis žinių ne tik iš knygų, bet ir iš įvairių žmonių. Jos dėka įsitraukiau į tarptautinio projekto veiklą ir ten susipažinau su daugybe iškilių mokslininkų. Ypatingą padėką noriu išreikšti mokslininkui Dr. Ph. Pattberg už priėmimą stažuočių metų, gausybę pasiūlymų dalyvauti neišsenkančiuose seminaruose ir konferencijose. Tik jo dėka sužinojau ir suvokiau daugybę dalykų apie socialinių mokslų esmę ir prasmę, pasirinkau savo tyrimo temą bei susipažinau su įvairiais tyrėjais, kurių dalis vėliau tapo mano draugais. Taip pat noriu padėkoti dabartiniam savo vadovui Dr. P. Mierauskui už paramą ir visokeriopą pagalbą. Ypatinga padėka neoficialiam akademiniam konsultantui Dr. P. Pereira už daugybę skirto laiko, aptariant mano darbo eigą. Galiausiai noriu padėkoti savo vyrui Daliui, kuris paskatino leistis į šią kelionę. Tik jo dėka atradau tiek daug. Dėkoju jam, savo tėvams ir likusiems šeimos nariams bei artimiems draugams už paramą ir tikėjimą, kad šis darbas atsiras. O svarbiausiai – dėkoju savo dukrytei Emai, kad ji atsirado ir privertė mane užbaigti pradėtą darbą.

CONTENTS

LIST OF TABLES 5
LIST OF FIGURES 6
LIST OF ABBREVIATIONS 7
INTRODUCTION 8
1. THEORETICAL FRAMEWORK: ENVIRONMENTAL GOVERNANCE AND SELF-REGULATION THROUGH NON-GOVERNMENTAL CERTIFICATION 14
1.1 Environmental governance challenge in historical perspective: the development leading to self-regulation 14
1.1.1 Different instruments for environmental governance 16
1.1.2 Certification as an instrument for self-regulation: objectives, functioning and origins 23
1.2 Governance and self-regulation in management and administration literature 31
1.2.1 Self-regulation and suggested theoretical perspectives for the analysis of the adoption of environmental standards 36
1.2.2 The effect of environmental certification: expectations and satisfaction of different governance mechanisms 48
1.3 Conclusions 50
2. METHODOLOGY OF EMPIRICAL RESEARCH 53
3. RESEARCH RESULTS AND DISCUSSION 58
3.1 Results of the initial qualitative data 58
3.1.1 The beginning of the certification in Lithuania 58
3.1.2 Certification process of the three certification schemes selected for the research 61
3.1.3 The position of the officials 67
3.2 Results of the quantitative data 69
3.2.1 Characteristics of companies 70
3.2.2 Descriptive statistics: adoption and compliance factors, problems and changes 72
3.2.3 Data analysis of variance: differences among group means 80
3.2.4 The effect of the certification at company level: expectations and satisfactions 93
3.3 Discussion 100
3.3.1 Why companies adopt voluntary environmental standards and comply with the rules 101
3.3.2 Changes and the effect of voluntary environmental standards at company level 106
3.3.3 Problems, capacity and prospects of self-regulation through environmental non-governmental certification 109
CONCLUSIONS 111
LITERATURE 117
SUMMARY 129
SANTRAUKA 148

LIST OF TABLES

Table 1. Summary of organization theories applicable to self-regulation through environmental certification research 39
Table 2. Number of the respondents of the survey 70
Table 3. Factors that have determined company's decision to adopt a standard, according to their importance 73
Table 4. Issues faced by companies after the decision was taken to adopt the standard, according to their relevance 75
Table 5. Evaluated factors in their ranking, which help the most to ensure compliance with the standard rules at the company 76
Table 6. Ranking of importance of occurring changes at the company after adopting the standard 78
Table 7. Explanatory variables 80
Table 8. Dependent variables of the first question – adoption factors 81
Table 9. Summary of ANOVA results of adoption factors according to the age, size, amount of certified production and export 82
Table 10. Summary of ANOVA results of adoption factors according to the activity of the company and previous experience 83
Table 11. Dependent variables of the second question – problems after the decision to certify 84
Table 12. Summary of ANOVA results of the problems according to the age, size, amount of certified production and export 86
Table 13. Summary of ANOVA results of problems according to the activity of the company and previous experience 87
Table 14. Dependent variables of the third question – compliance factors 88
Table 15. Summary of ANOVA results of compliance factors according to the age, size, amount of certified production and export 89
Table 16. Summary of ANOVA results of compliance factors according to the activity of the company and previous experience 90
Table 17. Dependent variables of the fourth question – changes within company 91
Table 18. Summary of ANOVA results of changes according to the age, size, amount of certified production and export 94
Table 19. Summary of ANOVA results of changes according to the activity of the company and previous experience 96
Table 20. Summary of the Paired Samples Statistics results 98
Table 21. Summary of Paired Samples Test results 99

LIST OF FIGURES

Figure 1. Outline of the thesis 12
Figure 2. Instruments for the implementation of environmental policies 18
Figure 3. Governance triangle according to Abbott and Snidal (2009) 21
Figure 4. Voluntary environmental management instruments and the three types of product labelling 24
Figure 5. Typical certification and labelling scheme 26
Figure 6. Multiple stakeholder participation in non-governmental certification 27
Figure 7. The use of the terms "governance" and "environmental governance" in scientific literature from 1990 32
Figure 8. Environmental influences on the organization 37
Figure 9. Size of the companies (according to the number of employees) 70
Figure 10. Percentage of the production for export 71
Figure 11. Different mechanisms of the certification: expectations and satisfaction 99
Figure 12. Mean importance and performance of Likert items for market, learning and signalling factors 100

LIST OF ABBREVIATIONS

Blue Angel	German Blue Angel eco-label, 1978
BS	The Body Shop, "Trade Not Aid" initiative, 1991
CaC	*Command and control* type of environmental instruments
CoC	*Chain of Custody*
CERES	CERES Principles on environmental practices, 1989
DDT	Dichlorodiphenyltrichloroethane, an organochlorine insecticide
EMAS	The EU Eco-Management and Audit Scheme
EMAS	UK Eco-Management and Audit Scheme, 1992
ENGOs	Environmental non-governmental organizations
FLO	Fairtrade Labelling Organization, "fair trade" umbrella scheme, 1997
FSC	Forest Stewardship Council, 1993
GPP	Green Public Procurement
GRI	Global Reporting Initiative standards for social, environmental reports, 1997
IFOAM	International Federation of Organic Agriculture Movements, 1972
ILO	International Labour Org. Declaration on Multinational Enterprises, 1977
ISO	International Organization for Standardization
ISO14	International Organization for Standardization 14001 environmental management standard, 1996
KIMB	Kimberley Process on conflict diamonds, 2003
MBIs	*Market-based* incentives
MSC	Marine Stewardship Council, 1997
OEKO-TEX	An independent testing and certification system for textile products, 1992
PEFC	Programme for the Endorsement of Forest Certification, 1999 (as Pan-European Forest Certification)
PRI	Principles for Responsible Investment, UN institutional investor scheme, 2006
RA	Rainforest Alliance/Sustainable Agriculture Network standard, 1993
TCO	TCO Development environmental and energy standards for computers, 1992
UNGC	United Nations Global Compact, 2000
VEIs	Voluntary environmental instruments

INTRODUCTION

Background

Environmental governance has gained prominence in the late 1960's when the problems caused by the industry were disclosed by the scientists and exposed widely by various newly formed environmental movements. The growing concern about the issues such as the dispersion of DDT or the ozone layer depletion was promulgated widely to the civil society. The governmental responses gained a momentum and governments continue to use their powers to regulate and address environmental challenges. Nationally, states employ command and control measures or market-based instruments, such as environmental charges or subsidies, to control the pollution and protect the environment. Over the last few decades, however, the general understanding of governance as a traditional hierarchical governmental control has changed as new forms of governing have emerged. This is particularly apparent in environmental governance, where the increasing number of initiatives to contribute to environmental protection has appeared from the civil society or private sector. These are different from traditional governmental regulation and indicate some form of self-regulation. One of the most prominent examples are self-regulation through environmental certification. Certification and labelling consists of the agreed rules – a standard that makes an economic activity more sustainable. Participants adopting the standard are verified by a third party and issued a certification confirming their compliance. Finally, the label on the product is a confirmation sign of its producer's declarations.

The phenomenon of an enormous and rapid development of voluntary environmental standards, especially those created by the private sector, has emerged in the last decade (Bartley, 2003; Cashore, 2002; Fransen & Kolk, 2007; Gulbrandsen, 2006; Pattberg, 2005)[1]. Some of the schemes have been created *transnationally* – on the global level by private actors without the involvement of governments, government agencies, or intergovernmental organizations (Pattberg, 2005). Their standards encompass global principles and criteria which later are to be adopted locally. This phenomenon reveals an interesting change in environmental governance. The top-down governmental regulation shifts to the bottom-up approach where the private actors create rules and voluntarily adopt them. It means that no longer a state is an exclusive actor in creation and enforcement of environmental governance rules.

The aim of the research

At the state level a citizen or a legal entity has an environmental duty which means they are responsible for the actions they take that affect the environment. Democratically elected officials create legal norms and rules which embed various duties and responsibilities. Environmental standards and ecolabelling as an instrument for the environmental protection can be created by non-governmental organizations or the private sector – by suppliers, manufacturers, traders, or their associations. In many cases such certification systems with their rules and norms as well as participants and other stakeholders form

[1] Also according to the global survey made by the World Resources Institute, only 8% of the organizations that develop ecolabelling schemes are government run (World Resources Institute (2010) *Global ecolabel monitor 2010. Towards transparency*. Big Room Inc., World Resources Institute).

the whole self-regulatory institutions. Thus, there are many private or civil organizations which create their own certification schemes – standards, verification systems and labels confirming the compliance. Prominent examples are the Forest Stewardship Council, the Marine Stewardship Council or various certification schemes for the organic farming. Many of these schemes were created by democratic Western societies. Subsequently, they crossed the national borders to the other parts of the world – East Europe, Asia or Africa. It means that non-official environmental rules are implemented voluntarily and widely as self-regulatory instruments. These rules are not official laws, however, due to different reasons participants adopt the standards and comply with their rules. The question that remains is what factors influence the adoption of the global principles of environmental standards by the local companies. What is the effect of these rules on their organizational and environmental practices? Are there any other effects that go beyond the rule implementation and compliance?

Therefore, ***the focus of this research*** is the changes in certified companies and beyond that are caused by environmental self-regulation through the standards. ***The aim of this research*** is to increase knowledge and to gain new insights of the phenomenon – self-regulation process through voluntary environmental standards. First, this research aims to identify the internal and external factors that stimulate the adoption of transnational environmental standards in Lithuanian companies. Such analysis will give the understanding of the diffusion process of such standards. Second, it aims to explore the effect that certification has on company level (or beyond) as well as to reveal whether the expectations have been justified.

Since the aim of this research is to identify the factors and reveal the effect, its objective is ***exploratory***. It helps to explain *why* transnational voluntary environmental standards are adopted and identify *how* they affect companies.

Research questions and methodological framework

To meet the research aim, ***the key research question*** is to be answered:

- Why companies decide to self-regulate and to adopt voluntary environmental standards and what is their effect?

To reach the research aim and answer the key research question ***the following objectives*** should be fulfilled:

- Description and comparison of different theoretical perspectives which allow to analyse the phenomenon of environmental self-regulation and to answer the key research question of this work;
- Description of the analytical framework, which was proposed to analyse the effect of environmental certification, and its adaptation to the current research;
- Initial empirical investigation of the current situation of certification in Lithuania: description of the beginning of certification, certification process according to different stakeholders and the view of the officials;
- Empirical exploration and evaluation of internal and external factors that encourage self-regulation through the adoption of the selected voluntary standards of companies in Lithuania;

- Empirical exploration and evaluation of the problems that companies faced after their decision to adopt the standard and the factors that influence the compliance with the rules;
- Empirical exploration of the changes and the effect that these standards have at company level: expectations and satisfaction;
- Development of conclusions and recommendations for further research.

An examination of self-regulation through certification will help us to understand why companies decide to self-regulate and what effect it has for a company. The analysis of the diffusion of this self-regulatory instrument will also help to identify whether there are other broader consequences. This can help in estimating whether self-regulation and the instrument used for it have the potential to supplement or enforce the rules of traditional governmental regulation. The author does not seek to identify all the factors that could influence self-regulation through certification, but rather to reveal the motives and processes of the adoption and compliance with the rules. To explore all possible changes in the companies after the certification is not the main target of this research as well. The author stresses the distinction between direct effects on the company and other consequences of the diffusion and entrenchment of one or another certification scheme. While an investigation of the direct effects on the company is the appropriate strategy for evaluating a company itself, for instance, its satisfaction with the certification, the other consequences coming from the diffusion of this self-regulatory instrument provide a basis for searching the full capacity and prospects of self-regulation and its instrument. The idea is not to define such capacity and draw the possibilities of the certification, but rather to identify whether the process of self-regulation and the system related to this process is limited only to those directly involved. Therefore, this research is largely based on the ***positivist epistemology***, which assumes one can discover "what truly happens in organizations through the categorization and scientific measurement of the behaviour of people and systems" (Hatch, 1997, p. 13). The research, however, is not strictly limited to this paradigm. The author believes there may be many different understandings and interpretations of the reality at the same time. And even though it is quite common to link quantitative methods with positivist approach and qualitative ones with non-positivist philosophy, such position presupposes that the use of specific research tools should identify the philosophical views of researcher. The author agrees that this should not be the case as research methods should be based on the problem analysed rather than on any given philosophical view (Zaborek, 2009).

Thus, to answer the key research question and to fulfil other objectives, the literature analysing environmental governance and self-governance through voluntary environmental standards will be systematically reviewed and analysed to prepare the theoretical framework. Later, empirical research will be developed with the help of the theoretical framework. It will be based on the practical experience of the companies that use environmental certification for self-regulation and on everyday practice of experts who certify the companies or are otherwise related to the process. ***The mixed-methods research approach*** will be used for the empirical research. Different procedures will be carried out to supplement the findings of one method with another. A qualitative method for exploratory purposes will be fulfilled in the beginning. Initially, the qualitative data will be collected through the interviews with different stakeholders. An interview method,

which is usually used by the interpretivists, will be employed to disclose the reality in the most precise and comprehensive manner. Inductive reasoning will be employed to analyse the data retrieved through interviews. Subsequently, a quantitative method with a large sample will be used so that results could be generalized. Quantitative empirical data will be received from the certified companies using the questionnaire and the statistical analysis will be carried out for the examination. Companies holding one of the three widely used transnational environmental non-governmental standards for the forestry and logging (FSC), fishing and aquaculture (MSC), and production of textiles (OEKO-TEX) were chosen for the analysis.

Scientific novelty

Environmental governance researchers often analyse environmental non-governmental certification as an example of private voluntary actions for self-regulation. Scholars have carried out the research studies to explain how these new governance initiatives emerge, what the main drivers are and what their governance structure is (Bartley, 2003, 2007a, 2007b; Cashore, Auld, & Newsom, 2004). There are also studies implemented to evaluate their implications and overall impact on the regulatory arrangements (Auld, Gulbrandsen, & McDermott, 2008). Furthermore, there have been studies on the transparency and legitimacy of these schemes (Auld & Gulbrandsen, 2010; Bernstein & Cashore, 2007; Dingwerth, 2007).

Adoption motives are fundamental when assessing the effects of certification (Auld et al., 2008). There is a significant body of literature which focus on the empirical exploration of factors behind the adoption of voluntary environmental standards as a self-regulatory tool. Studies show that different pressures affect the decision to adopt the standards. External pressure exerted by different stakeholders is one of the important factors and it varies according to the characteristics of the companies such as the export or the size of the company (Christmann & Taylor, 2001; Potoski & Prakash, 2005). Characteristics of the relationship between the supplier and the customer can also be the crucial factor in deciding to comply with the requirements of the standard (Delmas & Montiel, 2009; Simpson, Power, & Samson, 2007). Reasons emerging from the inside of a company, such as previous experience, mandate from parent companies, internal environmental policy can also be the important factors behind the adoption of voluntary environmental standards (Darnall, 2006; Simpson et al., 2007). There are also studies analysing the effect that environmental certification has on a company performance (Morris & Dunne, 2004; Pérez-Ramírez, Lluch-Cota, & Lasta, 2012; Potoski & Prakash, 2005), however, there is a need for more studies of the causal effects of certification (Blackman & Rivera, 2011). All but a few studies found in the international literature were developed in the Western European countries, North America or Australia. Recently there were several studies developed in other countries like Argentina, China, Ghana or South Africa (Carlsen, Hansen, & Lund, 2012; Christmann & Taylor, 2005; Pérez-Ramírez et al., 2012; Urban & Govender, 2012). However, to the author's knowledge, no research was carried out on the adoption factors and the effect of environmental non-governmental certification in Lithuania as well as published in the international literature. Lithuanian authors developed more analytical studies on environmental management systems and sustainability management (Kinderyte, Ciegis, & Staniskis, 2010; Ruzevicius, 2009). There are also some empirical

studies examining the current state of environmental management accounting practices together with environmental management systems and cleaner production innovations in Lithuanian enterprises (Staniskis & Stasiskiene, 2006) or the statistical review of the use of Lithuanian eco-label "Water Lily" and the EU eco-label "European Flower" in Lithuanian enterprises (Ruzevicius & Waginger, 2007; Staniskis & Stasiskiene, 2006). Nevertheless, there were no studies found to analyse the adoption factors or the effect the environmental standards have at company level. It is obvious that environmental non-governmental certification is not analysed empirically in Lithuania. Hence, this work aims to fill this gap and contribute to the current state of knowledge about self-regulation and the factors which influence the adoption of environmental non-governmental standards as well as the effect the certification has. The knowledge produced by this research will contribute to the discussion on self-regulation and environmental governance without government.

Outline of the thesis

The following figure shows the arrangement of the dissertation. The left column presents the number of the chapter and the right one explains the purpose of the relevant chapter. From explaining how environmental non-governmental certification works as a tool for self-regulation this dissertation moves to the analysis of the adoption of and the effect the standards have on companies in Lithuania and beyond.

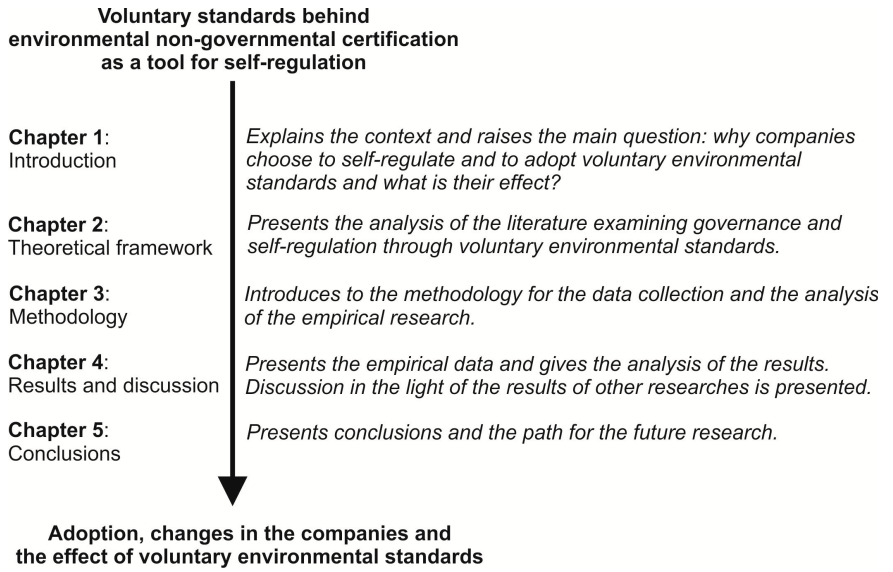


Figure 1. Outline of the thesis

The first part of the thesis describes the theoretical framework (Chapter II). In the beginning some concepts are explained. The concept of governance and self-regulation is presented. It is clarified how the terms are related to the topic of the thesis. The framework

is built through an overview of existing literature. It presents different views of organization theory that addresses self-regulation, directly or indirectly.

The second part of the thesis gives an overview of the methodology used for the empirical research (Chapter III). The third part (Chapter IV) represents the results of an empirical data collected from the certified Lithuanian companies. Participants of the three transnational environmental non-governmental certification schemes were selected for the research. The results of the interviews with different stakeholders were also presented here as a supplementary data. This part also includes a discussion with interpretation of the results in the light of other published outcomes. The final part of this work (Chapter V) contains the conclusions, some practical recommendations and recommendations for future research.

1. THEORETICAL FRAMEWORK: ENVIRONMENTAL GOVERNANCE AND SELF-REGULATION THROUGH NON-GOVERNMENTAL CERTIFICATION

The evident increase in the creation and adoption of various voluntary environmental instruments in the past decade is the phenomenon analysed by many social scientists. This phenomenon has different implications on the environmental management at a company level as well as on the overall environmental governance. In the beginning of this Chapter the challenge of the environmental governance is presented through a historical perspective. This part of the thesis reveals how environmental governance has developed internationally: how environmental instruments and actors, which create or use those instruments, have changed in the time perspective. Enlightenment of the differences of various environmental instruments is given with the emphasis on the unique properties of voluntary instruments such as certification. Next, this Chapter presents the theoretical framework which is developed through an overview of the existing literature. Literature which analyses environmental governance and self-regulation through voluntary environmental standards will be systemically reviewed to explain what "governance" and "self-governance" as concepts mean. Selected theories will be described and analysed to prepare the framework for the empirical research. Such framework works as the philosophical guidelines for the research and demonstrates the theories that exist to explain the phenomenon.

1.1 Environmental governance challenge in historical perspective: the development leading to self-regulation

Major environmental issues humanity face today emerged due to the rise of industry: metallurgy and mining, pulp and paper industry, chemicals, industrial agriculture, and other. Increased population growth and consumption, inefficient production and the growing energy demand – today all these constitute the sources of environmental problems.

Planetary boundaries were set by a group of prominent scientists to define a "safe operating space for humanity" (Rockstrom et al., 2009). The idea is based on scientific research. This research indicates that since the Industrial Revolution, human actions have gradually become the main driver of global environmental change. The scientists identified nine natural Earth system processes which have boundaries and these mark the safe zone for the planet. Crossing these boundaries could produce sudden and even irreversible environmental changes. However, estimates indicate that three of the boundaries – climate change, biodiversity loss, and the biogeochemical flow (nitrogen and phosphorus) – appear to have been crossed. Obvious, growing threats of climate change, biodiversity loss, fisheries decline, deforestation and other issues demonstrate the severity and the scale of the problems we face today. Back in 1970's governments were the main actors which engaged in solving these problems. The very first attempt to take global governmental *collective action* was demonstrated in 1972 at the Stockholm conference (officially called *The UN Conference on the Human Environment*). At that time representatives from 113 countries met. Observers from a number of intergovernmental organizations and

representatives of numerous international nongovernmental organizations participated there as well. (UNEP, 2011) This Conference was the first major conference on international environmental issues related to human activities. The Conference acknowledged the need to reduce human impact on the environment and that this would require international cooperation, since many problems affecting the environment are global in their nature.

Around the same time the European Union – one of the major actor at the global environmental governance – also started its environmental policy with the First Environmental Action Programme (EAP) in 1973. This led to the creation of the first EU wide environmental instruments on quality values for water and air: a number of framework directives were adopted during this period (Hey, 2005). The so-called *command and control* measures (see Chapter 2.1.1) were used nationally to implement the agreed environmental targets.

Later international community witnessed the issue of famous Brundtland report in 1987. It aimed to discuss the environment and development as one single issue. The well-known Rio Conference (officially called *The UN Conference on Environment and Development*) followed in 1992. This conference was a major step forward in environmental governance. Government officials now from 178 countries and thousands of individuals from governments, non-governmental organizations, and the media gathered to discuss the solutions for global problems. This time the agenda included not only the environmental but development problems as well, such as poverty and the growing gap between the global North and South. Rio Conference led to the proliferation of intergovernmental international agreements. International community adopted the Agenda 21 – a global plan of action for sustainable development. Chapter 4 of this agenda is titled 'Changing consumption patterns', and contains the following paragraph:

> "Governments, in cooperation with industry and other relevant groups, should encourage expansion of environmental labelling and other environmentally related product information programmes designed to assist consumers to make informed choices" (Development, 1992, p. 21).

This statement officially announced the promotion of the new environmental instruments enabling the stakeholders to make informed decisions. New type of instruments was created and used by governments nationally or regionally (e.g., at the EU level). However, the Rio Conference is a milestone for the beginning of the private actors and civil society participation in the environmental governance. Hence, the above mentioned instrument, namely environmental labelling was chosen by these actors as well. A prominent example is the initiative emerged just after the Rio Conference back in 1993, when 130 representatives from twenty-six countries met in Canada to introduce a new governance instrument designed to protect the world's forests (O'Neil, 2009, p. 167). Participants of this meeting agreed on the principles for sustainable forest management and the whole scheme of their implementation, monitoring compliance and labelling the final wood product. The implementation of these principles was not cost-free for the participants, but still allowed them to benefit economically. Most important is that none of the participants were government representatives. On the contrary, it was a coalition of environmental NGOs, forest owners, timber companies and others. This governance institution is now well-known Forest Stewardship Council organization. It was a significant step forward in global forests conservation as no governmental agreement was achieved

during the Rio Conference. This story demonstrates that non-governmental actors took the leading role to solve an environmental problem. The instrument – an FSC certification scheme for the sustainable forestry – became very popular and as of 30 November 2012 168364 million ha of forests were certified against the FSC standard (FSC official website, 2013).

Meanwhile, the EU started its Fifth EAP already. This Programme gave emphasis to the new instruments as well, especially to the *market-based* (see Chapter 2.1.1) instruments such as fiscal incentives or *voluntary instruments* enabling producers and consumers to make the environmentally informed decisions. As one may see, the *command and control* measures were complemented with other types of instruments, namely *market-based* and *voluntary environmental instruments*.

After ten years the global society gathered at the Johannesburg Conference (officially called the *World Summit on Sustainable Development*) in 2002. This conference was less productive in terms of agreements than the previous Rio Conference. However, the Johannesburg Conference initiated a new approach to environmental governance based on the notion of "partnerships" between different actors (Speth & Haas, 2006, p. 78). Partnerships for sustainable development is another voluntary multi-stakeholder instrument. This instrument aims at contributing to the implementation of sustainable development. They are a supplementary means of supporting the implementation of Agenda 21, Rio+5 and the Johannesburg Plan of Implementation. So far over 300 Partnerships for sustainable development have been started.[2]

Environmental policy development continued at the EU level as well. The Sixth EAP was adopted. Although it does not share the ambitious goals of its predecessors, it promotes a full integration of environmental protection requirements into all Community policies and cooperative approaches with industry, such as the integrated product policies, a wider use of standardization for environmental policies and voluntary agreements (Hey, 2005).

The brief notes on the development of the global and the EU environmental policy mark changes in the attitude towards environmental problems and at the same time towards the change of instruments used in environmental governance. The growing attention from the governments to environmental problems and the creation of new instruments go along with the interest from the civil society and business representatives who not only participate in governmental initiatives, but create their own rules and instruments.

1.1.1 Different instruments for environmental governance

This chapter explains the typology of environmental instruments used in this thesis. First, there were strict regulations to control pollution; later market-based instruments were introduced to promote environmentally friendly activities. Finally, civil society and business representatives voluntarily began to use additional environmental instruments. Hence, it is conventional to distinguish three broad types of policy instruments: regulation, market-

[2] These are kept in a database of Partnerships for Sustainable Development: http://webapps01.un.org/dsd/partnerships/public/welcome.do [accessed on 25 Jan 2012] For the analysis on the effectiveness see: Szulecki, K., Pattberg, P., & Biermann, F. (2011) Explaining Variation in the Effectiveness of Transnational Energy Partnerships. Governance, Vol. 24 (4): 713-736.

based incentives (MBIs) and voluntary instruments (see Figure 2). These instruments are intended to alter the behaviour of those causing an impact to the natural environment. Further different instruments will be discussed with a focus on the voluntary measures.

Regulations (*command and control* approach)

In shaping the early environmental policies policy-makers employed regulations. Regulation is still the most widely used instrument of the environmental policy that attempts to influence the behaviour of companies or people. Many authors call this instrument "command and control" or "coercive" regulation. However, the author argues that the latter has a negative connotation, which is opposite to the purpose of the instrument. Regulations are employed by the national authorities. It involves a government setting a standard of pollution control (or "giving a command", for instance, the maximum level of permissible pollution), and then using the official agencies, backed by the legal system, to enforce its rules (to control). Regulatory standards can be different in the requirements they place:

- *Ambient* standards set the minimum desired level of air or water quality, or the maximum level of the total concentration of pollutants in a particular area, such as river, living area, etc.
- *Emission* standards put a limit on input, output or discharges. The latter can be:
  - Performance-based when stipulates the maximum level of permitted emissions;
  - Technology-based (or design) when it not only indicates emissions limits, but also requires the best available technology that must be used (Golub, 1998).

Regulations remain the backbone of the national environmental policies. It is also the main instrument used by international regimes to deal with global environmental problems. Regulation sets clear rules and it is predictable for the regulator and regulated as they both know what is expected of them. Political, judicial and administrative back up make the regulations protected against manipulation and enhance their public legitimacy (Carter, 2007, p. 324). However, several decades of experience revealed a number of shortcomings the regulatory "*command and control*" approach has. These limitations can be categorized as economic inefficiency, environmental ineffectiveness and democratic legitimacy (Golub, 1998, p. 3).

Economic inefficiency comes from imposing uniform reduction targets and technologies, thus ignoring different pollution abatement costs for different companies. Other authors call this inefficiency as an excessive burden for the industry which impacts the competitiveness and puts a cost to taxpayers (Carter, 2007, p. 324). The rules are applied equally although the burden for different size or type of companies can be different.

Environmental ineffectiveness of regulations relates very much to the economic inefficiency. Adoption of more stringent regulations intends to better protect the environment, however, when the implementation of such regulation is seen as excessively costly, the adoption of it encounters political resistance. Furthermore, under this approach companies have no incentives to reduce pollution beyond the requirements. It also means companies have no incentive for technological innovations. An 'optimal' standard has to be determined by the public authorities, which are not always experts in every field of industry (Golub, 1998)., It is especially difficult to determine the standard for non-marketable goods, such as water or air. Moreover, to be effective, standards need to be revised frequently, but in practice the law making process takes a very long time.

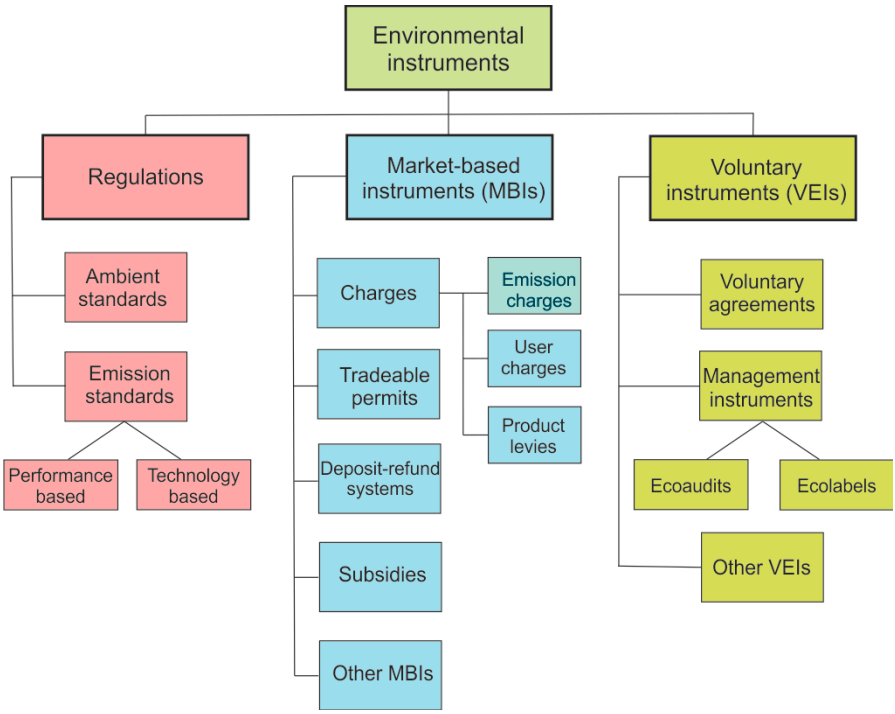


Figure 2. Instruments for the implementation of environmental policies[3]

Last but not least is the criticism which states that command and control approach lacks democratic legitimacy. Although this idea might sound odd, some authors explain that regulatory bodies can be "influenced" by the polluters. This happens when the regulator is responsible for identifying an environmental problem, then setting the standard, determining what constitutes the best available technology and enforcing the compliance. During the whole process the regulator has to communicate with the industry which is the only one having detailed knowledge about the polluting activities. At the end of the day polluters might influence or even block environmental policies according to their own interests[4] (Golub, 1998).

Market-based incentives (MBIs)

As mentioned earlier, the regulations were criticized especially for their inefficiency. It requires an individual polluter to use specific technology or limit emissions despite the technical or financial possibilities. Obviously, some polluters will find it easier and

[3] Adopted from Asafu-Adjaye (2000, p. 79)

[4] For evidence of capture in various policy sectors, including the environment, see Bishop, M., Kay, J. A., & Mayer, C. P. (1995). *The regulatory challenge.* Oxford: Oxford University Press; Francis, J. G. (1993). *The politics of regulation: a comparative perspective.* Oxford: Blackwell; McCormick, J. (1991). *British politics and the environment*. London: Earthscan.

cheaper to comply than the others. In the evolution of the national environmental policies, governmental authorities had to find other mechanisms to influence the behaviour. Thus, market-based incentives (MBIs) were employed. They use economic means to provide incentives for polluters to reduce their harmful activities. Companies are allowed to choose the means and the approach to reduce the pollution even beyond what is required by the law. From the economic theory the market-based instrument internalizes into the price of a product or a service the negative external costs to the environment (Asafu-Adjaye, 2000). The MBIs include the following instruments:

- *Charges* in a form of a fee imposed on a polluter. In essence charges are based on the *polluter pays principle*, which requires the costs of pollution to be borne by those who cause it. Charges can be:
  - User charges, when fees are payable for treatment, collection and disposal costs, for e.g. of waste.
  - Emission charges, when charges are on the discharge of pollutants into the water, air or soil according to their quantity or quality, for e.g. water effluent charges.
  - Product charges on harmful products, such as fertilizers, petrol, plastic bags, etc. (Carter, 2007, p. 333).
- *Tradable permits* are environmental quotas that are tradable. Technically, a government issues a number of the "right to pollute" permits (equal to the permissible total emissions) and distributes them among the polluting companies. Such permits can be traded between the companies and those who can maintain their emission level below their permission can sell the surplus of their permits to other companies. In this case pollution abatement becomes economically efficient and at the same time environmentally effective as the government is able to reach the quality of the environment it intended to. The main three applications of tradable permits are: air pollution control, water supply and fisheries management (Tietenberg, 2006).
- *Deposit-refund systems* are basically the same as charges on a polluting product, but in this case the charge is to be refunded if the product or its packaging is returned after its use for recycling. This MBI attempts to make the consumer accountable for an improper waste disposal (Walls, 2011).
- *Subsidies* can also be categorized as the MBI.[5] This is a payment or a tax relief that assists companies to reduce pollution. On one hand, subsidies can encourage the development of new cleaner technologies, on the other – they distort the competition, bring no revenues for the state and do not reduce the "dirty" consumption or pollution (as these are still in place) (Asafu-Adjaye, 2000).
- *Other* instruments like licences, concessions, traditional property rights, etc. (Asafu-Adjaye, 2000).

The MBIs can be cost effective as a polluter is allowed to decide on how to reduce the pollution. It is also possibly the lowest cost to the society as the Polluter Pays Principle is implemented. Thus, the MBIs internalize externalities and provide incentives for technology innovation. Moreover, they generate revenues for the government. Even though the MBIs seem to be more efficient and more effective environmental instrument, it also has some disadvantages. To be effective, MBIs require high administrative power and

[5] There are other opinions, for e.g. Carter (2007) excludes subsidies from the MBIs and call it "government expenditures".

strong institutional environment to encounter their implementation problems. Taxes and charges are not self-enforcing and evasion can be a real problem. Unclear jurisdiction, weak monitoring or a lack of political will can limit the effective implementation of the MBIs. Additionally, economists recognize that companies can suffer competitive disadvantages if other governments do not introduce similar MBIs (Bailey, 2007). Furthermore, it makes the price of products and services higher, so potentially it can be regressive.[6]

Voluntary environmental instruments (VEIs)

The last 20 years have witnessed an increased interest in the use of voluntary approaches to environment protection. Apart from the governmental voluntary environmental instruments (VEIs), various environmental initiatives came from the international organizations, private companies or industry associations, environmental non-governmental organizations and other (see Chapter 2.1). At the international level, international environmental law does not apply directly to a polluter (Birnie, Boyle, & Redgwell, 2009). In some cases governments, especially those of the developing countries, cannot protect the environment by regulations or MBIs due to many different reasons, like corruption or shortage of human and administrative capacities. International community and especially environmental non-governmental organizations (ENGOs) have realized that the way to put a pressure directly on the multinational corporations can be an alternative strategy to the regulations. At the same time business representatives have realized that the pressure coming from the green groups and a wider public cannot be ignored and overlooked. Softer measures that focus on promoting corporate social accountability emerged (Kirton, 2007). Hence, the proliferation of the environmental non-governmental certification can be observed for already two decades.

Wood conceptualizes voluntary environmental measures as a code[7] rather than an instrument and defines it as follows:

> "Commitments undertaken by one or more polluters or resource users, in the absence of an express legal requirement to do so, prescribing norms to regulate their behaviour in relation to their interaction with the environment" (Wood, 2006, p. 237).

According to this definition VEIs are *normative* in character as they prescribe the norm to a polluter or a resource user. Generally speaking, all VEIs are normative. It means the prescribed standard regulates the conduct of the addressee which voluntarily agrees to adopt and follow that standard.

VEIs can have many different forms and can be classified along many dimensions. In fact, there are as many classifications of VEIs as there are authors writing about them. One of the ways to classify is the forms they take. Venn type diagram offered by Wood (2006) allows to classify the VEIs according to the three dimensions: (1) polluters or the resource users, normally it is the private sector; (2) public authorities, i.e. local or national governments, international governmental organizations; (3) the third parties independent from polluters and public authorities, e.g. non-governmental organizations (Wood, 2006,

[6] More on market-based environmental instruments see: Ali, P. A. U., & Yano, K. (2004) Eco-finance: the legal design and regulation of market-based environmental instruments. The Hague: Kluwer Law International; Andersen, M. S., & Sprenger, R. U. (2000) Market- Based Instruments for Environmental Management: Politics and Institutions. Munich: E. Elgar.

[7] Code in a sense of "a set of rules on any subject".

p. 237). Later Abbott and Snidal (2009) extensively analysed this governance triangle and the potential of "*transnational new governance*", which is the new kind of regulatory system emerging from non-governmental organizations, business firms, and other actors, which create innovative institutions to adequately regulate international business. It differs significantly in terms of its most basic feature – the role of the state. These innovative institutions are predominantly private and operate through voluntary standards (Abbott & Snidal, 2009) (see Figure 3 and Abbreviations).

Although some of the VEIs work under MBIs logic, they all are unique in that they are not obligatory and companies usually take the decision to adopt them or not voluntarily. Additionally, VEIs differs from regulations at least in two ways. First, governmental authorities, having the power and means to impose and control are the key stakeholders in the *command and control* approach. Meanwhile, the VEIs allow more and diverse stakeholders to take part in the process of creation, implementation and monitoring, finally rewarding or sanctioning the operators involved into environmental stewardship. Second, VEIs offer more standards with different stringency levels, allowing companies to choose the instrument they want. They also let actors to supply diverse instruments with varying stringency levels in contrast to regulations, where the government has a monopoly over environmental standards (Prakash & Potoski, 2012, p. 125).

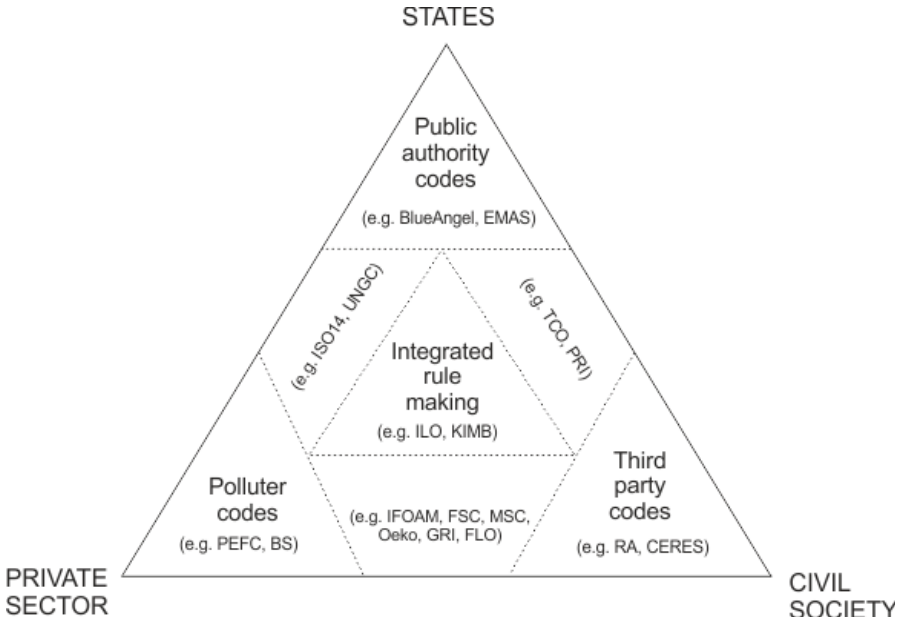


Figure 3. Governance triangle according to Abbott and Snidal (2009)

VEIs can exist in different forms despite of who creates them (see Figure 4):

- *Voluntary agreements* between industry sectors and the state authorities. The idea to connect the efforts of governments with the industry in protecting the environ-

ment emerged at the Rio conference in 1992. From that time cooperation between industry and policy-makers was a trendy issue. In the EU this thinking was established within the Fifth Environmental Action Programme of 1992. Integral agreements (which established medium or long-term targets and covered different environmental parameters) were signed in chemical or oil and gas industry in Western European countries as well as outside Europe. The single-issue agreements that meant to address only one specific environmental problem such as energy efficiency or packaging were much more popular. The idea behind such an agreement is that governments enter into negotiations with industry over the degree and timing of environmental improvement without prescribing particular pollution abatement method. Such instrument provides flexible and cost-effective means of achieving policy objectives because they give freedom for companies to decide on how to meet and implement the goals. However, voluntary agreements have their weaknesses too. They are often unambitious to attract the highest number of participants; they are not backed up by enforcement mechanisms and there are no sanctions. Finally, their effectiveness is questionable and economic efficiency is low (Carter, 2007, p. 331). The success of such agreements mostly depends on the proper instrument design that might hinder the free-riding problem when not all companies within the same industry are willing to commit.[8] According to Golub (1998), to be successful voluntary agreements have to share some design characteristics, such as high and clear targets, transparent implementation and they have to be legally binding. Additionally there must be the "stick behind the door" which means that direct regulation will be used by the state if industry fails to meet the targets.

- *Environmental management instruments* are of two types*:*
  - *Environmental management systems* (EMS or *Ecoaudits*) which are voluntary schemes for industrial companies that want to improve and make public their environmental performance. Generally, such systems set off with an initial environmental review of the company; then a programme and environmental management system have to be set up in accordance with the results of the initial review. Ultimately, the system has to be audited to become certified. Worldwide, the ISO 14001 EMS is popular among the industry. Within the EU the Fifth Environmental Action Programme mentioned the environmental and audit systems among other instruments and in 1993 the Council of Ministers adopted a Regulation establishing eco-management and audit scheme, called EMAS. While EMAS and ISO 14001 share the same objective, they are different in a number of ways. Legal basis is the first difference: the EMAS is under legal bases and it is a Regulation of the European Parliament and the Council under the public law. Meanwhile the ISO 14001 is under no legal basis. It functions on the basis of the private law. EMAS includes commitment to continual improvement of environmental performance of organization, while the ISO does not specify the extent to which performance must be improved and focuses on the performance of the management system. There are many more differences between these two systems[9], however, they both

[8] See the studies on the problems of voluntary environmental agreements in The Netherlands, UK or Spain at (Golub, 1998).

[9] To see more: http://ec.europa.eu/environment/emas/tools/faq_en.htm#Section13Question3

function under the similar logics that are different from the other environmental management instrument – ecolabelling.

- *Ecolabels* (or *management schemes for products and services)* are the schemes which identify overall environmental preference of a product or service within a specific product/service category. In this case the focus is not on the environmental performance of the company, but on the environmental impact of a product or a service that the company produces or supplies. The criteria behind the ecolabel help to reduce that impact and often reach different stakeholders in a whole supply chain. There are many different ecolabelling schemes in the world, one of them being the EU Ecolabel. The EU Ecolabel helps to identify products and services that "have a reduced environmental impact throughout their life cycle, from the extraction of raw material through to production, use and disposal" (EU Ecolabel, 2012).

- *Other voluntary environmental instruments* such as environmental reporting, self-declaration claims often have a supporting function.

The above given forms of VEIs can be used by governments, encouraged by non-governmental organizations or created by the private sector alone. As mentioned in the introductory chapter, an enormous and rapid development of different voluntary environmental standards – mostly management schemes for products and services – has emerged in the last decade. And the majority of these were created by the private sector: industry associations, for-profit companies, non-profit organizations and other.

1.1.2 Certification as an instrument for self-regulation: objectives, functioning and origins

Certification and ecolabelling were identified as a significant tool in the Agenda 21 at the Rio conference back in 1992. At that time enterprises in developed countries realised that environmental declarations could be used as a market advantage. A number of environmental declarations and claims entered the mainstream and the labels on the products informed that the production is "eco-friendly", "energy saving", the product is "recyclable", etc. This labelling aimed at attracting consumers who are environmentally aware. However, these labels also had the potential of confusing consumers or even providing the misleading information. This concern led to the development of public and private organizations providing third-party certification. In contrast to self-declaration claims a certificate or an eco-label is awarded by the third party only to those products (i.e. goods or services) that meet the established standards. Hence, environmental certification and labelling (ecolabels) are one of the two main environmental management instruments.

Two types of environmental management instruments – environmental management systems (ecoaudits) and management schemes for products and services (ecolabels) – can be further classified according to their brand and type. Ecoaudits for system management are different in terms of organizations which create the standards and certification schemes (however, they function in a similar manner). The most popular around the world are the series of ISO 14000 standards, EMAS in the European Union and other ecoaudits (see Figure 4).

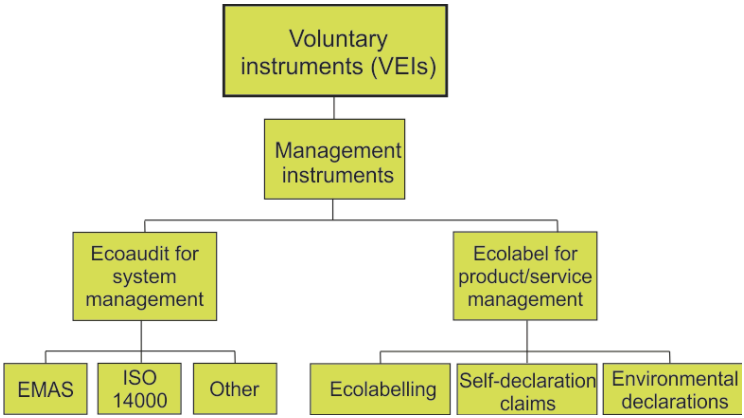


Figure 4. Voluntary environmental management instruments and the three types of product labelling (according to the ISO definitions)

Ecolabelling of products (i.e. goods or services) can be classified according to the principles, practices and the key characteristics of their functioning. The three major voluntary environmental labelling types were identified by the ISO:

- *Ecolabelling* means the third party programmes that award a license authorizing the use of a label indicating environmental preferability of a product within particular product category. It can be based on a life cycle assessment, e.g. EU ecolabel, Nordic Swan, The Blue Angel and other. Unlike *environmental declarations,* ecolabels demonstrate products' environmental performance leadership characteristics rather than simply a declaration of quantified environmental data. This helps a consumer to find an environmentally friendly product among others in that product group instead of requiring the consumer to undertake his/her own comparative analyses.
- *Self-declaration claims* mean environmental claims made about goods by their manufacturers, importers or distributors. These informative environmental self-declaration claims are not independently verified by a third-party; they do not use any pre-determined criteria. It is simply informative statements, e.g. claiming a product to be "biodegradable" without defining the term.
- *Environmental declarations* mean programmes that provide quantified environmental data about a product under pre-set categories of parameters established by a qualified third party. Usually it is verified by the same or another qualified third party (Polak, 2003).

There are many different third-party labelling schemes in the world. Some of these programmes focus on the life cycle assessment when the criteria behind the standard allow to assess environmental impacts associated with all stages of a product's life: from the raw material extraction through material processing, manufacture, distribution, use, maintenance, and recycling or disposal. Other programmes have narrower focus. These can focus on a single sector (e.g. the forest or fishery industry, the chemical industry, etc.); address only one environmental issue (e.g. biodiversity conservation, air quality, etc.);

consider only a single life cycle phase in their applications (e.g. material used for product manufacturing, product recycling, etc.) (Global Ecolabelling, 2013).

Environmental certification objectives

ISO 14020:2000 "Environmental labels and declarations – General principles" identifies the overall goal of certification and labelling schemes:

"The overall goal of environmental labels and declarations is, through communication of verifiable and accurate information, that is not misleading, on environmental aspects of products and services, to encourage the demand for and supply of those products and services that cause less stress on the environment, thereby stimulating the potential for market-driven continuous environmental improvement" (ISO, 2010, p. 7).

Indeed, certification and labelling have become a tool for governments and other actors (e. g., ENGOs) in promoting responsible environmental practices as well as for businesses in establishing new markets for their environmentally friendly products. Hence, the three core objectives of the certification and labelling schemes, which promote environmentally sound practices, can be distinguished:

- Protecting the environment is generally the primary objective. Rules behind the standard may promote the efficient use of non-renewable resources; encourage the efficient management of renewables; it may facilitate the reduction, reuse and recycling of waste; encourage the protection of ecosystems as well as the proper management of chemicals and other. Through certification and labelling schemes governments and/or non-governmental authorities seek to encourage the cleaner production and consumption of environmentally preferable goods and the provision and use of environmentally preferable services. In this way self-regulation of the behaviour causing environmental problems is promoted.
- Encouraging environmentally sound innovation is another important objective of environmental certification. Promoting eco-friendly products may help to encourage an innovative production. Certification and labelling schemes offer a market incentive to environmentally innovative and progressive companies which offer environmentally friendly goods and services. In this way they can create or strengthen a market niche as well as establish a positive corporate image. This may become the main advantage of the company and possibly induce others to follow the trend.
- Last but not least is building consumer awareness of environmental problems. Eco-labels on goods or services can increase consumer awareness of environmental problems and explain how their choices may influence or contribute to solving those problems. In countries with a high degree of consumer awareness an eco-label, which provides reliable information on the environmental impacts of the product, may be all that is needed to promote the selection of environmentally friendly (eco-labelled) products. In other countries where consumers are not as highly motivated by environmental concerns, an eco-label can serve to inform the consumers about the issues they have never heard before (Global Ecolabelling Network, 2004).

To be able to achieve these goals every certification and labelling scheme has to be well designed. The standard has to be effective so it must "fit the purpose", be credible, attainable, and measurable/verifiable; the whole certification scheme has to be legitimate and it has to comply with environmental or other relevant legislation, and other (Ibid.).

Functioning of the environmental certification and labelling

To guarantee the attributes of the product the standard can be created. *Standards* are divided into *product* standards (often they are ecolabels) that specify and set the criteria for the characteristics of the products, and *process* standards (e.g. ecoaudits) that set the criteria for the way the products are made. Process standards can be further divided into *management system* standards that set criteria for management procedures, and *performance* standards that set verifiable requirements for factors such as non-use of pesticides or other (Dankers, 2003; Liu, 2009). For instance, standards in an organic farming are essentially process standards. It means that farmers complying with a certain standard adjust their management and/or performance to the requirements set by that standard. Standards may be set by the governments, industry associations or non-governmental organizations; they can also be created by these actors working together.

Certification is the procedure when a third party tests or verifies the product and gives a written assurance that it is in conformity with a certain standard (Dankers, 2003; Liu, 2009). In essence, certification aims to provide credibility to certain quality claims made by producers. Credibility of the certifier, i.e. a control body which issues a certificate and a certificate as such is enhanced through a process of approval. In other words, an accreditation and supervision of the control bodies has to be done according to the accepted norms and guidelines.

Finally, the *label* on the product is used as a communication tool with the end-user. The label indicates that the compliance with a certain standard has been verified or tested. Labels provide information for consumers and can help them identify environmentally friendly products (see Figure 5).

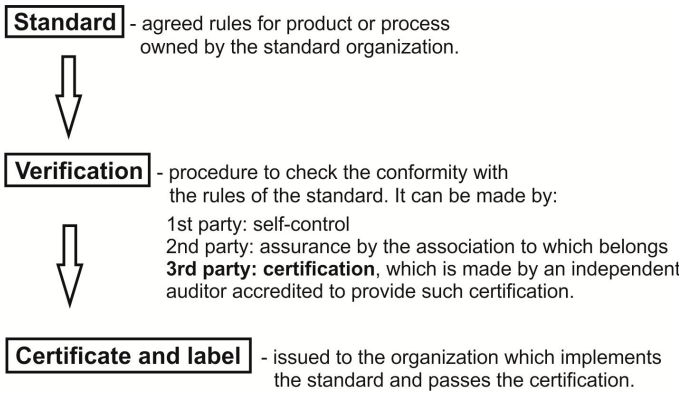


Figure 5. Typical certification and labelling scheme

Practically speaking, a company which wants to participate in the certification and labelling scheme, has to make an application to the organization owning the standard and submit its products to a third-party verification. If approved, the company pays a licensing fee for permission to use the ecolabel for a certain period to the standard organization. There are other stakeholders which can take part in the certification process (see Figure 6).

Multiple stakeholder participation in any certification scheme is important to its overall impact and success (Global Ecolabelling Network, 2004).

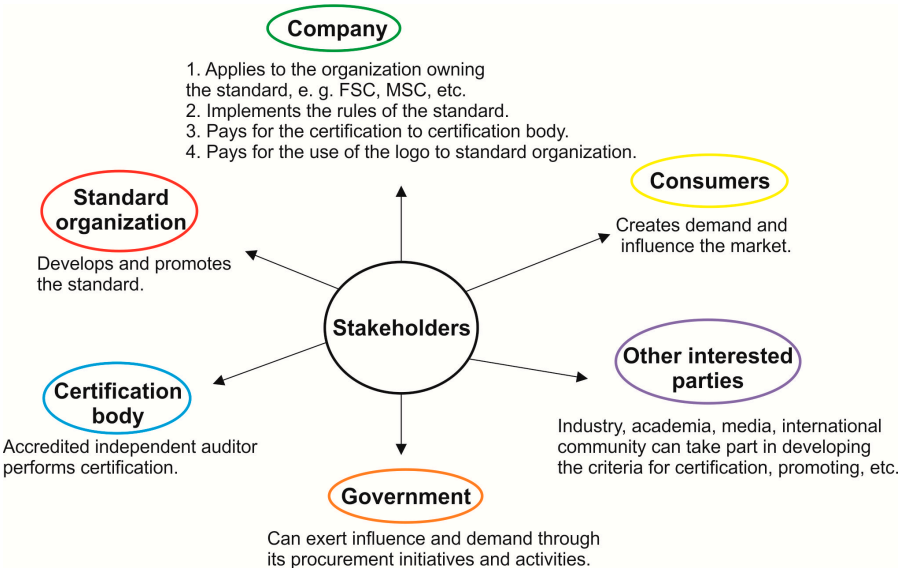


Figure 6. Multiple stakeholder participation in non-governmental certification

Usually, to acquire the certificate and to be permitted to label the products, a company has to implement national regulations first (or the requirements of the international law) and additional requirements of the standard.[10] It also means that producers, which want to import their production with the specific labelling, have not only to comply with the import regulations, but also with some additional requirements – either it is governmental ecolabeling rules, like the EU ecolabel, or non-governmental standard, like the 4C Association for sustainable production of coffee. On the other hand, if the products already comply with such additional requirements, producers can enter the new markets easier or fulfil the niche market. Meanwhile, the consumers are confronted with more and more labels providing the information about the product and the production process.

[10] See, for instance, the rules of the FSC standard for forest management certification, which requires following the national law as well as implementation of additional requirements. Another example is The Global Organic Textile Standard (GOTS) which requires following an international conventions, such as Abolition of Forced Labour Convention, Occupational Safety and Health Convention and others as well as the implementation of additional requirements.

Organization of the certification schemes: the private origin[11]

An entire certification and labelling scheme can be created by the national authorities or non-governmental actors only. The involvement of private actors in environmental governance is a relatively recent phenomenon (Bartley, 2003; Cashore, 2002; Fransen & Kolk, 2007; Gulbrandsen, 2006; Pattberg, 2005). Scholars refer to it with different titles. The concept of *private partnership* is used to name the phenomenon, but the scholars add that this concept is vague and general, and has different meaning in different contexts as some partnerships are meant to generate and disseminate information, other focus on spreading and guaranteeing a good practice, like certification schemes (Mol, 2007). Lemos and Agrawal (2006) analyse *market and agent focused instruments* which aim to mobilize individual incentives in favour of the environmentally positive outcomes instead of relying on the hierarchically organized regulatory control. The instruments are a broad range: "ecotaxes and subsidies based on a mix of regulation and market incentives, voluntary agreements, certification, ecolabelling, and informational systems are some of the major examples" (Lemos & Agrawal, 2006, p. 305). Pattberg (2005) argues that an involvement of the business sector creates the *institutions of the private governance*. Private actors not only provide goods and services, but also make their own rules. They "engage themselves in cooperative arrangements that often lead to private systems of rule, complementing traditional ways of a political influence, such as lobbying international negotiations or raising public awareness" (Pattberg, 2005, p. 12). Certification and labelling schemes are presented as a case for analysis in most of the studies about the involvement of the private sector in environmental governance.

There are many non-governmental schemes for labelling products or processes. Some of them are globally recognized, like the Forest Stewardship Council on sustainable forestry, the Marine Stewardship Council on sustainable marine production or organic agriculture certifying programs accredited by the IFOAM. Non-governmental certification can be distinct from the public one. The former is mainly set by the business sector, NGOs or jointly. Different stakeholders of the supply chain, like producers and retailers, or entire industry groups may desire to create their own standards to guarantee the distinguished attributes of their end products and to satisfy the demand of the consumers. Standards set by producers associations can serve not only to please the consumers, but also as a tool to spread a good practice. Meanwhile, the primary goal of the NGOs is to promote a sustainable or ethical business and thus protect the interest of the society (Liu, 2009, p. 4). NGOs may act as the advocacy groups or be the stakeholders and develop the standards themselves. Finally, the private sector and NGOs can enter into partnerships and create certification programmes together. All these standards may be national or transnational, meaning that they emerge where the interactions among private actors, or private actors and civil society give rise to institutional arrangements that guide other actors' behaviour in an issue-specific area (Falkner, 2003).

From the public management perspective certification is a type of service where the customer is the operator willing to get a certificate and comply with the rules of the

[11] The material of this Chapter was presented earlier as: Misiune, I. (2012) "The necessity of organic production regulation: are public ecolabelling schemes better than private ones?" at the Lund Conference on *Earth System Governance: Towards Just and Legitimate Earth System Governance – Addressing Inequalities*. 18-20 April, 2012, Lund University, Lund, Sweden.

standard. This service can be provided by the public agency or a private organization. Some authors state that government agencies generally are insensitive to treat people as citizens and customers due to many reasons (Farazmand, 2004; Greener, 2009). For instance, the budget of the agencies does not dependent on consumer satisfaction; monopolistic agencies do not feel pressure to be efficient, effective, and innovative, etc. (Farazmand, 2004, p. 281). And even though the certification was initiated by the public agencies – the Blue Angel program was the first environment-related label for products and services established by the German government in 1978 (Blue Angel, 2011) – now the majority of the programs are initiated by the private sector or together with the representatives from the civil society.

Advantages of non-governmental certification can be divided into advantages to consumers, producers and to the society as a whole. In the first place, environmental standards are beneficial to consumers as they can offer higher quality products or services. It is beneficial for the society as such, because certification helps to protect the environment, guarantees labour rights, animal welfare and other. It also helps a country to preserve its natural resources. It may also improve the management of an enterprise or a farm, the management of the natural resources on which farmers' livelihoods depend. Producers and retailers benefit as they get a reputation as socially and environmentally responsible. It can also have a value-adding effect by enabling producers to obtain higher prices (FAO, 2010)[12].

In some sectors, such as the food industry, requirements of the retailers in a supply chain are becoming even more important than the direct consumer preferences. In this case retailers, given their market power, have more capacities than individual consumers to change the practices of producers. The policies of large multinational companies can have a great impact on producers when getting the access to the market. In some situations these giant companies can impose environmental requirements more easily than national governments. On the other hand, this might be seen as a challenge posed by the private standards in a sense that these requirements hinder the market access.

Despite the advantages, non-governmental certification poses some challenges as well. Effectiveness is a big issue for non-governmental (as well as public) schemes. The problem of the effectiveness can emerge when private standards are prescriptive rather than outcome focussed. This happens when the standard not only states the results that need to be achieved, but also how they have to be achieved. Even though it is beneficial for producers, which can easily understand what is required from them and for auditors which can readily judge, the potential problems caused by prescriptive provisions are that they can inhibit innovations within the industry and/or add extra costs. Besides, they can impose inefficiencies and unnecessary costs to those who are obliged to meet the standard. The problem arises with the fact of the globalisation when the same prescriptive requirements

[12] See more: Rotherham, T. (2005) The Trade and Environmental Effects of Ecolabels: Assessment and Response. Report prepared for UN Environment Programme, Geneva., 1-44; Dankers, C. (2003) Environmental and social standards, certification and labelling for cash crops (C. a. T. Division, Trans.) FAO Technical Paper. Raw Materials, Tropical and Horticultural Products Service. (2003 ed., Vol. 2, pp. 1-120). Rome: FAO; Liu, P. (2009) Private standards in international trade: issues and opportunities. Paper presented at the WTO/CTE workshop on environment-related private standards, certification and labelling requirements, Geneva, 9 July 2009.

can be imposed on the suppliers operating under different conditions around the globe (FAO/WHO, 2010). Prescriptive means that the standard says exactly what must be done by giving an instruction. Prescriptive rather than outcome focussed standard is when the criteria on which the standard is based are determined by the local concerns; they do not address either the views of foreign suppliers or a specific environmental situation in exporting countries. For instance, the private scheme developed in a country having air pollution problems might focus very much on the air pollution control measures. Whereas the greatest environmental problem can be completely different in a country in which the standard is implemented.

Effectiveness is highly related to the other issue which is the credibility of the scheme. Credibility shows whether the consumer and other involved parties rely on the information provided by the certificate (or label). As a result of growing awareness for the environment protection, the number of certification schemes has increased. Along with that, a number of certifiers and the level of competition between them have increased as well. This can negatively affect the objectiveness and independence of private third-party certifiers and lead to the compromises in the stringency of the standards. In some sectors, certification has gained the reputation of a paper based exercise, where GMP no longer stands for "Good Manufacturing Practice" but for "Give Me Papers" (Padel, 2010). With a growing number of certifiers and the competition level among them, the credibility of the schemes is at risk. The same problem appears when a private certification body (i.e., a third-party) certifies the same company for many years and/or for a profit. It means the certificate holder guarantees incomes for the certifier. In this case the third-party auditor becomes dependent. Thus, we might think that the public certification body could perform its duties better without a hazard to exchange the public interest into the private gain as the public interest is within the nature of the public administrative bodies.

Problems of the credibility and further problems of the legitimacy can also arise if the suppliers see the certification as externally imposed rather than the decision coming from the internal company policy (Schulze, Albersmeier, Spiller, & Jahn, 2006). For instance, commercial concentration within the food industry leads to the situation where a conformance with voluntary non-governmental standards can determine the market access. Apparently, the term "voluntary" may be misleading. "Although not legally binding in a regulatory sense, private-sector standards are, *de facto*, increasingly becoming mandatory because of the market power of certain large, globally acting retailers and importers" (FAO, 2010, p. 10). Retailers of giant companies are imposing standards not just on exports to developed country markets, but also on producers and suppliers located in developing countries who wish to sell to retail operations within their own country (FAO, 2010).

The growing role of private standards has also raised concerns about the legitimacy of such standard-setting processes. The main concern is whether the standards are 'science-based' and developed in a democratic, transparent and comprehensive way. And also their potential implications as trade barriers (Codex Alimentarius Commission, p. 34; WTO, 2009). Often private standards tend to be elaborated by technical committees consisting of member companies. A standard creation process can be largely closed with a little or no input from stakeholders unless specifically invited, with a little direct 'voice' for consumers or the interests of developing countries (Henson, 2009).

As the author notes, despite the rise of non-governmental certification schemes, standardization of organic food products has one unique element when compared to other schemes. In most developed countries private standards of the organic production have become marginalized by the successive development of public standards. This happened in the U.S., Japan, the EU and some other countries. Private schemes continue to exist alongside with the public ones.[13] But to label the product "organic" the requirements of the official regulations have to be implemented in the first place. In this case the product can be certified against several standards – the public one, which is obligatory if you wish to label your product, and the private one if you choose so. This happened due to many reasons, but the first one was to protect the consumers and prevent deceitful practices (IFOAM, 2012).

Despite all the advantages and disadvantages listed above, environmental non-governmental certification continues to be very popular globally among different companies. Theoretical perspectives are presented further. They will help to answer the question: Why companies participate in non-governmental environmental certification programmes?

1.2 Governance and self-regulation in management and administration literature

The concept of *governance* has gained a prominent attention from the academics, politicians and wider society in the last few decades. Previously many phenomena taking place in the society, such as the implementation of governmental policy, were called by the social scientists as "public administration", "public management", "bureaucracy", "governing" or "government". In the last decades the concept of "governance" has been used more and more in the scientific literature concerning policy, public administration and management fields.

An increase in the use of the term *governance* in scientific literature can be observed in the data retrieved from the scientific databases. For illustrative purposes the author analysed the Web of Science database. This authoritative database consists of seven citation databases containing information from over 12 000 of the highest impact journals worldwide. The term *governance* in the topic field was entered. One can easily observe the rapid growth in the use of this term every year (see Figure 7). Noticeably, this term is more often in use by the scientists working in environmental field as well. The term *environmental governance* (quotation mark is used to limit the search to this exact phrase only) was also entered into the database. An increase in the use of the term is obvious.

[13] For instance, there is a public certification scheme for organic production at the EU, however, various non-governmental organizations with private standards exist, like the Soil Association and other.

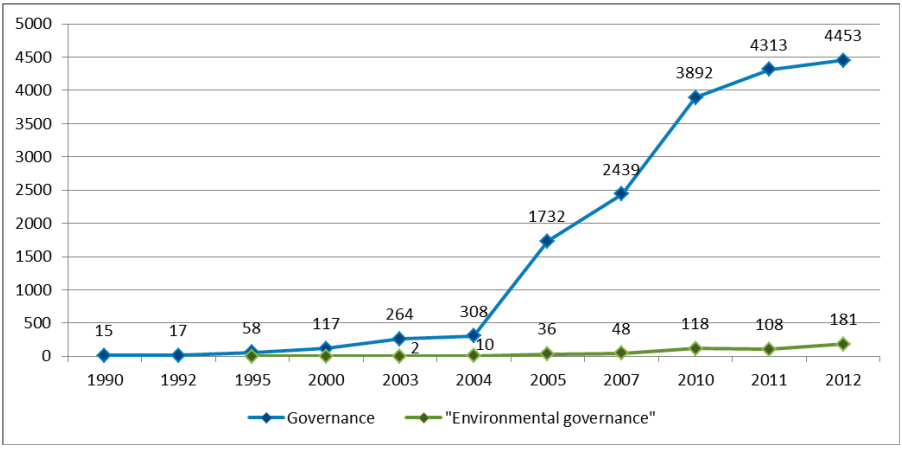


Figure 7. The use of the terms "governance" and "environmental governance" in scientific literature from 1990 (limited to the Web of Science database)

Diverse interpretation of the governance concept reflects different conceptual and ideological perspectives. This diversity provides some opportunities as well as limitations and challenges – opportunities in the sense that different notions of governance bring new knowledge on the subject of inquiry. This can offer new ideas and lead to better solutions to organizational, administrational or management problems. Different empirical evidence helps to verify or discard the new ideas claimed to be superior.

On the other hand, diverse notions of the same word *governance* also produce new challenges and constrains. Confusion arises when there is no consensus or agreement as to what governance is or should be. Besides, adoption of certain specific concepts by governments or various organizations may lead to their prominence and dominance in theory and practice. But this may not necessary mean that they have advantage over the other models left aside. The example of this situation is given by Farazmand (2004) when the worldwide adoption of the *new public management* instead of the *privatization* entrenched as a requirement of the structural changes in the economically weak countries by the United Nations agencies such as the International Monetary Fund or the World Bank. Plurality of the meanings might also lead to the situation when the search becomes endless or self-serving. It can be damaging to those affected by such experimentations, costly, wasteful and sometimes even senseless (Farazmand, 2004).

Semantically, the term *governance* has its origin from the Old French word *governance* which means "government, rule, administration; (rule of) conduct" (Etymology, 2011). Nowadays, *governance* is the whole concept, rather than having a single meaning. To illustrate this and clarify what lies under the concept in this research different interpretations of different authors were reviewed.

Rosenau and Czempiel (1992) emphasized the difference between government and governance. According to them the term *governance* indicates a shift in modes of governing and not only modes created by the state authority. It entails making of rules

by many processes, not only by some ultimate body legitimately empowered to impose them. Later Peters and Pierre (1998) paid attention to the increase of the term *governance* in European literature and they discussed the strength and weaknesses of this trend. First, they recognized the idea that national governments are no longer the major actors in public policy and that they are not the only actors able to influence the economy and society through their actions. Moreover, they say that changes in the relationship between government and the private sector, where governance is possible without government, raise a dominant pattern in industrial democracies. The concept of governance they explain through several constituent elements which "amount to a prescription for steering society through less direct means and weakening the power of the State to control policy" (Peters & Pierre, 1998, p. 225). The above given explanations by two authors put emphasis on the power and authority in the rule making, where not only the state is a single actor having such privilege. Obviously, the subject of this thesis – transnational environmental non-governmental certification – is a good example of non-governmental rule making.

In the later work Pierre and Peters (2000) specified that governance is about government's "*changing role* in society and its *changing capacity* to pursue collective interests under severe external and internal constrains" (emphasis added) (Pierre & Peters, 2000, p. 7). The role and the capacity of the government dominate in this definition. Authors repeat that it is not only the government who can pursue collective interests anymore. Now they see a transformation rather than a weakening of the state. Meanwhile, Keohane and Nye (2000) explicitly separates government from governance. They say that governance is "the processes and institutions, both formal and informal, that guide and restrain the collective activities of a group" (Keohane & Nye, 2000, p. 12). Government is the part of the activity that "acts with authority and creates formal obligations". However, governance, they claim, "need not necessarily be conducted exclusively by governments and the international organizations to which they delegate authority" (Keohane & Nye, 2000, p. 12). It means governance can also be conducted by non-governmental organizations, private companies or their associations – either alone or in conjunction with governmental bodies. Hence, they describe governance more as the "processes and institutions" that explain social phenomena and it is not necessarily of governmental origin. These two explanations resulting at the same time do not contradict each other as the role and capacity of the governments definitely have to change in a case when informal rules guiding or restraining collective activities are created by non-governmental actors. In the case of proliferation of voluntary environmental standards created by non-governmental organizations (for instance, Common Code for the Coffee Community, The Programme for the Endorsement of Forest Certification, Marine Aquarium Council, Aquaculture Certification Council, etc.) the role of governments is not always clear: should they control the process or leave it in the "shadow of the state"? The transformation, new roles and capacities of the governments have to be taken in mind.

In lengthy and detailed research in political science Rhodes (2007)[14] summarizes that governance refers to: "a *new* process of governing; or a *changed* condition of ordered rule; or the *new* method by which society is governed" (Rhodes, 2007, p. 1246). He further

[14] See an extensive list of Prof. Rhodes works at: http://www.raw-rhodes.co.uk/bibliography/ [accessed on 20 January 2014]

emphasizes that when we use a word it means what we choose it to mean – "neither more nor less". He explains that he defines governance as:

> "1. Interdependence between organizations. Governance is broader than government, covering non-state actors. Changing the boundaries of the state meant the boundaries between public, private and voluntary sectors became shifting and opaque.
> 2. Continuing interactions between network members, caused by the need to exchange resources and negotiate shared purposes.
> 3. Game-like interactions, rooted in trust and regulated by rules of the game negotiated and agreed by network participants.
> 4. A significant degree of autonomy from the state. Networks are not accountable to the state; they are self-organizing. Although the state does not occupy a privileged, sovereign position, it can indirectly and imperfectly steer networks" (Rhodes, 1997, p. 53).

The shifting modes to govern the society are an essential element in this broad definition. New actors from different sectors, new organizations working in a form of networks and their interactions regulated by the agreed rules with the amount of autonomy from the state are what the governance means today according to the above given definition.

Analysing different definitions and interpretations of the term *governance*, we evidence an agreement around one tendency: governance is about steering the society where no longer a state is a single actor in the process. This transformation means that governments are not the sole source of decision making authority anymore. New actors are emerging, who identify the problems, create and implement the rules and measures that help to solve these problems. Consequently, new modes of governing emerge and the boundaries between and within the public and private sectors are becoming blurred or intertwined.

Environmental governance and self-regulation

When analysing the concept of environmental governance, one has to admit that the environment per se as well as the understanding of this concept is changing. More and more analysts discuss the environment "as a complex adaptive system that is characterized by transformative changes and uncertainty, a setting in which boundaries between ecological systems and social systems are dissolving" (de Loë, Armitage, Plummer, Davidson, & Moraru, 2009, p. 11). Thus "environmental issues have given new impetus to the debate on the opportunities and limitations of managing social change" (Glasbergen, 1998, p. 1). Looking from this perspective, the environment is not external to the society, but rather the opposite – life quality of the societies is dependent on environmental conditions, and social and ecological processes are inextricably interrelated (de Loë et al., 2009).

Consequently, *environmental governance* is a narrower form of the broad concept of *governance*. Considering the literature review of the *governance* concept, it is clear that *environmental governance* should describe how environmental problems are solved within different societies or globally and that the state is not a single actor in this process anymore. This is evident from the various definitions of environmental governance, to name but a few:

- "We use "environmental governance" to refer to the set of regulatory processes, mechanisms and organizations through which political actors influence environmental actions and outcomes. Governance is not the same as government. It includes the actions of the state and, in addition, encompasses actors such as communities, businesses, and NGOs." (Lemos & Agrawal, 2006, p. 298).

- "Earth system governance can therefore be defined as *the sum of the formal and informal rule systems and actor-networks at all levels of human society that are set up in order to influence the coevolution of human and natural systems in a way that secures the sustainable development of human society*" (Biermann, 2007, p. 329).

All definitions of environmental governance have several basic ideas in common throughout the literature. These include the following:

- Attention to the new and innovative institutional arrangements and mechanisms which facilitate collective action (Armitage et al., 2009; Biermann, 2007; Biermann & Pattberg, 2008; Lemos & Agrawal, 2006; Ostrom, 2007);
- Emphasis on the non-state actors involved in environmental governance (Armitage et al., 2009; Pattberg, 2005) "ranging from public non-state actors such as intergovernmental bureaucracies to purely private actors such an environmentalist alliances, scientific networks, and business associations" (Biermann, 2007, p. 332);
- Awareness to the broader context in which environmental governance functions (e.g. social-ecological or economic systems, adaptive governance systems) (Biermann & Pattberg, 2008; Folke, Hahn, Olsson, & Norberg, 2005; Lemos & Agrawal, 2006; Ostrom, 2007)

Conventional "command and control" approach to environmental problems means that governments can provide regulatory solutions. Despite that, environmental governance at the global scale has shown that for many environmental problems governments lack either the will or even the authority to develop an effective regulatory solution. This is especially sore for the environmental problems which are often transnational and spill over borders of the states. And so environmental governance indicates new forms of governing that are different from traditional hierarchical governmental regulation and shows some form of self-regulation by civil society or private sector. Self-regulation, therefore, can be named as the model of governance which is prevalent in environmental policy (Glasbergen, 1998; Meadowcroft, 1998; Treib, Bahr, & Falkner, 2007). It can have potentials to become the solution to environmental problems, especially in the absence of governmental regulation.

The main idea describing self-regulation is that actor networks will form and they engage in appropriate self-regulatory behaviour (de Loë et al., 2009). There are some key characteristics of self-regulation. These can be described as follows:

- Formation of actor networks and various sub-systems to address environmental issues;
- Formation of such networks and sub-systems is an outcome of self-reflection regarding appropriate actions for the social and the environmental context;
- Intervention of governments is possible to provide corrective measures when necessary (Glasbergen, 1998; Meadowcroft, 1998).

The main strengths of such governance model are that the confrontation to government driven policy is mitigated. Furthermore, it is highly democratic governance model which fosters engagement. It has some weaknesses, however, which should be mentioned. The protection of self-interests only is highly possible and there is always a possibility that governments may be required to intervene to provide corrective actions. Moreover, in the light of extensive legal preconditions the ideal of self-regulation may be illusionary (Glasbergen, 1998; Meadowcroft, 1998).

The above given analysis of governance concepts has demonstrated that environmental governance is becoming more complicated. Innovative institutions, new actors, complex environmental and social context leading to new ways of governing call for a different approach to the analysis and understanding of the ongoing processes.

1.2.1 Self-regulation and suggested theoretical perspectives for the analysis of the adoption of environmental standards

At the international level with global competitors, companies' motives to participate in the international environmental arena are to reduce uncertainties or even out of a genuine concern of the environment. First, this involvement reflects the corporate sector's desire for uniform and regular international standards (DeSombre, 2000). Second, for several global environmental issues such as climate change, ozone depletion and biodiversity protection most political activity has been initiated and debated at the international level. Many industries now feel they ignore international environmental negotiations at their risk, and some feel that they may positively benefit from them (Pulver, 2003). Finally and especially of a disappointment over the outcomes of the global environmental diplomacy more and more attention is being paid to the role that industry plays in developing its own governance regimes[15], or governance regimes in a partnership with civil society actors. These private or "hybrid" governance regimes often build around voluntary certification and ecolabelling processes and are particularly prevalent in the forestry and chemicals sectors (O'Neil, 2009). They often emerge in other fields as well, such as fishing industry, organic farming and their production chains.

At the domestic level, however, private companies may operate from a combination of motives and may often favour self-regulation through environmental non-governmental certification to obtain various advantages. Different motives which affect the decision to self-regulate and to adopt the standards can be associated with external pressures or the reasons emerging from the inside of the companies. The phenomenon of rapid development and diffusion of voluntary environmental standards, especially those created by the private sector, among the companies has been already identified. Different theoretical perspectives that allow analysing this phenomena and answering the question as to why companies use the standards for self-regulation are presented further.

The *theoretical framework* is developed to identify the elements and relationships between these elements that need to be considered for analysis. Ideally, theoretical framework presents a general set of variables that can be used to analyse managerial and organizational activities at company level. Framework can be used to compare theories as it identifies the elements that any theory needs to include if it is applicable to the same kind of phenomenon (Ostrom, 2011). These elements help to understand the factors that might influence and the conditions that might foster the behaviour of the companies, i.e. why and how they adopt environmental standards and comply with their rules. It also helps to reveal the effect this compliance might have on the individual company level and beyond.

Different *theories* empower us to identify the elements of a framework that are principal to particular questions and to make general working assumptions about these

[15] The term "regime" supplements the list of the terms used to describe the phenomenon of the involvement of private actors in the international environmental governance discussed above.

elements. Theories propose insights for explaining phenomena, its processes, and predict outcomes. Usually multiple theories are compatible with one framework (Ostrom, 2011).

Theoretical framework

Every organization faces different forces with which they must interact. Sometimes this interaction leads to the decisions and changes the organization has to make (Figure 8). shows the two main environmental forces: internal and external. These two forces are complex and have many elements within. The inner circle represents the *internal environment* of the organization. First of all, it has its owners. Further it includes: employees working within the organization, the structure of the organization, its objectives and strategy, including internal policy and culture, its business processes and technology used as well as its finance and the relationship the organization has with its stakeholders.

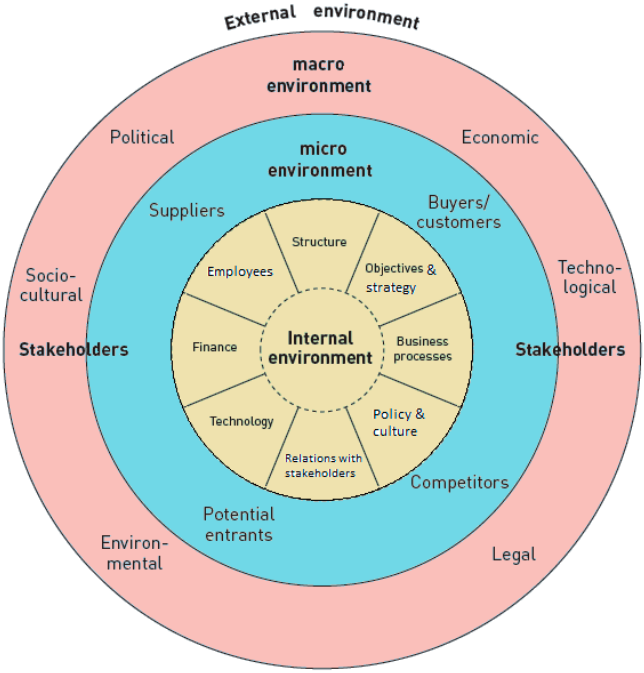


Figure 8. Environmental influences on the organization (adapted from Boddy, 2008, p. 84)

External environment is beyond the internal circle. It can be divided into micro (or competitive) and macro (or general) environment. *Micro-environment* includes the elements specific to the sphere (or industry) the organization belongs to. First of all, it is the customers, suppliers and competitors, including potential entrants. Financiers or potential investors, environmentalists and local community are also the important elements of

the micro-environment. *Macro-environment* is not industry-specific as it applies to all organizations despite the sphere they belong to. It is the general situation in the country: political, legal, economic, social and environmental factors which affect all organizations.

The situation in micro- and macro- environment makes up a changing source of pressures and opportunities for the organization (Boddy, 2008, p. 85). Internal and micro-environment forces have more impact on organizations than the external forces as they are closer to their daily activities. Thus the respond to these forces often has to be rapid compared to those in the general environment. On the other hand, elements from the internal and micro-environment can be influenced by the organization as well.

Theories

Theoretical framework is based on the *organization theory* which is a well-established theoretical perspective in social science. Although the name suggests this is one single theory, in fact it embraces multiple perspectives. It is not surprising since a single, overarching explanation for organizations and organizing can never exist. Organizations are too complex to be explained by any single theory. Organizational behaviour depends on many factors, such as the place where an organization operates or the time it was established. Today organizations operate in a complex, often uncertain and highly competitive environment. Thus only a broad perspective offering various explanations can create more possibilities for effective analyses and research.

Most of the classic theories of organization were developed at the time when the state was considered to be hierarchical and central (Frederickson & Smith, 2003). Scientific management by F. Taylor focusing on the management of work and workers and administrative management by H. Fayol, L. H. Gulick or M. Weber addressing the overall structure of organization were the two main perspectives of the organization theory in its early years (Clegg & Hardy, 1999). Further, the development of organization studies was adapted to address the changes of governance in various sectors (Bevir, 2013). As we already saw, governance means not only the actions of the state to govern, but also the activities by individuals and organizations to govern themselves. Different theories of governance tell us that the state alone cannot realize its ends (Bevir & Trentmann, 2007). One of the models of governance is the so-called self-regulation and thus in this work four organizational theories, which provide the means to analyse the activities by individuals and organizations that govern themselves, will be considered: information theory, institutional model of isomorphic change, stakeholder theory and social network theory. Even though these perspectives can be used to examine very different phenomena, they still are compatible in terms of their ontological and epistemological assumptions. Table 1 summarizes the main assumptions of each theory and presents the key insights applicable to environmental certification research.

Table 1. Summary of organization theories applicable to self-regulation through environmental certification research

Theory	Main assumptions	Key insights for the research
Information theory	The theory deals with the situation where the transaction decision has to be made and where one party has more or better information than the other. This unequal possession of information means that one party can make better decision than the other. To close the informational gap the party which has more information can send the signal to the other party.	The theory may help in explaining as to why the companies become certified. It is not easy to know whether a company is environmentally committed. To reduce this information asymmetry such companies may use environmental certification to send the signal – to inform their stakeholders, such as investors and consumers, about their environmental awareness.
Institutional model of isomorphic change	Institutional model of isomorphic change explains how different pressures influence the changes of organizations within the same field. To survive, organizations must earn legitimacy by conforming to institutional pressures prevailing in the environment. The theory identifies three types of mechanisms that make organizations to change their work practices and ultimately to become isomorphic to each other: coercive, normative and mimetic.	Theory allows explaining the pressures that make the companies to become certified. This might be coercive pressures from various stakeholders, including the government; normative pressures from the customers or emerging industry trends; and mimetic pressures encouraged by uncertainty or a wish to follow successful competitors, also to copy the practices of other organizations to enhance their own legitimacy.
Social network theory	The theory considers social relationships among the organizations or individuals within the organizations. These relationships influence the behaviour of organizations and their managerial practices as well.	It is a useful theoretical approach since sustainable decisions, such as the decision to get certified, in one organization may diffuse and influence the behaviour of others in the network to which the former organization belongs.
Stakeholder theory	The theory suggests that companies can be affected by different parties, called stakeholders, which can be internal or external to the company. Different groups of stakeholders can have demands on the company and thus increase the pressure on it. Often they are able to affect the managerial practices of the focal company.	Stakeholders can make specific demands and influences on the companies regarding their environmental performance. Especially green groups, like NGOs, or environmentally conscious customers may require the companies to prove their environmental awareness and become certified against the environmental standards.

Information theory

Information asymmetry theory was developed by the economists around 1970. This theory deals with the situation when the transaction decision has to be made and one party has more or better information than the other. This simply means that one party can make better decision than the other. The theory was primarily developed by Akerlof (1970) in his paper analysing information asymmetry which occurs when the seller of a used car knows more about the product than the buyer. Consequently, the buyer can find the car is defective only after it has been bought. Information asymmetry can be used by the seller to sell a low-quality product for the price of a higher-quality product. On the other hand, the buyer is uncertain about the quality of the product, so he or she will consider the product to be of average quality even if it is of top quality. In a model of a used car market, the owner of a good car will not be willing to place his car on this market as the buyer will consider it to be only of average quality. Removal of good cars decreases the number of average quality cars on the market, thus causing buyers to think worse about any given car. Ultimately, information asymmetry with respect to quality can lead to the disappearance of the market.

One of the solutions to solve this problem was proposed by Spence (1973) who suggested the idea of signalling. The idea is that one party reliably delivers information about himself to another party – it sends a signal which discloses relevant information. Spence analyses job market where an employer seeks to hire a person "skilled in learning". These skills cannot be verified and only the candidate may know whether he or she really has them. However, the potential employees send information about themselves to the employer. Spence proposes that education can work as a signal of an ability to learn. The signal works on the assumption that people who are skilled in learning are more likely to graduate from university than those who are less skilled. Thus the education works as a signal for the employer and assists when taking the decision to hire a person and offering the wage. Sending the signal may narrow the informational gap and can be beneficial to both parties. Although the theory was developed by the economists, scholars used this idea and assigned it to the organisational theory (Sarkis, Zhu, & Lai, 2011), hence, it can be useful in management research as well.

Information theory is widely used in the supply chain research as information asymmetry occurs when the product has credence attributes (being it an environmental impact of production methods or materials used to produce the product and others). These attributes of the product cannot be searched or experienced by the buyer (see "Functioning of the environmental certification and labelling" in Chapter 2.1.2). In this case suppliers hold more information about the products, materials or the production methods. It means that companies not always have the full knowledge about the products they sell or materials they use for production. When such companies seek to communicate their environmental awareness to the stakeholders they lack information to do that. Inability to understand how green the product or material you use is forms a hindrance to a competitive advantage. This more often happens in a global world where the supply chain can run through different continents. So the distance between the supplier and customer can increase the information asymmetry (Simpson et al., 2007). To close the informational gap suppliers (or the producer) can send the signal. An example of a signalling about the environmental responsibility of the supply chain is an environmental certificate along the partners in that supply chain, for

instance, an environmental certificate of an ISO 14000 (González, Sarkis, & Adenso-Díaz, 2008). It is a good signal to demonstrate the company is environmentally responsible, even though the real improvements in environmental performance are questionable (Dahlström, Howes, Leinster, & Skea, 2003; King, Lenox, & Terlaak, 2005).

Research has shown that the stakeholders adopt environmental standards for greening the supply chain. When the information asymmetries among the stakeholders in the supply chain are high, enterprises have a tendency to certify their practices more frequently (Jiang & Bansal, 2003). Thus, the application of information theory in terms of signalling emphasizes the value of environmental certification "to communicate underlying attributes in order to obtain new contracts, with the necessity of signalling increasing with distance" (Delmas & Montiel, 2009, p. 27).

Important to mention is that signalling theory as well as institutional or stakeholder theories deals with organization's legitimacy (Sarkis et al., 2011). When the organization sends signals to various stakeholders and institutions, it strengthens its legitimacy. In case of environmental management, companies might adopt various standards to become legitimate. It means to be in accordance with the established practices or accepted norms and standards. However, the company will not necessarily seek to implement the rules entirely and successfully. This is likely to happen if companies are forced to adopt the rules due to the external factors (or coercive factors according to institutional theory) and it is not the internal policy of the company. On the other hand, this can be conscious and deliberate action when the company deceptively uses green marketing to create the image of a socially responsible organization and to present its products or policies as environmentally friendly. This is called "green washing" and it appears that in some cases more than three-fourths of the ads contain one or more aspects of greenwashing (Baum, 2012).

To sum up, information theory is a suitable tool to propose insights when explaining the motives of the companies which have decided to get certified. It is not easy to know whether a company is environmentally committed. To reduce this information asymmetry, environmentally committed companies may use environmental certification to send the signal – to inform their stakeholders about their environmental awareness.

Institutional theory

Institutional theory is another important school of thought which might be used to analyse the adoption and compliance factors of voluntary environmental instruments. It is one of the most developed theories in management literature and the most common basis that is used to examine environment-related issues. Institutional approach is useful to research ecologically sustainable organizations and to analyse how the organizations address the green issues due to external forces (Clemens & Douglas, 2006; Jennings & Zandbergen, 1995; King & Lenox, 2000; Lounsbury, 2001). The theory helps to examine "the processes and mechanisms by which structures, schemas, rules, and routines become established as authoritative guidelines for social behaviour" (W. R. Scott, 2004, p. 408). The theory inquires how such elements are created, how they diffuse, how they influence the stability and meaning of social behaviour. It also considers how such elements collapse or their fragments affect the new structures.

Institutional theory is a broad theoretical perspective. It is not a single idea, not a system of assumptions and statements; it is rather a whole complex of related ideas. However, arguments evolve around several core assumptions:

> "(1) Institutions are governance structures, embodying rules for social conduct, (2) groups and organizations conforming to these rules are accorded legitimacy, a condition contributing to their survival, (3) institutions are characterized by inertia, a tendency to resist change, and (4) history matters, in the sense that past institutional structures constrain and channel new arrangements" (W. R. Scott, 2004, p. 408).

Following these assumptions different approaches along various dimensions can be used for analyses: individual actor versus structural approaches, rational choice versus other theories of decision making, debates over institutional stability, change and resistance to the change, and other (W. R. Scott, 2004).

Prominent institutional model of isomorphic change offered by DiMaggio and Powell (1983) can be used to explain the adoption of the private rules. This model explains how organizations within the same field face pressures for a change. They face pressures to conform to certain behaviours and practices. In the long run these organizations become similar to each other in their forms and processes. The theory identifies three types of mechanisms that make organizations to change their work practices and ultimately to become isomorphic to each other. These are: coercive, normative and mimetic mechanisms.

Coercive forces are the external pressures that usually stem from political influence and the problem of legitimacy. The pressures on organizations come from other organizations on which the former are dependent. These pressures may work as a force, as a persuasion or as an invitation to join the agreement. Further, these pressures can originate from legal or technical governmental or other regulatory agencies' requirements which are often conveyed through laws, regulations, and accreditation processes. Research shows that regulatory pressures are powerful coercive mechanism that might lead to proactive environmental behaviour of the companies (Rivera, 2004).

Normative mechanism is associated with professionalization, which is "the collective struggle of members of an occupation to define the conditions and methods of their work" (DiMaggio & Powell, 1983, p. 152). Because of this procedure members of certain profession establish the basis for their work and legitimation for their professional independence. Thus normative pressures come from professional standards and the influence of professional communities on organization. This mechanism explains the behaviour of organizations when it is expected they will accept the standards of professionalism and adopt systems and techniques. After the adoption of such standards the company is considered to be legitimate by relevant professional groups.

Professions can be subjected to the same institutional pressures as the organizations. Even though different professionals might differ from one another within the company, most likely they will have many similarities with their professional colleagues in other organizations. DiMaggio and Powell distinguish two reasons for professionalization. The first is the education acquired from universities or other vocational training institutions, which are important centres for the creation and development of organizational norms among professionals. The second is the development and growth of professional networks, for example, associations, which can define and promote normative rules about professional and organizational behaviour. Because of these reasons there is a group of individuals who occupy identical positions across the range of organizations and have similar characteristics which shape organizational behaviour (DiMaggio & Powell, 1983).

Social normative pressures such as ethical values and ecological thinking can help in explaining environmental management practices between organizations (Ball & Craig, 2010). Following the logic of the normative mechanism environmental norms can be conveyed through environmental certification processes as well. When an organization experiences the pressure to become part of the environmentally responsible network, it adopts environmental management standard encompassing certain norms.

Isomorphism develops not only from the coercive authority or normative pressures. It can also be induced by the *mimetic* processes. Mimetic forces are pressures to copy or emulate other organizations' activities, systems or structures. An example of powerful mimetic force that encourages imitation is uncertainty. Thus the imitation of another organization is a result of uncertainty: when organizational technologies are badly understood or goals are unclear organizational response is to copy other organizations (DiMaggio & Powell, 1983).

Organizations tend to copy the actions of similar organizations in their field to become as successful as those organizations are. Thus mimetism also occurs when enterprises follow successful competitors and seek to achieve success in analogous way (Aerts, Cormier, & Magnan, 2006).

Another reason for mimetism is a wish to enhance the legitimacy of the organization (DiMaggio & Powell, 1983). It is a similar situation to the institutional pressures for professionalization. Only in this case it is not a professional, but the organization which is expected to accept the prevalent standard. After the adoption of such standard the company is considered to be legitimate by other organizations within the same industry sector. This can also be encouraged by different stakeholders like skilled employees working at the organization or customers to demonstrate them that an organization is trying to improve its performance.

Different studies show that coercive pressures, which originate from governments are crucial factors in the diffusion of environmental management practices and that the governments are the key stakeholders in promoting voluntary environmental management practices (Kilbourne, Beckmann, & Thelen, 2002; Rivera, 2004). However, the other theories suggest that it is not only the official authorities which can impact the behaviour of the organizations. Social network or stakeholder theories imply that social relationships between organizations or individuals within the organization as well as other stakeholders increase the pressures on companies to consider their negative impacts, such as environmental or social ones.

Social network theory

Social network theory describes the social structures which are made up of social actors and the dyadic ties[16] between them (Wasserman & Faust, 1994). From the social network theory approach the social environment can be described as patterns or regularities of relationships among interacting entities. Such relationships may be of many types: political, economic, emotional or other. Thus the relations expressed by the ties among units are a fundamental component of this theory. And the unit of analysis in this approach is not an individual, but an entity comprised of a group of individuals with the

[16] It means that a linkage or a relationship is established between two entities and only these two are taken into account.

linkages between them. To analyse the social network at least one structural variable has to be collected and measured on the pair of actors in the network, and not on one or the other individual actor (Wasserman & Faust, 1994, p. 8). There is a consensus about the main principles underlying this perspective which distinguish social network analysis from the other research approaches. One of them is the use of relational concepts as mentioned already. Wasserman and Galaskiewicz (1994) list other important principles:

> "- Actors and their actions are viewed as interdependent rather than independent, autonomous units
> - Relational ties (linkages) between actors are channels for transfer or "flow" of resources (either material or nonmaterial)
> - Network models focusing on individuals view the network structural environment as providing opportunities for or constraints on individual action
> - Network models conceptualize structure (social, economic, political, and so forth) as lasting patterns of relations among actors" (Galaskiewicz & Wasserman, 1994, p. 4).

Social networks and the methods of social network analysis gain a lot of attention from the social and behavioural scientists as this approach allows to study the relationships between social entities like individuals or their groups, as well as structures and implications of these relationships (Wasserman & Faust, 1994). However, a common criticism of social network theory is that the relationship approach results in an individual agency being ignored (J. Scott, 2000).

Social network theory allows analysing the organizational outcomes as a function of the social relationships among organizations or individuals within an organization (Jones, Hesterly, & Borgatti, 1997). It was suggested by scholars as a suitable theory for sustainability research which can help in understanding the phenomena related to sustainable organizations (Connelly, Ketchen, & Slater, 2011; Sarkis et al., 2011). The main idea is that sustainable decisions in one organization may diffuse and influence the competitive behaviour of others in the network to which the first organization belongs. When a company implements a sustainable business practice it may influence other companies with which it has business relationships or other managers that have connections to the company (Gnyawali & Madhavan, 2001). Research confirms that organizations make decisions based on the information and influence which arise from the social network they belong to (Wuyts, Stremersch, Van den Bulte, & Franses, 2004).

There are several elements which are important in the network analysis:

- *embeddedness* according to which work-related transactions have a tendency to correspond with patterns of social relations (Uzzi, 1996). It means when a company is embedded in a social network, transactions with other companies may differ from what might be expected from an economic rationality as people may prefer doing business with those with whom they have links of friendship rather than find partners in an open market. An embeddedness can have negative impacts on the companies if and when they fail to develop ties with important partners inside and outside the organization.
- *social capital* which is the potential resources inherent in an individual's set of social ties (Kilduff & Tsai, 2003). It is different from money or other types of capital as it inheres in the relationships between people. Individuals do not treat their social capital in the same way they treat their money or their human capital. To use your social capital it is essential to rely on the cooperation of another individual, for example, by asking for help at work.

- *structural holes* are the gaps in the social domain across which there are no existing connections. However, these gaps can be closed by entrepreneurs who in doing so gain control over the flow of information across the gaps (Burt, 1992). Individuals or social entities, like organizations, can seek to increase their social capital by connecting two disconnected entities which is a provision of liaison, or by bridging one group to which they belong to another they join.
- *centrality* refers to the position of an individual in the social network and its ability to control information flow (Galaskiewicz & Wasserman, 1994). Usually it describes the central individual (or another type of entity) of the network. There are different ways in which an individual can be central. For instance, an individual can be central in the sense of popularity which means receiving lots of friendship nominations. This type of centrality is called an indegree centrality. Eigenvector centrality describes the central individual in the sense of having direct and indirect ties to very popular individuals. And the closeness centrality means that an individual can reach many individuals in the network either directly or indirectly as she or he has a large number of ties to other individuals (Davis & Mizruchi, 1999). Different conceptions of centrality may help in explaining different relationships among individual organizations and the effects of each of them.
- *density* is another element important for the network analysis (Kilduff & Tsai, 2003). Density measures how many ties there are in the network compared to the maximum possible number of connections that could exist among individuals. The higher is the number of possible ties, the denser is the network. To compare the density across different networks is possible only if these networks are of about the same size. This dimension can help to describe the ties in the network, to reveal the most important individuals or organizations and to disclose structural holes.

There are other important concepts related to this theory such as reachability, balance and other (Kilduff & Tsai, 2003). Understanding these concepts is crucial for a researcher who is planning to use the theory, since the fundamental difference between the network and non-network analysis of a process is the consideration of concepts and information among units in a research.

This research approach may be used to understand an individual action within the context of network relationships or to study the network and its structures directly. In both cases social network analysis operationalizes the network in terms of ties among units (Galaskiewicz & Wasserman, 1994). To fulfil this condition a researcher has to know the full picture of the network and to depict (when it is not the aim of the research) all the individuals involved, them being persons or organizations. Sometimes it might be difficult to collect the data from such an amount of respondents. This especially stands for the research which analyses the networks scattered geographically. In case of the environmental certification, it might be difficult to represent all the individuals involved in the certified network as the environmental certification for the supply chain is scattered among the countries and continents. Nevertheless, this theory is a useful approach to analyse the diffusion of environmental certification. Sustainable decisions in the organization, such as the decision to get certified, may diffuse and influence the behaviour of others in the network to which the former organization belongs.

Stakeholder theory

Stakeholder theory was originally proposed by the American academic R. E. Freeman in his widely cited book "Strategic Management: A Stakeholder Approach" in 1984. In his book Freeman demonstrates that the external environment of business has changed and particularly there is a shift in traditional relationships with external groups such as customers, suppliers, owners and employees as well as the rising importance of government, foreign competitors, environmentalists and others. This means that the new conceptual approach was needed. So he offered the new approach and called it "the stakeholder approach" by defining stakeholders in an organization as "any group or individual who can affect or is affected by the achievement of the organization's objectives" (Freeman, 1984, p. 46)[17]. Each of the stakeholder group, either it being owners, employees, customers, supplies, competitors, government or environmentalists, plays a vital role in the success of the enterprise in today's environment. It means no longer the research object should be an organization alone since its functioning is related to many different stakeholders. Furthermore, managerial decisions in practice should also be made regarding the interest of stakeholders, especially as the global markets and the supply chains have caused the expansion of the stakeholders' sphere.

The theory states that business has to create an added value to all of the stakeholders, be it shareholders, employees, customers, etc. Each one of these groups is important to success of a business. Besides, all these groups together: shareholders, employees, suppliers, customers, financiers, government, and local community can create something that none of them can create alone.

Freeman explains that "stakeholder" connotes "legitimacy" which means that certain groups can legitimately have demands on the company and they are able to affect the direction of it. In practice this means that if the manager wants his/her work to be effective, he or she must take stakeholders into account (Freeman, 1984, p. 45). However, it is not the external stakeholders only who are in the forefront of this theory. There are also the internal stakeholders who should be taken into account. Internal groups may also appear legitimately and influential to a particular manager and sometimes much more than the external groups.

In fact, there are other classifications of "stakeholder" made by scholars. Mitchell et al. (1997) generated a typology of stakeholders. Using a broad literature review a different definition of "stakeholder" was suggested. They sorted the criteria according to which the definition was proposed and offered three relationship attributes: power, legitimacy, and urgency. Power and legitimacy interact, and when combined with urgency, they create different types of stakeholders who have different patterns of behaviour regarding the company. Power plays an important role in the attention managers give to stakeholders. In a relationship one party can have power over another if the former has or can get the access to coercive, utilitarian, or normative means and impose its will using those means. Important is to mention, however, that the power is not a stable attribute and the possession of power can alter – it can be acquired as well as lost. But still, power alone does not help to fully understand the manager-stakeholder relationship. There always remain stakeholders who do not have power to impact an organization, but who still matter to managers and

17 For a range of "stakeholder" definitions as they have developed chronologically look at p. 858 at Mitchell, Agle, and Wood (1997)

companies. It means "legitimate" stakeholders are the ones who "really count". Legitimacy helps to identify stakeholders who deserve managerial attention. However, addressing legitimacy only and ignoring power means leaving the gaps in stakeholder identification map, because some of legitimate stakeholders might have no influence over the company. The attribute called "urgency" shows "the degree to which stakeholder claims call for immediate attention" (Mitchell et al., 1997, p. 864).

The idea of paying attention to the various stakeholder relationships in a timely manner was proposed by Wartick and Mahon (1994): the speed with which an issue can become relevant to a company is also an important attribute in a relationship. It is not sufficient to identify a stakeholder's claim or relationship as urgent. The stakeholder must view his claim on the company or his relationship with the company as highly important. For instance, the ownership makes the relationship important – if a stakeholder possesses firm-specific assets and they cannot be used in any different way without loss of value; expectation is another example of important relationship which means that a stakeholder expects the company to continue providing him with something of great value.

Many different categorizations of stakeholder exist and this leads to a broader use and development of this theory. Despite that, the main assumption stays: internal and external groups can influence organizational practices. What is interesting is that the network analysis examined in Chapter 0 has a potential for the stakeholder research. Stakeholder theorists can use the network analysis to study the central elements in the stakeholder relations. Network researchers conceptualize an organization's environment as a set of social individuals (persons or organizations). Meanwhile, the stakeholder theorists also view an organization in terms of its relationships with a set of individuals in its environment. The difference is that stakeholder scholars do not consider stakeholder influences beyond the dyadic ties, which means that a linkage or a relationship is established between two entities and only these two are taken into account. Therefore, the network analysis provides the means for exploration on how the pattern of relationships in a stakeholder environment influences organization's behaviour. "Instead of analysing individual behaviours, attitudes, and beliefs, social network analysis focuses its attention on social entities or actors in interaction with one another and on how these interactions constitute a framework or structure that can be studied and analysed in its own right" (Galaskiewicz & Wasserman, 1994, p. xii).

Rowley (1997) used the network analysis as a theoretical contribution and a methodological tool for advancing the stakeholder theory. He offered a model where the constructs from the social network theory, namely density and centrality, were incorporated. This model goes beyond the traditional analysis of dyadic ties, where a relationship between two entities only is analysed. It considers structural influences and the impact of those stakeholders who do not have direct connections with the company but who still affect the behaviour of the company. This mechanism helps in describing the influence of multiple stakeholders and for predicting the behaviour of the companies.

To sum up, this theory suggests that companies can be affected by different stakeholders. These can have specific demands on the company and increase the pressure, for instance, regarding environmental performance of the focal company. Especially the green groups, like NGOs, or environmentally conscious customers may require the companies to prove their environmental awareness and become certified against the environmental standards.

1.2.2 The effect of environmental certification: expectations and satisfaction of different governance mechanisms

At the domestic level, private companies operate from the combination of motives and may often favour the rules of transnational voluntary environmental standards for obtaining various advantages. The previous overview of the theoretical perspectives offers different outlooks for analysing those motives. Adoption decisions, however, are fundamental in assessing the effects that environmental voluntary standards have (Auld & Gulbrandsen, 2010). The knowledge about the adoption motives empowers us to examine whether the companies achieved what they have expected. It is important to know as the satisfaction with the certification can be the driving force for a diffusion of voluntary environmental instruments.

There are different views as to how to assess the certification. Theoretically, certification can be analysed as a complex of institutional policies with specified rules and practices aimed to govern and transform the activities of the organizations. In other words, certification specify "how to direct, control, and hold to account organizations that claim to perform sustainable production" (Overdevest & Rickenbach, 2006, p. 94). The perspectives differ, however, in the way they explain how the certification functions and what benefits it provides. Overdevest and Rickenbach (2006) distinguished three different views which are the most common in the scientific literature. They analysed forest certification as a new policy mechanism for environmental governance. Certification was characterized and thus can operate as one (or more) of the three governance mechanisms:

> "1. a market-based mechanism to internalize environmental externalities through prices
>
> 2. an assurance or signal of hard-to-observe or predict organizational characteristics and practices, and
>
> 3. a learning and technology transfer mechanism." (Overdevest & Rickenbach, 2006, p. 94).

The most common view of certification in the literature is as a market-based instrument for better management, it be either forest management or management in any other sector (see e.g., (Ebeling & Yasue, 2009; Gullison, 2003; Karna, 2003; Lyngbæk, Muschler, & Sinclair, 2001). This view suggests that companies join certification and labelling schemes to get market benefits, such as greater access to the niche markets, price premiums for certified products, increased customer demand. These benefits motivate and encourage companies to produce their production in a sustainable way and this goes through the whole chain of custody. Despite the main idea of this perspective, recent research demonstrates that companies have not received direct financial benefits after the certification (Goyert, Sagarin, & Annala, 2010; Morris & Dunne, 2004; Owari, Juslin, Rummukainen, & Yoshimura, 2006). Moreover, research shows that most consumers are not willing to pay price premiums for certified products (Aguilar & Cai, 2010; Roheim, Sudhakaran, & Durham, 2012). In the given context, Overdevest and Rickenbach (2006) raised a question about the extent of market-based incentives for certified products. Since this perspective is dominant in discussions about environmental certification and there is a lack of evidence of market benefits for certified production, what else can explain the diffusion of environmental certification?

Back in 1970's, the economists distinguished different ways of acquiring information of the product one is willing to buy – by a search or by an experience (Nelson, 1970). The search is when the consumer can examine characteristics of the product before purchasing it; it can be, for instance, size, shape, colour or price of the product. The experience means that the consumer can evaluate some characteristics of the product only after buying it, for instance, taste. For any item, the consumer has a choice between searching and experimenting to obtain the information about the qualities of the item. However, there are some other attributes of the product that consumers cannot evaluate even in use. So the third class of properties apart from the search and experience attributes was distinguished. It was called the credence attributes (Darby & Karni, 1973). These attributes of a product cannot be searched or experienced although are claimed by the producer. Credence attributes for the products can be the environmental impact of production methods or labour conditions along the supply chain. This type of attributes is asserted through the certification and ecolabels. Thus, another way in which certification has been seen is as a signalling mechanism (Rametsteiner, 2002; Vertinsky & Zhou, 2000). This alternative view to the market-based mechanism suggests that certification can be employed to inform the stakeholders, such as clients or environmental groups, about company's sustainable practices. Certification signals that the company operates according to the set rules of the standard and is verified by the third party. Consequently, the company receives non-market benefits, such as an improved image or advertising opportunities using certification logotype.

The third alternative suggests that certification operates as a learning mechanism. There are two views, however. One of them explains that certification is a tool to transfer technology. For example, knowledge, practices and skills can be communicated from ecologists to practicing foresters (Yamasaki, Kneeshaw, Munson, & Dorion, 2002). The same can be said about the auditors who verify the company's practices regarding the rules of environmental standard. The auditors are usually the experts, trained to evaluate the particular processes and characteristics of the company. The other view explains certification in the light of environmental management systems. Adopted EMS may increase consciousness and knowledge about the environment among the managers who are stimulated to think about it as a concern that must be addressed in the same manner as other business issues, such as cost or quality. Adopted EMS requires to identify the important environmental aspects of the company's activities. Then it requires to implement environmental documentation, to monitor and improve the performance. These conditions help to learn about the environmental impacts, where they occur and to what extent (Coglianese & Nash, 2001). Finally, the potential of EMSs is to change company's culture, where the new norms can become institutionalized (Gunningham & Rees, 1997). Still, some authors argue that managerial attitude, or in other words "commitments", is the key in shaping environmental performance (Gunningham, Kagan, & Thornton, 2003). Hence, the implementation of EMSs and adoption of new practices still depends on company's commitments, i.e. the fact of the EMS adoption does not itself provide companies with the motivation to perform in the sustainable manner. Nevertheless, it is possible that environmental certification schemes can operate as a learning mechanism for some companies.

The idea of these three governance mechanisms is applied to this research on different type of environmental certification. Enterprises may benefit from the certification in many different ways, which means certification may operate as different mechanisms. To sum up, environmental certification may operate as the following:

- *A market-based mechanism* which provides a market advantage to the certificate holders. From this perspective enterprises will join the schemes to gain price premiums, greater access to the niche markets, product distinction or other market benefits. These benefits provide enterprises with the incentives to produce more costly but environmentally friendly products;
- *A learning mechanism* which helps to transfer knowledge to the enterprise. Operating in this way the certification enables enterprises to learn about firm-specific environmental impacts. Product or process certification requires the companies to make explicit the full production process. In this way the company is forced to learn all about the impacts the production of their products or services they provide have on the environment.
- And *a signalling mechanism* which helps to inform others about the firm's practice. Certification signals to external parties such as business partners, buyers, environmental groups and others that the enterprise meets higher environmental standards than others in the same sector. This mechanism helps to diminish an information asymmetry between the seller and the buyer: when the buyer wants to get the least environmentally hostile product he or she is unable to identify the environmental friendliness of the production method by the look, taste, or smell of the product. So the sellers who sell environmentally friendly goods can assure consumers about the invisible attributes of their products by providing the ecolabel. In this way the buyer has a possibility to include sustainability considerations in a buying decision. Hence, this mechanism has another function – it helps to create the demand for sustainable products and makes the producers to work in a more sustainable direction. Ultimately, the ecolabelling helps to support sustainable forestry, fisheries, food production and other.

1.3 Conclusions

The history of the global and the EU environmental policy demonstrates the growing attention towards the innovative instruments, new actors and new forms of governing. Consequently, the understanding of the concept *environmental governance,* which is a narrower form of the broad concept of *governance,* has changed. Environmental governance has supplemented with new elements, such as new and innovative institutional arrangements, active involvement of non-state actors and awareness to broader context in which environmental governance functions. New forms of governing emerged as well with a distinct proliferation of self-regulation by private sector. The growing attention from non-governmental actors to the global environmental problems, such as climate change, deforestation or decreasing fish stocks led to the rapid development of transnational non-governmental environmental standards and certification schemes. This phenomenon raised many question to the researchers, one of them being "Why companies choose to self-regulate and engage in such schemes and what effect do they have on them?"

The analysis of the adoption motives and the compliance factors with the rules of private environmental voluntary standards is a challenge for researchers. There is a great source of theoretical perspectives allowing to explore the raised questions. This work is based on the well-established theoretical perspective in social science – the organization theory. Four organizational theories, which provide the means to analyse the activities by individuals and organizations that govern themselves, were considered.

First, information theory was discussed. It deals with the situation when the transaction decision has to be made and where one party has more or better information than the other. This unequal possession of information means that one party can make better decision than the other. To close the informational gap the party having more information can send the signal to the other party. This theory may be useful in explaining the motives of the companies to become certified. When a company is environmentally committed, it can send the signal by using environmental certification to inform their stakeholders about its environmental awareness.

Institutional model of isomorphic change is also proposed here as a suitable theoretical perspective to analyse certification. It explains how different pressures influence changes of organizations within the same field. The theory allows explaining the pressures that make companies become certified. This might be coercive pressures from various stakeholders, including the government; normative pressures from the customers or emerging industry trends; and mimetic pressures encouraged by uncertainty or the aspiration to follow successful competitors. Finally, to copy the practices of other organizations to enhance their own legitimacy is also an explanation as to why the companies get certified.

Another useful theoretical approach to make general working assumptions about the certification is social network theory. It considers social relationships among the organizations or individuals within the organizations. These relationships influence the behaviour of organizations and their managerial practices as well. Sustainable decisions, such as the decision to get certified in one organization may diffuse and influence the behaviour of others in the network to which the former organization belongs.

Stakeholder theory was the last organizational theory suggested here. It states that companies can be affected by different parties, called stakeholders, which can be internal or external to the company. Different groups of stakeholders can have demands on the company and thus increase the pressure on it. Often they are able to affect the managerial practices of the focal company. Stakeholders can make specific demands and influences over the companies regarding their environmental performance. Especially green groups, like NGOs, or environmentally conscious customers may require the companies to prove their environmental awareness and become certified against the environmental standards.

Although these perspectives can be used to examine different phenomena, still, they are compatible in terms of their ontological and epistemological assumptions. And since "no single theoretical perspective will enable us to explain everything about organizational interaction" (Cook, 1977, p. 77), it is valuable to consider the usefulness of each theory and to integrate different perspectives into a comprehensive framework. For instance, an interesting combination may occur when simultaneously applying information theory and stakeholder theory. Information theory indicates that in case of environmental certification managers will attempt to reduce the informational gap. Thinking from this perspective, researchers may tend to miss the real reason for such an attempt. Stakeholder theory,

however, indicates that the informational gap may be required to be reduced by different stakeholders and not by the managers themselves. Thus another reason for environmental certification is the requirement from the stakeholders. These two theories applied together may explain more precisely the reasons for the decision to adopt environmental standards.

On the other hand, the stakeholder theory highlights the pressure coming from different parties with specific demands regarding environmental performance of the company. Social network theory analyses relationships within and between the organizations. Such relationships can be the reason for the pressure, but they can also provide the added value to the company. For instance, a manager may have a tie to the other manager in other company which is environmentally aware and so the former may learn about green initiatives and implement them in his own company. To combine multiple theoretical perspectives in one research, therefore, can be a great opportunity which would uncover fertile and complex way of explaining organizational practices with respect to environmental certification.

Although the adoption decisions are fundamental to assessing effects (Auld & Gulbrandsen, 2010), important is also the opposite. The reasons for the decision to certify can be explained by the effect certification brings to the companies. Different mechanisms can be assigned to voluntary environmental standards depending on what companies obtain from them. Thus, environmental certification may operate as three mechanisms: market-based, learning and signalling mechanism. To find out about the effect the certification conveys to the company the knowledge about expectations and satisfaction of the company has to be gained.

2. METHODOLOGY OF EMPIRICAL RESEARCH

The focus of this research is the adoption of voluntary environmental standards and their effects. Thus, the aim is to improve the understanding of the adoption and compliance determinants as well as the effects that the standards have. It means that the objective of this research is to *explain the context* and to *reveal the conditions* where the phenomenon takes place. Therefore, the objective is *exploratory*. It helps to explain *why* and to identify *how* voluntary environmental instruments are adopted and used and what effects they have. Exploratory research exactly answers the questions *how* and *why.* It also obliges the researcher to choose certain approach in building the analytical framework and a type of methods used to gather and analyse the data (Shields, 1998). The author believes that one of the main keys to the successful research is to develop and use the research design that is suited most to achieve the objectives.

The *quantitative research approach* will be employed to explain empirically the context of the social phenomena. This research approach allows collecting the quantitative data, which later will be analysed by statistical methods. To prepare a reliable questionnaire for the data collection and to deepen the understanding of the results, additionally the *qualitative research approach* will be used and semi-structured interviews will be implemented. Thus, the qualitative data will be collected first with the intent to explore the topic with the participants and to decide on the appropriate questions for the questionnaire. In the second phase in which the data will be collected from a large number of representatives the quantitative method will be used and the questionnaire employed. Later, subject to the need, additional interviews will be made to deepen the understanding of the quantitative research results.

Quantitative research is good at providing extensive information from a large number of units. It is also suitable for testing of theories and hypotheses. However, measures must be reliable in order to claim the validity of the findings. What quantitative methods cannot do well is to develop hypotheses or theories. The hypotheses may come from the literature review or theory; they can also be developed by using a qualitative research (Muijs, 2011).

There are some key differences between qualitative and quantitative research designs. While quantitative methods are best for examining the causality (the cause and the effect of a phenomenon), qualitative methods are better for analysing the meaning of particular events or circumstances. The qualitative method investigates *why* and *how* a decision is made and not just only *what*, *where* or *when*. The logic of qualitative research design is often inductive. It seeks to understand individuals, groups or organizations, to realize the particular situations, experiences, and meanings before developing or testing theories. The process of qualitative research can be non-linear and non-sequential. In the beginning of the research when the first findings emerge, the following data collection and analysis procedures can be modified to gather more specific information or investigate unexpected areas of interest (Frankel & Devers, 2000).

Therefore*, the mixed-methods research approach* will be used for the empirical research. It is a flexible approach (Muijs, 2011). This research design was decided by what needs to be find out instead of any predetermined epistemological perspective. In this research, quantitative components will be predominated and the qualitative information will only supplement the results.

The material and target group

Three transnational environmental non-governmental certification schemes for the forestry and logging (FSC), fishing and aquaculture (MSC), and production of textiles (OEKO-TEX) were chosen for the analysis. Scholars name these organizations as "private regulatory institutions" (Pattberg, 2005) or "private self-regulation" (Haufler, 2002). All of them being transnational, non-governmental, very popular globally, and operating in the similar manner allows making more generalized conclusions. Apparently, they are the most popular private standards for the production certification in Lithuania.

- The Forest Stewardship Council (FSC) is a non-governmental and non-profit organization established to promote the responsible management of forests. Discussions between traders and timber users as well as representatives of environmental and human rights organizations started in California in 1990. The idea was to create the mechanism that could credibly identify well-managed forests and allow buyers to get responsibly produced wood products. Later, when the famous UN Conference on Environment and Development (the Earth Summit) in Rio de Janeiro produced no legally binding commitments on the forest management, non-governmental organizations still had a chance to discuss the innovative idea of a non-governmental, independent and international forest certification scheme. Consequently, the FSC was established in 1993 by a general assembly of interested parties in Toronto with 126 participants from 26 countries, including retailers, trade unions, environmental NGOs, and indigenous groups. A year later, the members of FSC agreed upon the basis of FSC's work – the "FSC Standards and Principles" which defined and specified what the sustainable forestry is (FSC, 2000). The idea of the FSC is to certify forest-management operations and the whole supply chain according to the detailed standard. The FSC has three different types of standards and issues three types of certificates: (1) *Forest-management* standards that are the basis for national and regional standards development. Certification is issued to forests owners whose management practices meet the requirements of the standard; (2) *Chain of Custody (CoC)* standards that prescribe detailed rules which apply to manufacturers, processors and traders of FSC certified forest products along the production chain; (3) *Controlled wood* standards which indicate the material that can be mixed with certified material during the manufacturing of the FSC mix products. *Forest-management* standards differ – they are adapted to the area. The audit of this standard consists of the initial evaluation to test all 10 principles; afterwards, over the next five years only certain criteria are evaluated under the method of selection, but all 10 principles are once more evaluated during all these five years. *Chain of Custody (CoC)* standard is the same all over the world – certification is carried out subject to the same requirements. Certification, which is valid for five years, and annual surveillance audits to verify the continued compliance with the FSC certification requirements are conducted by independent FSC accredited certification organizations.
- The Marine Stewardship Council (MSC) is an international non-governmental and non-profit organization established to promote responsible fishing. The MSC was founded in 1997 by the World Wide Fund for Nature (WWF) and Unilever (a multinational company and one of the world's largest buyers of fish, supplying about 25 % of the frozen fish in Europe and the United States) (WWF, 2013; Greener, 2013). It

became fully independent in 1999, when the Unilever and the WWF withdrew from all management. The organization holds certification and ecolabelling program for sustainable seafood which functions in a similar manner to the FSC program. Two types of certificates can be issued: (1) *environmental* standard for sustainable fishing that prescribes rules which a fishery must meet to become certified. This type of certificate is valid for 5 years. During this period the performance of the fishery will be reviewed at least once a year to check whether it continues to meet the MSC standard; (2) *Chain of Custody (CoC)* standard for seafood traceability. It makes sure that the MSC label is only displayed on seafood from the MSC certified sustainable fishery (that meets the MSC environmental standard for sustainable fishing); MSC *CoC* certificate is valid for three years and during this period it has to be revisited to verify it continues to meet the requirements. Certification is conducted by independent MSC accredited certification organizations (MSC, 2013).

- International Oeko-Tex Association is a union of 16 renowned institutes for textile research and testing in Europe and Japan, with representations and contact offices in over 60 countries worldwide. Two types of certificates can be issued: (1) OEKO-TEX Standard 100 is an independent test and certification system for textile raw materials, intermediate and end products at all stages of manufacture; (2) OEKO-TEX Standard 1000 is a testing, auditing and certification system for environmentally friendly operations along the textile chain (i.e. ecoaudit or EMS, see Chapter 2.1.1). OEKO-TEX Standard 100 was introduced by the Hohenstein Institute and the Institute for Ecology, Technology and Innovation ÖTI in Vienna in 1992. Now the global standard is issued by the International Association for Research and Testing in the Field of Textile Ecology. The aim of the standard is to submit textile products to laboratory testing for harmful substances. If all components of the product comply with the required criteria, which means it remains below the set limit values for certain harmful substances for the environment and health, the product can be labelled with 'Confidence in Textiles'. The OEKO-TEX certificate is issued by the appointed OEKO-TEX institute or their global representative offices and is valid for one year (Oeko-Tex, 2013).

Companies holding a certificate from one of the above reviewed organizations have to pay the annual fee for the use of the label on their products. All of the above listed organizations have the specified governance structure and they claim being independent and transparent, allowing stakeholder participation. Organizations also claim that they base the criteria of their standards according to the latest scientific findings (www.fsc.org; www.msc.org, www.oeko-tex.com).

The *target group* of this research is the companies holding a certificate from one of the three given organizations. Additionally, representatives from non-governmental organizations, independent auditors as well as several government representatives were involved in the research. Interviews were conducted with them to find out how certification functions in reality, what are the experiences and the opinion of the stakeholders.

Data collection

The chosen method for the empirical research – *the mixed-methods research approach* – identifies the means of data collection. *Initial data collection* was made through

1 to 3 hour-length semi-structured interviews with different stakeholders during June – September 2012:

- 1 representative from environmental non-governmental organization;
- 3 independent auditors of the FSC standards from three different certification bodies (there are only 3 organizations that are accredited to certify against the FSC standards in Lithuania);
- 1 independent auditor of the MSC standards (there is only one organization that is accredited to certify against the MSC standards in Lithuania);
- 1 independent auditor of OEKO-TEX standard (there is only one representative office of OEKO-TEX institute in Lithuania and one auditor working within);
- 4 representatives from public institutions: representative from the Ministry of Environment; representative from the Directorate General of State Forests; two representatives from the State Forest Enterprise.

As regards the type of the stakeholder, questions covered different topics:

- the history of certification against the FSC, MSC and OEKO-TEX standards: when, why and how private certification started in Lithuania; what was the role of the NGOs;
- certification process: how the rules of the standard are implemented; how certification is carried out; how the independence and transparency of the audits are ensured; the reasons for certification according to different stakeholders;
- the knowledge and the opinion of the officials from the public institutions about private certification processes, the role of the government.

Theoretical framework of this research allowed to better organize the collection of quantitative data. The theoretical assumptions as well as the results from the initial empirical data, obtained during the interviews, were used to create the appropriate and reliable questionnaire. Analysis of documents and other related materials was also employed.

Thus, *the main data collection* was made through the multi-wave e-mail survey of the certified companies. The survey was conducted from July to October 2012. The questionnaire collected 64 variables from each respondent, including information about the certificate holder, standard adoption motives, compliance facilitation, as well as the effect for the company. Respondents from all the certified companies in Lithuania, responsible for the implementation of the standard, were asked to fill in the questionnaire which allowed to rate how important the given elements were, for instance, in their decision to become certified. Possible answers ranged from 'extremely important' to 'not at all important' by a series of 5-point Likert scale. The questionnaire is developed to examine the company's experience with the transnational environmental standards and consists of two parts:

i. Explanatory variables: general information about the company. The first group of questions is related to the activities of the company: time it exists; number of employees; economic activity it exercises; time it holds a certificate; amount of certified production it uses per year; amount of the certified production that is exported.
ii. Dependent variables: the company's experience. The second group of questions is related to the certification process in the company. Respondents rated the given elements about: their decision to certify; important factors after the decision was made;

compliance factors after the certification; changes within the company after the certification process.

The questionnaire helps to depict the picture of a typical Lithuanian company which is certified against the private environmental standard, the motives and the process of certification. After the quantitative data was collected the results of the questionnaire was reinforced with a qualitative data gained from further semi-structured interviews with the representatives from the companies. Interviews helped to explain and deepen the understanding of the results. Three interviews with representatives were conducted during September 2013: 2 representatives from the companies holding the FSC certificate; 1 from the company holding the MSC certificate.

Data analysis

Inductive reasoning will be employed to analyse the data retrieved during the interviews. Inductive reasoning allows to construct hypothesis since any conclusions made are based on current knowledge and predictions. Interviews helped to discover some regularities, such as the reasons for the standard adoption or the effects the companies experience, which later could be verified during the survey. Identification and categorization of elements and exploration of their connections can be done by employing this reasoning (Miles & Huberman, 1994, p. 7). Qualitative research methods provide reliable information only on the cases that have been studied. Generalized conclusions made from the qualitative research are often mere suggestions than anything else. However, a quantitative method is a good way to seek empirical support for such suggestions.

The statistical analysis will be carried out to analyse the data obtained through the questionnaire. The SPSS software will be employed. Descriptive statistics will be used to describe the data characteristics. It helps to reveal the picture of a typical Lithuanian company which is certified against the private environmental standard. Further, it provides the analysis of the adoption motives as well as the compliance factors with the standard rules. Later, analysis of variance (ANOVA) will be employed to disclose the differences between group means. It makes available to statistically test whether the means of several groups are equal or not. ANOVA will also be used to compare expectations and satisfactions of certificate holders. Therefore, an investigation of what was expected from the certification and whether the expectations were justified will be made. Importance-performance graph (IPA) (Martilla & James, 1977) will be employed as a visual mapping technique to illustrate the results. It helps to visualise and explain how the certification functions.

3. RESEARCH RESULTS AND DISCUSSION

3.1 Results of the initial qualitative data[18]

To trace the history of voluntary environmental standards coming to Lithuania is not that difficult, since it is quite new. As the information from the databases of standards organisations and the first interviews has revealed, currently most companies that are certified against the transnational voluntary environmental standards hold FSC, MSC or OEKO-TEX *Chain of Custody* standard. Almost half of Lithuanian forests are certified against FSC *Forest-management* standard and practically of all them are state-owned forests, with the exception of one private; while not one fishing farm in Lithuania is certified against MSC *environmental* standard. As has been mentioned in the methodology part (see Chapter 3), OEKO-TEX basically functions as the *Chain of Custody* standard, however, even this standard has been used by the companies to certify the end product rather than raw material. To find out how the certification is made and how it is valued by different stakeholders, initial data collection was made through the 1 to 3 hour-length semi-structured interviews with different stakeholders. Further, the empirical data is presented in the form of a narrative.

3.1.1 The beginning of the certification in Lithuania

The first respondent, who agreed to participate in the research, was the representative of one of the oldest and largest NGOs. During the interview he provided extensive information about the coming of FSC *Forest-management* standard applicable for forestry certification, to Lithuania. The respondent emphasized that their organization considered FSC not strictly an environmental standard, but rather a compromise among environmental, economic and social aspects. He added, however, that this forest standard is perhaps the best of all currently existing standards in the world.

The representatives of two state forest enterprises were the first to bring the idea of certification to Lithuania after hearing it abroad. They started looking for those who could provide information on the standard, assist with its implementation and subsequent certification of forests belonging to their state forest enterprise. Another respondent – a representative from the Ministry of Environment – also told the following beginning of the standard coming to Lithuania.

At that time there were no accredited certification bodies in Lithuania, thus the first audits were carried out by Polish auditors. Later the certification of the state forest areas had spread to all state forest enterprises; however, it was basically determined by the order of the Directorate General of State Forests and not by voluntary decision of enterprises.[19] One respondent from a state authority confirmed it, claiming that the certification in state forests in principle was not voluntary:

> "This was an extra, imposed and, in their understanding, useless work. At that time nobody accepted the fact that they would not be able to sell wood in the market as an argument".

[18] The material of this Chapter was used in a paper: Misiune, I. (2014) Self-regulation through environmental certification: effects that go beyond rule implementation and compliance. Journal of Environmental Studies and Sciences. Submitted.

[19] All state forest enterprises are subordinate to the Directorate General of State Forests.

With the state forest enterprises being one of the largest wood suppliers in Lithuania, at one time the certified wood supply became huge, but the demand was low and that meant no price premium could be expected for the certified wood – the same price was asked for the certified and uncertified wood. As the NGO representative argued, this was the main reason for the certification not becoming widespread among the owners of private forests:

> "If a forest owner does not get any additional income, then his interest to become certified is quite low".

For SFEs the certification has become a matter of prestige; moreover, they are sufficiently large economic entities and certification costs for them are relatively low. Meanwhile, the cost is high for the owners of private forests: first, they have to implement the standard rules; then comes the certification costs and the annual fee for the use of the logo. This is especially relevant in the light of the fact that Lithuanian private forests are very small and logged not every year. Thus the price per cubic meter of logged wood is very high, compared to certification of national forests. It is clear that the certification of private forests is not financially beneficial due to their size and intensity of use.

Still, the price of the certified and uncertified wood is the same in the market, so, according to one respondent from the audit company, the owners of private forests could certify their forests only due to the market demand. Wood is bought at auction and, for example, a situation may occur where a large wood processing company needs to buy certified wood, but there is not enough. Then, as a result of such demand, the owners of private forests could also become certified; otherwise nobody would buy their uncertified wood in the market. It is a common case in Lithuania, when the companies buy forest areas and keep them for the time there is not enough wood in the market. Then they log their own forests for their needs. In such an event the need to certify the owned forests may also occur, but only if such company manufactures its production from the certified wood.

Notably, FSC offers a way for small farms to reduce certification costs, i.e. group certification. Lithuania also attempted to implement it, however, it has not succeeded in full. The NGO represented by the respondent had an active part in this process – it played the typical role of NGO and observed the whole process, commented on it and carried out projects, which provided information to the stakeholders about the certification, its course and benefits. This included informative seminars for enterprises and forest owners, attended by the accredited certification companies. As a result of the projects, information leaflets in Lithuanian were issued, since language barrier is particularly relevant outside larger cities in Lithuania. That is why the interest in certification was very low prior to presentation of the information in Lithuanian.

A person, who now works as an auditor, became the manager of the forest group certification. He told in the interview that 8 private forest areas were certified: the forests owned by two companies and 6 more private forest areas. One of the two companies organised the group certification. It was a large and well-known company, caring for the environment and its image. According to the respondent, the company decided to become certified due to the "marketing" and asked others to join. It proposed to cover all certification costs – both financial and human resources, although the agreement specified the conditions upon which the group manager could remove the members from the group. The agreement was signed with 7 more owners. Even though the certificate was valid for

5 years, only two annual audits were carried out, thus the certificate was valid only for 2 years. As the respondent said, then the crisis had started (i.e. the financial crisis) and around 2007 the group certification was terminated – all members were removed from the group. The company then repeated the third and subsequent audits only for itself. When asked why the main company decided not to certify other companies, the respondent answered it was a foreign-capital company and it could not condone illegal activities in some forests – illegal logging, thefts. Therefore, several years after the group dispersed but the forest owners did not want to pay for audits and continue the certification due to a simple reason – the certification did not bring in any financial benefits for the owners of private owners. Out of the entire group, only one company owning large forest area remained certified.

Presently, the main issue within FSC forest certification is different *Forest-management* standards valid in Lithuania. While the basic ten principles and criteria in the standard are global, the indicators are national and have to be adapted for each country. According to the FSC rules, to approve a national FSC *Forest-management* standard, a country must set up a national working group, where the environmentalists – NGOs, business representatives – forest owners, and social group – trade unions have equal voting rights. They agree on a single standard, approve it and such standard alone is valid in a country. In Lithuania, the group was not formed, thus currently several different standards – the standards of certifying organisations, called temporary – are applied. All interviewed respondents agreed on the main reason as to the absence of the national standard – a small market and the lack of time of the stakeholders, because preparation and agreement on the national standard is time-consuming. As an example, the NGO representative gives Latvia, where the agreement on a national standard has been attempted for already 9 years. In contrast, the temporary standards are prepared by the certification bodies, which publish them and then wait for comments. According to one respondent, this problem has led to the "race to the bottom" – three different accredited certification bodies operating in Lithuania have three different standards and now they compete with the strictness of these standards in the market.

Despite the said problem, this forest certification has brought to Lithuania positive changes in the field of forest management. According to the NGO representative, based on the data of the Tax Inspectorate, illegal work in Lithuanian forests is the second after the construction sector. It is, however, practically impossible for the inspectors to determine work and safety violations in forestry. Meanwhile, the FSC has had a huge impact because the standard requirements also include the requirements on work safety. Contractors – private loggers are hired for logging in state-owned forests. There was a great concern among the latter after hearing about certification of the forests owned by the state forest enterprises, since the state forest enterprises are the biggest customers of forest operations. Therefore, when looking for contractors after forest certification, only small part of companies complied with the requirements of safety at work and others according to the FSC standard. At that time (about 2000) these requirements seemed drastic and very expensive, but in a few years the companies were able to implement them, e.g. helmets, special clothing, special gloves for all employees were purchased, biodegradable oil, vehicles specially designed for forestry were used. Of course, this was a long-term investment and by now it has become a norm among these companies.

So basically the FSC standard has dramatically changed the work safety and culture in Lithuanian forests. The interviewee says the important reason for the change is also the fact that this is a matter of prestige for the state forest enterprises and if an enterprise would lose FSC certificate due to, say, disregard for work safety requirements, it would be negatively proclaimed in the entire country:

> "If the state forest enterprise would lose the certificate due to work safety, it would be a huge reprimand or the head of the enterprise would be sacked. Because that would mean that the state authority fails to comply with the work safety at its own forest".

Meanwhile, the adoption of the FSC *Chain of Custody* (*CoC*) standard in wood processing companies has spread along with the expansion of forest certification. Here the greatest role was played by the NGO represented by the respondent – it organised several successful seminars, after which, according to them, the number of certified companies in Lithuania has doubled in half year. According to their estimate, currently over 60% wood processing companies in Lithuania are certified. The first to get certified were several large companies, which led to a snowball effect – their suppliers had to become certified as well. The representative of the organisation claims they encourage companies to become certified against FSC *CoC* standard, because it basically means that the state-owned forests covering an area of almost half of all Lithuanian forests will also need to get recertified.

3.1.2 Certification process of the three certification schemes selected for the research

The information about the very certification process and the experience in certification of different companies has been obtained during the interviews with auditors. There are three different certification bodies for FSC certification in Lithuania, i.e. companies that are accredited to certify against FSC standards, and two organisations, each accredited for the certification against one standard: MSC and OEKO-TEX respectively. The interviews were conducted with five auditors – one from each of the organisations.

FSC FM and CoC certification

Most information on FSC certification was provided by an auditor with 10-year experience in auditing both in Lithuania and international market (Latvia, Russia, etc.). The interviews with him and other auditors covered the problem of different FSC standards, the reasons for certification and changes in forestry and companies after certification as well as ensuring certification impartiality.

The certification against this standard is performed in farms and companies as follows: a company or a farm makes a decision to become certified; then it carries out a survey of certification bodies regarding audit rates. Usually, it takes the standard requirements from colleagues or consultants and then implements them. The consultants are not the official FSC representatives – they are just experts familiar with the standard requirements and helping with their implementation for a fee. Thus, in principle, the forest owners or a company arrange everything in compliance with the standard rules and then the audit is carried out; a report is sent to the central office of certification bodies, since the decision to issue a certificate is usually taken by central offices. Then either a positive decision is taken and a certificate is issued, or non-compliances are listed and companies or farms are given 3 to 6 months for their corrections. If corrections are needed, a company or a farm must

pay again for the repeated audit. The certificate is valid for 5 years and audit is performed on an annual basis.

The first respondent has revealed that the problem mentioned by the NGO representative regarding different applicable standards will be mainly solved by the FSC organisation. Currently the new FSC principles and criteria are being adopted. Further, different working groups with different specialists from different fields and countries are set up. Within 1.5 year (from June 2012) they will approve international generic indicators. These indicators will replace all temporary standards applicable in different countries. It should be noted that different auditors gave different opinions as regards this process. While some were happy the working conditions will be equalled, the others argued that the preparation of standards should remain as it is. The motive is simple – this is better for businesses, they may choose and they may even find a less demanding standard. Such situation, obviously, is bad in the environmental sense, but some auditors consider this whole process purely a business and marketing trick.

With regard to the problem of existence of several standards, it is worth mentioning that the main and only buyers of the forestry certification services in Lithuania are the state forest enterprises, which must apply the Law on Public Procurement and usually a procurement contract is awarded to the certification body, which proposes to carry out the work at the lowest price. This has resulted in an established trend for some time, where due to the lowest price the same certification body is awarded the contract in several state forest enterprises. As one auditor says, he believes that the standard prepared by namely this company is the weakest in all senses. Another auditor described this situation as follows:

> „When the state enterprises announced the procurement, they looked for the auditors, with whom they had the lowest number of non-compliances and they chose them. Since the certification is "lowered from above", forced on the state enterprises, they do not want to hassle, so they look for the easiest way, just to obtain the certificate and fulfil the task".

As all auditors notice, in Lithuania the stakeholders are especially passive, so it is practically impossible to set up a national working group to prepare the adapted national standard. One respondent said that a fee payable for such work may change the situation:

> "Everyone wants to get paid for the time they give. If an external source of funding would appear… and now they need to make up, to find donors… let's say, ideally, people may gather in Vilnius from all corners of Lithuania once, maybe twice, but more…you have to pay for coming, and then indirect costs are incurred".

When asked whether the representatives from state authorities were included as the stakeholders in the process of preparation of temporary standard by their companies, only one auditor answered that the standard had been sent for comments to one department of the Ministry of Environment, though no interest was shown from their side.

Another interesting fact is that then one auditing company has sent the prepared standard for comments, the state forest enterprises mainly commented on the criteria, regarding which most non-compliances had been determined during the annual audits at the forests of the state enterprises. More than half of the comments were provided to mitigate the requirements of the temporary standard or to harmonize them with the national legislation.

As has been mentioned, the main forest manager – the Directorate General of State Forests – voluntarily decided the certification of all state forests was the important task in their activity. The state forest enterprises, which had to implement such decision, being the lower-level institution, depended on the decisions of the main authority. Despite the fact that the certification was "lowered from above"' to the state forest enterprises, all auditors claimed they saw positive changes after the certification.

Although the FSC *FM* standard brings positive changes in those countries where the situation before the certification is extremely poor, the certification in Lithuania has also been beneficial. As a comparison, one of the auditors with the auditing experience in the forests of Siberia said that prior to the standard adoption people there worked under "inhuman conditions" and "nobody even talked about any work safety or the environment". According to him, forest in Siberia is just a source of income, used without regard to any environmental standards. The situation in Lithuania was completely different and many state forest enterprises just had to organise the work in forests just slightly differently. The respondent, however, does not mention any changes that have occurred in private companies, which perform the works as subcontractors in the forests owned by the state forest enterprises.

First, all auditors stated it was the nature of work safety that had been changed most by the certification (more comments on this subject in Chapter 4.1.1). That means that this area should have been affected most by the certification and the audit should have determined the largest number of non-compliances namely in relation with work safety. However, the analysis of non-compliances against FSC requirements of the forest management certification by the state forest enterprises during the period 2003-2007 has shown that the most common irregularities determined by the auditors were of ecological nature (Janulaitis, 2008).

One auditor observes the change in the ecological sense as well and illustrates it with an example. When driving on a highway along forests, one could hardly tell which forest is private and which one is state-owned. There is, however, one very good indicator for the separation: it is forbidden to carry out the clear-cut in the state-owned forests along the roads of national significance or highways, while the same is allowed in private forests. Thus, all clear-cuts along the roads are of private forests. Before, however, a clear-cut in a private forest has meant leaving several trees, which were always the slimmest and smallest. Now, when driving along a highway, we will see a different picture: snags, dead wood, a tree with a socket, all are left and there are more than a dozen, and not several trees left in the clear-cut. What has actually happened is that subcontractors, working in state-owned forests, work on the habit under the FSC rules in private forests as well. They instinctively follow the rules and transfer them to a non-certified forest. This is not just a positive change ecologically; it is also an indirect effect of the certification to non-certified forests.

Speaking of the effect of FSC *CoC* standard to companies, it should be noted that it does not oblige the companies to do any additional environmental activities, but requires improving social working conditions. Of course, in the case of mixed wood (*Controlled wood* standard, see Methodology Chapter) a company itself should monitor whether it takes or not the wood from illegal sources. Even if the company would use such illegal wood without the FSC logo, but the auditors would find out about that, they would be forced to inform the FSC organization, which would then terminate the certificate's validity for such company. As one of the auditors has mentioned, there have been such cases and litigations on disagreements.

More changes affected by the certification have been revealed during other interviews – with representatives from state authorities and the state forest enterprises. However, there was no consistent opinion that FSC contributed through auditing to compliance with the law. While some agreed with such statement, there was also a different opinion:

> "I do not agree that we support or supervise compliance with the law; we are not some supervising authority. We are unable to verify the compliance with law. We just look for compliance with indicators – we use the data of other external institutions, let's say, State Control or Tax Inspectorate. If they have not determined any violations, we treat them like that, because we are not some tax experts. However, if we notice certain suspicious matters, we draw our attention. We are more like watchdogs".

As regards the conflicts of interests, all auditors said in unison that the impartiality of the certification was fully ensured. Every auditor signs a declaration that he has no conflicts of interests with the company, which means, he does not receive any additional financial benefits, he is not a sharer of the audited company, he has not worked there for two years, he has no close relatives there, etc. Nevertheless, one respondent has said that globally the corruption of auditors in the FSC common framework is a huge problem. At the same time he points out that there is a new audit company in Lithuania, established just several years ago, but already it has managed to take over 50% of the market. Even so, all auditors have claimed in unison that the system ensures impartiality of auditors. The main reason to work impartially is that an auditor or the entire company could be deprived of the license for the slightest offenses, and that would mean a loss of job.

The interviews have also revealed that many companies in Lithuania become certified against FSC *CoC* standard, because this label is more required in the market. Besides, Lithuania does not have forests certified against other standard, e.g. PEFC, so companies would be forced to buy only imported wood with PEFC logo. There are some printing houses in Lithuania having PEFC *CoC* certificate, but they also bring paper from abroad with the PEFC logo. The auditors are unanimous in the opinion that PEFC is less demanding that FSC and they claim that from their own experience, because, according to them, PEFC audits and the certification itself are performed easier and quicker.

Yet, the auditors believe that the FSC label is not well identified in Lithuania; and there is no user education whatsoever:

> "What is that FSC? When an Englishman, all satiated, fed, retired with a house in the suburbs, etc. does not have where to put money, he can take care of nature, somewhere else in the corner of the world. As for Lithuanian, he does not have enough to eat or pay taxes, so…an Englishman can afford to pay an extra pound for a marked product, to feel moral satisfaction. In Lithuania it is relevant only in business-to-business case. The end user rarely looks for a label on a product. A few years ago it was also a matter of prestige for business, now it is a necessity. Otherwise – no export".

In FSC case the educational activities should be carried out by a national working group, which approves the standard. In principal, the audit companies should also be interested – more users, more demand to get certified, thus more work for auditors – however, all claim they are unable to invest their own assets, because it is too expensive. As an example, one auditor gives the Danish FSC national office (renamed national working group), which organise many campaigns, so the label's recognisability there is high.

MSC FM and CoC certification

Lithuania has only one company that has the MSC accreditation, i.e. is able to certify against MSC standards. The certification against this standard is carried out in farms and companies analogically to FSC standard. During the interview with the company's representative – auditor – it has become clear that there is not a single certified fishery in Lithuania. According to the respondent, there is no need. After all, the vast majority of processing companies import and process fish; they do not buy it from local fisheries. As an example, he presents one company, which imports all the fish from Norway, processes it and then exports it. Therefore, even if a company needs MSC certificate, it would be only due to the demand from customers; however, not the consumers, but usually the supermarket chains, which buy the finished goods. Thus such companies choose only MSC *CoC* certification. Out of ten certified companies in Lithuania, three are resellers and the remaining are manufacturers. All these companies have become certified for several times already. As to why other companies do not certify their production, the auditor believes that the reason is the same as in the certification of forestry and timber companies – all depends on the need and price. For many it is too expensive. And if there is no need from customer, then absolutely no motivation is left. The respondent considers that often companies just do not know where to apply, when a customer requests a certificate from them, so they may be left with their business uncertified.

Although the standard adoption is quite a difficult process, according to the auditor, it brings many changes in companies. The change is especially felt during the second certification. The companies do not know many things for the first time, but for the second time everything is a lot easier. As the auditor notes, in addition to the changes in management, where certain actions must be carried out according to the standard, even a change in the company's culture can be felt. Managers and other employees already know more within their competences. During auditing of the companies, all employees, including, for example, cleaners, who, it would seem, have no relation with any stage of production, are talked to. During the first audits, however, it happens that the manager tells everyone in the company is aware of the certification process, but it appears that an ordinary worker does not know a thing, he has not been trained. In such event the company is given time to correct the non-compliance and it must organise trainings. All MSC *CoC* certified companies are located further from the cities, so, according to the respondent, it affects the fact that their employees actually have less environmental knowledge. After the certification, however, they find out not only how to operate in accordance with the standard, but also about the problems of nature, of which they have been previously unaware. Therefore, the certification brings positive changes in companies. The auditor has agreed with the statement that MSC contributes to compliance with the law through auditing:

> "There is an EU Directive, I think, 852, which requires traceability. However, there are no specifications given on how to do it. And MSC applies traceability to one type of fish only, e.g. only herring. So of course, it helps to comply with the law, but the MSC function is more of maintaining responsibility, because fish catching is also certified, so traceability certification simply helps to maintain this responsible fishery".

As regards the conflicts of interests, the auditor of this standard also claims the impartiality of the auditors is fully ensured. The auditor mentions the auditing standard

ISO 19011 and the accreditation bodies that ensure impartiality. The accreditation bodies are non-profit seeking and they audit the auditors. Usually the MSC organisation orders the accreditation body to check any certification body working with their standard. Lithuania has the Lithuanian accreditation body – NAVAS, the national accreditation office – however, it is not related to the environmental non-governmental certification. The information on the very certification process is confidential. It contains much know-how – both of the certifier and the certified company. Thus the information is not made public due to competition. A customer of the certified company may ask the company for the information, but the audit company would never provide it.

OEKO-TEX certification

Lithuania has the sole company that represents OEKO-TEX certification. The standard was developed by Swiss scientists; it has spread throughout Europe, and now throughout the world. During the interview with the company's representative – auditor – it has appeared that Lithuania has no companies certified against OEKO-TEX 1000 standard, which is intended for the certification of the entire operation of a textile company (system standard). There are, however, over 30 companies certified against OEKO-TEX 100 standard, which certifies textile raw materials, intermediate and end products at all stages of manufacture. The certification against this standard is carried out in companies in a slightly different way, as compared to FSC and MSC. If a company decides to manufacture certified products (e.g. fabric, yarn, thread, etc.), first it must fill in the application form and list the products to be certified: all components of a product must be listed. They all are sent to the laboratory for testing and then a company pays for the tests. If the test response is positive – companies pay for a certificate, which is valid for 3 years and which is paid for annually. Later, once in 3 years, an audit is carried out at the company to verify whether the production is really manufactured from the materials specified in the certificate. Audits are also paid for separately. If a company decides, for example, only to sew production from the already certified fabric (i.e. healthy and environmentally-friendly components – fabric, zippers, buttons, etc.), then the process is simpler: an application form is filled in, listing the components, from which the product will be manufactured and copies of certificates of such components are attached. There is no need to send all components of a garment for testing, just the copies of the certificate (it means that the fabric, buttons, etc. have already been certified by their respective manufacturers). Since no tests are carried out, no payments should be made. Upon receipt of a response, companies must pay only for the certificate on annual basis. Again, once in 3 years an audit is carried out to verify whether the production is really manufactured from the specified components.

The respondent is considering that the companies become certified in Lithuania exclusively due to their customers' demand. Sometimes it is good for advertising and exclusivity. However, Lithuanian consumers do not know the label very well, therefore here the companies are likely to become certified only if they export the certified production. As the expert says, this standard is 20 years old, but there are still companies in Lithuania, operating in the textile field for a very long time and they have not even heard of such certification. Thus, one of the reasons as to why there are so few certified companies may be the lack of information. It is quite a strange situation, especially considering the fact that the industrial sector of textile production and wearing apparel is among the most

important industrial sectors in Lithuania (Lithuanian, 2008). For this reason the auditor is engaged in the label promotion: he provides information on the certification; assists in preparing documents; however, fabric or material testing is carried out in other country – samples are sent to the country, which institute is represented here. Therefore, the auditor audits only the companies, verifying whether they operate according to the standard, whether the certified materials are separated, whether the end product is actually produced from the certified materials, etc.

The auditor did not agree with the statement that OEKO-TEX would somehow contribute to the compliance with law through auditing:

> "In reality it has no connection whatsoever with the law. OEKO-TEX 1000[20], where textile companies are certified, and not the production, it has a connection – local laws must be complied with."

3.1.3 The position of the officials

To find out the position of the representatives of state authorities in regard to private certifications, the interviews were conducted with different representatives of the state sector: one representative from the Ministry of Environment; one representative from the Directorate General of State Forests; 2 representatives from the state forest enterprise. Different representatives revealed different details, however, the entire information was related only to the FSC certification. As far as the author of this thesis has managed to find out, neither MSC nor OEKO-TEX certification is in any way connected with the state sector – not one state enterprise has any certificates of such nature; not one representative of the state sector is or has been related to coming of these labels to Lithuania. Despite these facts, the conducted interviews have revealed much interesting and useful information on the FSC certification.

A lot of information on the state forest certification against FSC standard was obtained during the interviews with the representatives of the Ministry and the Directorate General of State Forests. With regard to the beginning of the state forest certification, the information, received from the NGO representative or the auditors was in principle confirmed. Additional information obtained during the interviews allowed to structure and to group the changes, which resulted from the certification. What is interesting is that different respondents have different views about such changes and their reasons. However, to summarise, the main changes in the Lithuanian forestry that have resulted from the forest management certification may be divided into the managerial and environmental changes. The main managerial changes would the following:

- Specific change in the field of work safety, where strict work safety requirements for forest workers are implemented (the most important – environmental requirements for machinery, fuel use, etc.);
- Increased qualification of employees of contractor companies on the ecological and technical issues;
- Changed work culture, especially in the sense of communication with forestry stakeholders;

[20] OEKO-TEX 1000 is an ecoaudit for system management (i. e., environmental management system). See Methodology Chapter.

- Publicity of the planned and carried out forest management activities;
- Increased collection of information on valuable ecological factors and its assessment prior to logging works;
- More intensive collection and accumulation of information on rare plant and animal species, forest ecosystems.

The main environmental changes:

- Leaving deadwood and its protection on forest clear-cuts (dead trees, snags, fallen trees);
- Selection and conservation of tree biodiversity;
- Reduction of use of chemical substances in forests;
- Isolation and conservation of 5% forest area without any economic activity in the certified area level (in the area of state forest enterprise);
- Isolation of high value forests (protection of woodland habitats, etc.).

As the representatives claimed, the big advantage of the certification is that the audit assesses the pros and cons. For example, personnel competences, the prepared detailed plans of forests, etc. received positive evaluation. Meanwhile, work safety was first assessed as a deficiency, because not all required work safety equipment was used in the work place, e.g. clothes required under the standard were not used, etc. The second big deficiency was the lack of sufficient cooperation with the forestry stakeholders. Thus, after the first certifications the special attention was given to the work safety and communication with the public. The latter deficiency was promptly handled and now it has become the norm – a variety of information related to the state forests has been and is publicized through different radio and TV broadcasts, organisation of work bees has started, etc. As a result, according to the respondents, there were huge differences between the certification of 2001 and re-certification of 2005: during re-certification the auditors assessed that such communication with the public could be an example for other countries.

It is important to note that work safety requirements have always been in the laws and workers in forests had to use both the appropriate clothing and measures. However, all representatives argue that this provision has not been implemented – in many cases it has not been implemented by the employees of the hired contractor companies. What FSC basically changed is that it forced to implement these requirements. Therefore in this case it can be said that the certification has worked as a law enforcement mechanism. What was really new, i.e. not established in the laws, but required under the standards, were the requirements related to machinery. For example, use of appropriate machinery, use of biodegradable oil, requirement to have sorbents in case of oil spillage, etc.

One more very important aspect was revealed during the interviews on the changes caused by the certification. In some cases the rules of environmental non-governmental standard were transferred to the country's legislation. Several specific examples were given by the representatives of the state authorities. For example, reduction of the use of chemical substances in forests appeared in the National Forest Sector Development Programme 2012-2020 as one of its goals. Before that such requirement was implemented only in forests managed under FSC standard. Of course, even though the requirement is now included in the legislation, it is not applied in private forests, only in state-owned. Although in principle chemical substances are mainly used in nurseries, which are all state-owned. The requirement on selection and conservation of tree biodiversity also affected the legislation's amendments. Such requirement occurred in the Forest Logging Regulations namely after

the FSC certification. Another standard requirement – isolation of high conservation value forests (protection of woodland habitats, etc.) – now is included in the Rules for Preparation of Forest Management Plans. Here the focus is not only on isolation of environmentally high value forests, but on social aspects as well, e.g. from the natural heritage point of view. The interviewees stated this was a great progress environmentally.

However, one respondent did not agree in all cases that it was a direct transfer of the FSC rules to the legislation. According to him, it was not a direct transfer of the FSC rules; it just seemed like that because basically the FSC principles and criteria are in line with the sustainable forestry principles, applicable in European forests. The latter are the result of the pan-European political process for the sustainable management of the continent's forests. This process began in 1990 and is currently called FOREST EUROPE: Ministerial Conference on the Protection of Forests in Europe. FOREST EUROPE has led to achievements such as the guidelines, criteria and indicators for sustainable forest management.

Other respondent states it is all just natural that if something is going on in half of forests (because, as has been mentioned, state-owned forests account for almost half of Lithuanian forests), why not to do so in the others:

> "In fact, contractors comply with the FSC requirements in other, uncertified forests from habit. This ultimately affects policy makers, lawmakers: if this is done in state-owned forests and then in others, let's record it to the laws to ensure it everywhere. If this is done in half of forests, then it should be done in private ones, of course, lowering the standard a little bit, but, for example, the requirements on biodiversity, to leave trees, on communication with the public..."

It should be noted that currently all enterprises have adopted not only FSC *FM*, but also *CoC* standard. Before 2002 the enterprises had quite many sawmills, but all of them operated at a loss. The respondents claimed it was mostly organisational issues. So, it was a political decision to waive all sawmills. They all had FSC *CoC* certificates. Of course, even now *CoC* certification is needed for the enterprises to sell their wood, to trace the production movement, to coordinate the use of logo with the certified company. Further, the *CoC* certification is necessary for the enterprises to separate the wood logged from private forests, because they provide services to private forest owners – organise plantings, make loggings, provide educational services.

To conclude, the first interviews have revealed the coming of the certification process to Lithuania; how it is done and how it is evaluated by different stakeholders. It is obvious that the majority of companies in Lithuania are certified against the *Chain of Custody* standards, both in FSC, MSC or OEKO-TEX cases. As the initial research has shown, the private environmental standards may not only change work organisation, the culture in companies, but may also affect the amendments of legislation. The obtained information allows for better organisation of further research and to answer the questions raised.

3.2 Results of the quantitative data[21]

There are 161 enterprises certified against the selected standards in Lithuania. The multi-wave e-mail survey of the certified companies was conducted in July 2012 and repeatedly

[21] The material of this Chapter was used in a paper: Misiune, I. (2014) Environmental self-regulation: changes of certified companies in Lithuania. Environmental Management. Submitted.

conducted in September 2012. Respondents from all the certified companies were asked to fill in the questionnaire (N = 161). More than half of certificate holders responded to the survey (n = 90) with a response rate of 56%, which is consistent with or even higher response rate than of the previous studies on the environmental practices in the companies[22] (Table 2).

Table 2. Number of the respondents of the survey

Certification type	Number and type of certified companies	Number / percentage of respondents from certified companies
Forest Stewardship Council (FSC) *CoC*	121 forestry and logging companies	69 / 60%
Marine Stewardship Council (MSC) *CoC*	10 fishing and aquaculture companies	6 / 60%
OEKO-TEX 100	30 manufacturers of textiles	15 / 50%
Total	161	90 / 56%

The survey collected 64 variables from each respondent, including information about the certificate holder, standard adoption motives, compliance facilitation factors, expectations and experience with the use of the standards.

3.2.1 Characteristics of companies

There were 90 companies that responded to the survey. More than 74% of the certified companies are small or medium-sized enterprises[23] (Figure 9). The sole difference is among the MSC certificate holders – it is mostly large companies, i.e. those having over 250 employees. The least number of respondents are microenterprises.

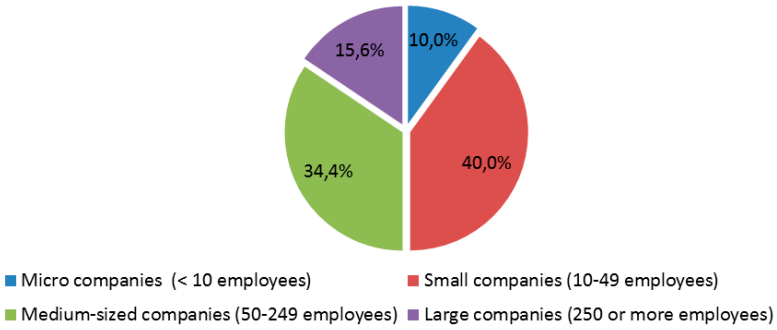


Figure 9. Size of the companies (according to the number of employees)

[22] See, for instance, Darnall, N. (2006) Why Firms Mandate ISO 14001 Certification. *Business & Society*, Vol. 45 (3): 354-381; Delmas, M., & Keller, A. (2005) Free riding in voluntary environmental programs: The case of the U.S. EPA WasteWise program. *Policy Sciences*, Vol. 38 (2-3): 91-106; Urban, B., & Govender, D. P. (2012) Empirical Evidence on Environmental Management Practices. *Engineering Economics*, Vol. 23 (2): 209-215.

[23] Sizes of the enterprises are identified according to the European Commission recommendation of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises (2003/361/EC).

The absolute majority of the certified companies are manufacturers – over 80 percent. Others are (re)sellers (over 15%) or service providers (over 2%). However, even 20% of enterprises engaged in selling are among the FSC certificate holders, i.e. they are engaged only in the certified production reselling. As is understandable, they have to certify their activities as well in order to retain one standard in the production chain and to provide the clients with the certified end product. All respondents are service providers, excluding one enterprise holding the FSC certificate and one holding the OEKO-TEX certificate.

The largest number of all the certified companies are those which operate for more than 10 years – 67 percent, out of which 31.1% operates for 11-15 years and 35.6% for more than 15 years. The lowest number of certified companies is the enterprises in their first 5 years – 9 percent. And over 24.4 percent of the certified companies operates for 6-10 years. Half of the MSC and 38% of the FSC certificate holders operate for over 15 years.

Over 70 percent of the companies use certification for less than 5 years, which means they are newly certified companies. Although the MSC and the FSC standards are valid for 5 years, there are only 20 percent of the companies that hold the FSC certificate for longer than 5 years. It means this 20% of the FSC standard holders have certified their management practices for the second time already. A similar situation can be observed among the OEKO-TEX certificate holders. More than 33.3% of these companies have the certificate for over 3 years, and the OEKO-TEX certificate is valid for 3 years. It means these companies have also certified their activities for the second time already. This shows that non-governmental environmental certification is a new phenomenon in Lithuania.

Nearly 40 percent of the enterprises export more than 75 percent of their certified production. On the other hand, more than 30 percent of the companies export only up to 25 percent of their certified production (Figure 10). It means that the companies export either a small proportion of their certified production or nearly everything.

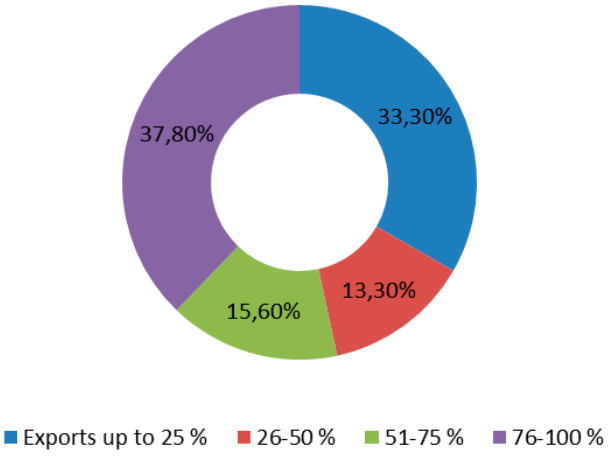


Figure 10. Percentage of the production for export

More than 70 percent of the companies affirmed they have never used any other voluntary environmental instrument before. Adoption of the FSC, MSC or OEKO-TEX standard was their very first step in using the VEIs, while 26 percent of the respondents confirmed they have already used other VEIs before the adoption of non-governmental standards. Half of 26% of respondents held ISO14000 management standard with only come of them using another ecolabelling standard.

To conclude, the typical enterprise which adopted environmental non-governmental standard is a small or medium-sized enterprise, operating for over 10 years and exporting either over 75% or up to 25% of its certified production.

3.2.2 Descriptive statistics: adoption and compliance factors, problems and changes

Adoption factors

Questionnaire for the survey was used to research the motives for standard adoption. The respondents were required to mark the importance of each of the factors listed in the questionnaire that has determined the enterprise's decision to adopt a standard. The statements were evaluated from 1 to 5, where: 1 meant that the listed factor was completely unimportant for the decision to adopt a standard, 2 - unimportant, 3 – neither unimportant nor important, 4 - important, 5 – highly important. Seven statements, covering the main ideas from the four theories chosen for the interpretation of the phenomenon (see Chapter 2.2), were presented for the evaluation (See Table 3).

The statement denoting that the main motive to adopt a standard was the need from clients and business partners was given the highest value by all respondents. Its average value given by all respondents amounted to 4.52. As much as 86.7% of respondents specified it as important or highly important cause that had determined the enterprise's decision to adopt a standard. By the way, this motive was the only one that had not received the lowest evaluation, i.e. 1, from any respondent. Only 3% of respondents answered that this cause was unimportant, i.e. evaluated it with 2. Thus, it may be stated this is the most significant cause to determine the companies' decision to adopt nongovernmental environmental standards. As reflected by this statement, an organisation cares about the stakeholders and carries out its activities as to satisfy the expectations of such persons.

Based on the estimates, the second place statement as to the main cause to adopt a standard was the desire to improve company's image. This statement reflects the desire to send a signal to other market participants. The average given value by all respondents reached 4.19. Over 80% of respondents indicated this to be important or highly important cause, while only 1% specified this as completely unimportant cause in determination of company's decision to adopt a standard.

Other causes for the companies to adopt a standard were the expectation to increase opportunities and to expand the market for manufactured (or only sold) production. This statement received the average value of 4.08 by all respondents. 75.6% of respondents specified this as highly important or important motive. Hence, the companies take into consideration their partners or competitors and want to participate in a larger or niche market.

Table 3. Factors that have determined company's decision to adopt a standard, according to their importance

Ranking of factors that have determined company's decision to adopt a standard according to their importance	Mean
Responding to business partners, client demand	*4.52*
Desire to improve company's image	*4.19*
Gain access to certified markets or a threat to lose market share	*4.08*
Desire to contribute to the conservation of natural resources	*3.54*
A possibility to use the logo (in Lithuanian market or abroad)	*3.33*
An assumption that the compliance with the standard may help in meeting regulatory requirements	*3.2*
Possibilities to improve company's efficiency or performance (financial or other)	*3.16*

As written in the second part of the thesis, the main purpose of environmental certification is environmental protection. However, the desire to contribute to natural resource preservation was not among the main motives for enterprises to adopt standards. Only 28.9% of respondents marked this motive as highly important and even 6% specified this as completely unimportant cause, meaning that it did not have any influence whatsoever for the company's decision to get certified. The average total value given by all respondents to this statement failed to reach 4 and accounted for 3.54. Therefore, this cause ranks fourth in affecting companies' decision.

The remaining three causes did not exceed the value of 3.5 but still managed to collect more than half of the maximum evaluation and were evaluated over 3. All three causes taking the last places received quite similar and equal evaluations, i.e. respondents distributed evenly in evaluating them as completely unimportant or highly important causes in the decision to get certified.

Possibility to advertise by using certification label-logotype as a cause to certify the enterprise's activities was indicated in the fifth place only. This cause collected 3.33 according to the average total value given by all respondents. It was evaluated as highly important or important factor by exactly half of respondents and that is by 10% more than evaluation of the remaining two causes in the last place. Only 16% of respondents stated it was completely unimportant cause.

What is of interest is that the companies adopting nongovernmental environmental standard still expected in such way to contribute to better implementation of mandatory legislation. The assumption that compliance with the standard may also contribute to better compliance with the mandatory legislation is in the sixth place according to the average total value granted by all respondents – 3.2. Only 14% of respondents stated it was completely unimportant cause in determination to certify enterprise's activities. This is an important moment, which shows that benefit is expected for implementation of the official legislation applicable to enterprise from the performance of activities having nothing in common with the official government orders. Even 47% of companies specified this as the important or highly important cause prior to the decision to certify company's activities based on one of the three nongovernmental standards.

The last cause that had determined the decision to adopt a standard was indicated the probability to improve company's performance efficiency or performance indicators (financial or other), which collected total value of 3.16, given by all respondents. This motive made up most evaluations of being a completely unimportant cause, thus basically it did not have any effect as to the decision to certify company's activities.

It is obvious from the summary of the factors that have determined companies' decision to certify their activities according to one of the three nongovernmental environmental standards that satisfaction of stakeholders' expectations was the very key cause for all companies. Further, companies expected the certificate to contribute to the improvement of company's image, while possibility to benefit company's business, e.g. to increase its efficiency or financial indicators, was in the last place.

Problems after the decision to adopt the standard was taken

The questionnaire was also used to clarify the difficulties the companies had faced after the decision to adopt the standard. Respondents had to mark the statements, which were relevant to the enterprise after the decision to adopt the standard was taken. The statements were evaluated from 1 to 5, where: 1 meant that the factor named in the statement was completely irrelevant, 2 - irrelevant, 3 – neither relevant nor irrelevant, 4 - relevant, 5 – highly relevant. Six statements related to the enterprise's external or internal issues were presented for evaluation (See Table 4).

The main issue or challenge the companies had faced after the decision was taken to adopt the standard was the certification price, as indicate by over 63% of companies. The average total value given by all respondents was 3.81. It was completely irrelevant only to 4% of companies. Therefore, the expense allocated for adoption of environmental measure was the most relevant issue for companies. In spite of that, the next statement about the relevance of time taken for certification – adapting company's activities, document handling, etc. – received similar evaluation. This issue was evaluated in 3.7 by all respondents and marked as highly relevant or relevant by over 61% of respondents. In essence, these two issues or rather challenges were the key to the companies determined to adopt environmental standards in their activities.

While only 43% of respondents indicated this issue as relevant or highly relevant to their enterprise, the statement that the companies lacked general knowledge about certification, e.g. what was it, what standards could be adopted in general, how certification was performed, what was its price, etc., occupied even the third place according to its relevance. However, even 31% of respondents claimed it was irrelevant or completely irrelevant. This could be explained through consideration of the main motive of standard adoption for the majority of companies. Since it was the need from clients or business partners, it was probably them who had indicated the standard to adopt. As has already been mentioned, the user gets the product with ecolabel – logotype of the standard – only in case the same standard is adopted throughout the entire production chain.

Table 4. Issues faced by companies after the decision was taken to adopt the standard, according to their relevance

Relevance of issues after the decision taken in the company to adopt the standard	Mean
Certification price	*3.81*
Time that the certification takes (respective preparation at the company, document handling, etc.)	*3.7*
Lack of general knowledge about certification (what is it, what is the choice of certification labels, e.g., FSC, PEFC, SFI, etc., how much does it cost, etc.)	*3.13*
It was unclear whether we will be able to implement all requirements of the chosen standard to obtain certificate	*2.82*
We were threatened by the risk that if anyone would cheat in using certification label, allegations and bad reputation would fall on all others having the same label	*2.11*
We were threatened by the risk that if many companies will get certified, then we will stop being exclusive	*2*

The last internal issue of the companies, which could be faced after the decision to adopt the standard was uncertainty as to their ability to implement all requirements of the chosen standard to obtain certificate. However, even 45% of the respondents indicated it was irrelevant or completely irrelevant for them. The average value given by all respondents for evaluation of this issue did not even reach 3. Nevertheless, it was a highly relevant issue for even 14% of companies.

The remaining two issues are connected to threats occurring from the outside. It is obvious, however, that the companies did not consider them as issues and evaluated them as the least relevant. The risk anyone could cheat in using certification label and allegations and bad reputation would fall on all others having the same label did not seem as a threat to companies determined to get certified. Only less than 8% of companies participating in the survey indicated that it was a relevant or highly relevant issue, compared to 40% of the respondents claiming it was completely irrelevant.

In the last place, we find the statement denoting that prior to adoption of the standard the enterprises face the risk of stopping being exclusive, if many companies would get certified according to the same standard. Basically, it would mean that holding the certificate and using ecolabel would stop being the exclusive feature of the company that allows improving the company's image. This seems strange, considering that this purpose was indicated as one of the key factors that have determined company's decision to adopt the standard. Consequently, the company expected to improve its image while it did not doubt that the standard spread would not affect it. As much as 70% of respondents specified this as irrelevant or completely irrelevant for the company after the taken decision to adopt the standard. By the way, this issue got the evaluation of only 2 points out of 5 possible.

In summary, it should be noted that the collected evaluations of all these issues were lower than 4, which means relevant. Therefore, after total summing up of answers of all respondents it becomes clear that the issues named in the questionnaire were, in essence, not relevant to the companies after the decision was taken to adopt the standard. This could mean several things: one, possibility exists that relevant issues the companies faced have not been mentioned in the questionnaire; second, despite all the arising difficulties –

both financial and managerial or possible external threats – the adoption of the standard was the most important to respondents.

Compliance factors

One of the questions the respondents were asked while filling in the questionnaire was *"What of the following helps the most to ensure compliance with the standard at your company?"* This question was asked in order to find out the factors that determine correct ensuring of implementation of the rules at a company. Was it the internal policy of the company, where the activities are carried out fairly and transparently, or the threats, e.g. to lose the certificate? Seven statements, related both to company's internal policy and external influences, were presented for the respondents to evaluate. The statements were evaluated from 1 to 5, where: 1 meant that the respondent completely disagreed with the statement, 2 - disagreed, 3 – neither agreed nor disagreed, 4 - agreed, 5 – completely agreed (See Table 5).

The main factor that over 80% of respondents agreed or completely agreed with was indicated as a responsible person appointed at the company who ensured implementation of the standard. Just 7% of respondents indicated this factor was not the most important in ensuring standard implementation at the company. This statement received the evaluation of 4.17 according to the given average value of all respondents.

Interesting is that the second important factor, as indicated, was the statement denoting that compliance with the standard was just a matter of honour of the market participants, since it was nongovernmental voluntary standard. Even 70% of respondents specified they agreed or completely agreed with this statement, while only 5% of respondents disagreed or completely disagreed with the same. This statement got the value of 3.99 points (See Table 5). Thus, considering these two key factors, it is obvious that the companies treat the implementation of and compliance with the standard as a part of their internal activities, which is less affected by the external factors, e.g. threat to lose the certificate after audit procedure.

Table 5. Evaluated factors in their ranking, which help the most to ensure compliance with the standard rules at the company

Factors, which help the most to ensure compliance with the standard rules at the company	Mean
There is an appointed person who ensures compliance with the standard's rules.	4.17
This is a nongovernmental voluntary standard, thus its compliance is just a matter of honour.	3.99
Knowing that correct compliance with the rules contributes to solving environmental problems.	3.64
Knowing that correct implementation of the rules will positively affect the company's performance or efficiency.	3.51
Easily and/or inexpensively implemented rules.	3.44
Control mechanism, i.e. audit procedure, threatening in losing the certificate.	3.34
We have/had external assistance – consultants that give advice on correct implementation of the rules.	3.1

The remaining five factors received slightly lower evaluations, however, on average their evaluation reached over 3 points. Although the companies claimed implementation of the standard's rules was a matter of honour of each company, the statement that correct implementation of the rules was promoted by knowing it contributed to solving environmental problems got into the third place. Even 58% of respondents agreed or completely agreed with it. Nevertheless, the environmental motive, which promoted the companies to adopt the standard in their activities was only in the fourth place and it was not the main cause for compliance with the rules as well.

What is most interesting in evaluation of this question is that over 50% of respondents have claimed they knew that correct implementation of the rules would positively affect the company's performance or efficiency and this fact encourages them to ensure compliance with the standard's rules at the company. While the companies decided on their certification, this motive got into the last place – evaluated only in 3.16 points. In this question the statement's evaluation reached 3.51 points.

Only half of all respondents agreed or completely agreed with the fact that the rules were easily and/or inexpensively implemented and it was the guarantee for compliance with the standard. Even 18% of those replying completely disagreed with it. This shows that the rules are not easily and/or inexpensively implemented for everyone. Their compliance can be quite complex and expensive. Nevertheless, this statement got the average evaluation of only 3.44 points.

The statements related to external influence received the lowest evaluation. Generally, standards and certification procedures of such type are distinguished by their strict audit system. However, control mechanism, i.e. audit procedure, which can threaten in losing the certificate, is not the key factor for the companies encouraging them to ensure implementation of the standard's rules at the company. 40% of respondents agreed or completely agreed with this statement, whereas even 18% of those replying disagreed or completely disagreed with this statement. This is interesting and worth a deeper analysis due to the fact that many nongovernmental organisations that create and manage standards and certification systems put many efforts in improving audit procedures and control strengthening. As this survey has shown, such measures are not the determinant to ensure implementation of the standard's rules in Lithuania.

The statement, which got into the last place is that companies have external assistance, e.g. consultants, who advise on correct implementation of the rules. Only 40% of respondents agreed or completely agreed with it and this statement received the lowest evaluation – 3.1 points.

To sum up, the main compliance factors are not external, created by the standard organizations, but more internal emerging from the inside of the companies. One way to explain this situation is to look at the regulatory system and compliance culture in the country when the enterprises assume that the compliance with the rules rests in their hands only and there are no consequences they might face when breaching the rules.[24] Further insights are presented in the Discussion chapter.

[24] As economical survey results show, in 2012 around 41% of natural persons and households were involved in shadow activities. The part of legal entities and companies that carried out at least part of their activities in shadow was lower - around 27%. (Lithuanian Free Market Institute: http://www.llri.lt/naujienos/ekonomine-politika/bendroji-ekonomine-politika/lietuvos-ekonomikos-tyrimas-20132014-1-kitamet-lietuvos-ekonomikoje-santurus-augimas-bet-ne-suolis/vytautas-zukauskas [accessed on 6 Dec 2013)

Changes in the company after adopting the standard

Respondents were presented with 12 statements to evaluate, which were related with changes at the company, which could have occurred after adopting the standard and certifying their activities. The statements were evaluated from 1 to 5, where: 1 meant that the despondent completely disagreed with the statement, 2 - disagreed, 3 – neither agreed nor disagreed, 4 - agreed, 5 – completely agreed (See Table 6).

The statements in the questionnaire that answered the question about the changes in the company were constructed in parallel to the answers to the first question about the decision to adopt the standard. The answer to the very first question regarding what had encouraged to get certified basically shows what the companies had expected after adopting the standard, while the answers to the questions about changes in the company showed whether the expectations were justified. Additional statements which were included in the answer to this question mostly were related to the changes of managerial practices within the companies, which had to be implemented after the standard was adopted, or it is changes which can be seen or felt from the outside.

Table 6. Ranking of importance of occurring changes at the company after adopting the standard

Changes occurring at a company after adopting the standard	Mean
We did not lose a certain share of market or even new market opportunities opened up	*3.89*
Certain changes in the organisation of work had to be implemented in the company, e.g. new procedures emerged	*3.78*
Company's image improved	*3.76*
We even more contribute to natural resource preservation	*3.46*
Relations with business partners improved	*3.42*
In general, company's competitiveness increased	*3.32*
We have better opportunities to advertise due to the used certification label (in Lithuanian or foreign markets)	*3.31*
Certain structural changes had to be implemented in the company, e.g. introduction of new position, responsible for standard implementation supervision or assignment of these obligations to an existing employee	*3.11*
Company's interest in environmental issues increased, e.g. adoption of other means at the company	*2.8*
Generated profit increased (e.g. due to additional part of the price for certified production or the increased sales of certified production, etc.)	*2.51*
Implementation of certain mandatory legislation at the enterprise facilitated	*2.49*
As a result of new rules, performance of certain works at the company became more efficient	*2.49*

Although the main motive why the companies adopted the standards was the need from clients or business partners, after the certification, however, the main change in the majority of companies was that the companies did not lose a certain market share or even new market opportunities opened. Over 62% of respondents agreed or completely agreed with this answer and the average total value given by all respondents to this statement was

3.89. However, when evaluating importance of factors that had determined the company's decision to adopt the standard, the response to the requirement of business partners or clients was evaluated even in 4.52 points. As has been written, this was the very key motive of all companies, which did not get the lowest estimate – 1 – from any of the respondents. Hence, although the certification justified the expectations, it was not to the extent the companies expected. On the other hand, one could assume that the response to the wishes of business partners or clients could have improved relations with business partners. However, according to the evaluations this change was only in the 5th place and was evaluated in 3.42 points. This is even lower than expected from certification. Detailed analysis of expectations and satisfactions is provided in Chapter 4.2.44.3.2.

Other changes seen or felt from the outside of companies, were also ranked high. For instance, the improved image of company was felt in over 60% of companies. This statement was into the third place and, based on the evaluations, collected 3.76 points. Only 8% of companies disagreed or completely disagreed with the fact that the company's image improved after adopting the standard.

Generally increased competitiveness of company and better opportunities to advertise due to the used certification labels both in Lithuanian and foreign markets are also attributed to the changes seen or felt from the outside. These two changes were evaluated very similarly and collected 3.32 and 3.31 points respectively. Even 47% of companies, which agreed or completely agreed with these statements, claimed they felt such changes.

The statements that related to the changes inside the companies were in general evaluated lower, compared to the statements that related to the enterprise's activities or influences seen or felt from the outside. The only one highly ranked statement, which got into the second place, was that the companies had to implement certain changes in the organisation of work, i.e. new procedures emerged. It was approved or completely approved by over 63% of respondent, however, total evaluation of this statement reached 3.78 points. As is obvious, working according to the adopted standard requires changes inside the organisation. However, only 40% of respondents agreed with the statement that certain structural changes had to be implemented in the company, e.g. introduction of new position, responsible for standard implementation supervision. Even 26% of respondents completely disagreed with this statement and thus it was evaluated only in 3.11 points.

Although over half of the respondents claimed they believed that they contributed to natural resource preservation even more and evaluated this statement in 3.46 points, only 25% replied they agreed or completely agreed that after adopting the standard and business certification the company's interest in environmental issues increased, e.g. adoption of other means at the company. This statement received the evaluation of only 2.8 points. As can be stated, after adopting the standards, the companies feel they have contributed to environmental protection, however, they do not intent to improve their environmental performance even more.

The remaining three statements related to the internal changes of companies received low approval from the respondents and collected from 2.51 to 2.49 points. Only 20% of respondents agreed or completely agreed with the fact that generated profit increased (e.g. due to additional part of the price for certified production or the increased sales of certified production), while even 45% of respondents disagreed or completely disagreed. Even though many authors, who are analysing the phenomena of voluntary environmental

certification claim the price premium is one of the key factors to adopt standards, as is obvious, this is not the case for companies operating in Lithuania.

Facilitation of implementation of certain mandatory legislation in the company or performance of certain works at the company becoming more efficient as a result of new rules were not among the changes that took place in many companies. The first statement received even 40% of respondents, who neither agreed nor disagreed with it and even over 40% of those claiming they disagreed or completely disagreed with the statement. The lowest evaluation was given to the statement about the improved efficiency of activities and even 46% of respondents disagreed with it. Hence, certification and business performance according to the newly adopted standard did not bring any facilitation to companies either in implementation of mandatory legislation or in making efficient any other activities.

3.2.3 Data analysis of variance: differences among group means

Responses to the main four questions were analysed using analysis of variance (ANOVA) to disclose the differences among groups which were significantly different. Thus the responses to each question were compared with each explanatory variable (Table 7). This technique allows to compare means of two or more samples. Thus, the analysis makes available to test statistically of whether or not the means of several groups are equal.

Table 7. Explanatory variables

Abbreviation	Meaning
Age	Age of the company
Size	Number of employees
Cert Prod	Amount of certified production per year
Export	Amount of the certified production exported
Activity	Economic activity
Previous experience	If had any other environmental certificate before
Holds the certificate	Years that the company already has a certificate

Tables 8-21 represent the results of the analysis. The tables indicate:

- Dep. var. – dependent variable, i.e. the issue which is analysed, for e. g. 1a, 1b, etc.;
- *F* – the F- statistic is a ratio of the variability between groups compared to the variability within the groups;[25]
- Age, Size, etc. – an explanatory variable according to which the Dep. var. is analysed. This column also includes p value, which is significance test or n.s. – no significance;
- Mean – the mean that the group gave to the Dep. var. ranging from 1 to 5;
- SD – the standard deviation, which shows how much variation or dispersion from the average exists;
- a, b, c, etc. – letters a, b, etc. refers to the Tukey's test result which allows to find means that are significantly different from each other – it compares all possible pairs of means. *a* means that the Dep. var. was the most important for this group compared to all other groups, *b* – less important, etc.

[25] http://sites.stat.psu.edu/~ajw13/stat200_upd/10_anova/02_anova_oneway.htm [accessed on 10 Nov 2013]

3.2.3.1 Decisive factors for the standard adoption

The answers to the first question about the factors, which were important in taking the decision to adopt the environmental standard, were abbreviated from 1a to 1g (see Table 8).

Table 8. Dependent variables of the first question – adoption factors

Abbreviation	Meaning
1a	The need from clients and business partners (e.g. customers)
1b	Desire to improve company's image
1c	New market opportunities or threats to lose the existing market
1d	Desire to contribute to natural resource preservation
1e	Believing that compliance with the standard rules may contribute to better compliance with the mandatory legislation
1f	Possibility to advertise by using certification label-logotype (in Lithuanian or foreign markets)
1g	Probability to improve company's performance efficiency or performance indicators (financial or other)

Statistical analysis were significant in several cases and thus revealed important differences among the groups according to their age, size and the share of certified production in the total amount of company's manufactured (or sold) production when deciding to adopt the standard (see Table 9).

As the analysis revealed, the significant factor in the decision to certify the company's activities was the company's age. However, the age was significant in evaluating only one reason, i.e. probability of improving its operational efficiency or other indicators of the company (1g). Thus, the determination to certify the company's activities in anticipation of improving its operational efficiency depends on the company's age. Tukey's test revealed that companies operating in their 11-15 years rated significantly higher this reason compared to the older companies which operate for more than 15 years. No significant differences were observed between the companies of 1-5 and 6-10 years old as compared to the other companies mentioned above.

As the descriptive analysis showed, the main motive for the adoption of the standards for all companies was the requirement from the customers and business partners (Table 3). It was given the highest mean value from all respondents and even 87% indicated it as an important or very important reason. However, the analysis of choosing this reason as the most important among different groups showed that only the company's size was statistically significant. Thus, statically significant differences were identified among different size companies (Table 9). The companies with 10 - 49 employees rated this reason significantly higher than the companies with < 10 employees. No significant differences were observed between the companies with 50-249 and ≥ 250 employees from the mentioned above.

Further, the share of certified production in the total amount of company's production also has the effect in the decision to certify company's activities as the significant differences were identified among the companies, however, only considering new market opportunities or threats to lose the existing market (Table 9). Therefore, new market opportunities or threats have been identified as a valid cause, which determined the companies' decision to

Table 9. Summary of ANOVA results of adoption factors according to the age, size, amount of certified production and export

Dep. var.	*F*	**Age**	Mean	SD	*F*	**Size**	Mean	SD	*F*	**Cert Prod**	Mean	SD	*F*	**Export**	Mean	SD
		1 – 5	4,75	,707	2,991	< 10 b	3,89	1,054		< 25	4,32	,791		< 25	4,33	,844
	1,300	6 – 10	4,24	,944	p<0,05	10-49 a	4,69	,577	1,143	26 – 50	4,56	1,042	0,900	26 – 50	4,58	,996
1a	n.s.	11 – 15	4,64	,621		50-249 ab	4,42	,958	n.s.	51 – 75	4,58	,769	n.s.	51 – 75	4,71	,611
		>15	4,55	,869		≥ 250 ab	4,71	,611		76 – 100	4,73	,631		76 – 100	4,59	,783
		Total	4,52	,810		Total	4,52	,810		Total	4,52	,810		Total	4,52	,810
		1 – 5	4,25	,886		< 10	4,44	,527		< 25	3,87	,957		< 25	4,03	,928
	1,880	6 – 10	4,24	1,091	1,424	10-49	4,03	,910	2,315	26 – 50	4,56	,616	0,592	26 – 50	4,42	,793
1b	n.s.	11 – 15	4,46	,744	n.s.	50-249	4,13	1,118	n.s.	51 – 75	4,26	,991	n.s.	51 – 75	4,14	1,167
		>15	3,91	,947		≥ 250	4,57	,646		76 – 100	4,27	,985		76 – 100	4,26	,898
		Total	4,19	,935		Total	4,19	,935		Total	4,19	,935		Total	4,19	,935
		1 – 5	4,38	,744		< 10	3,89	1,054	4,600	< 25 b	3,52	1,363		< 25	3,87	1,137
	1,603	6 – 10	3,90	1,338	0,223	10-49	4,17	1,134	p<0,05	26 – 50 a	4,44	,784	2,186	26 – 50	4,50	1,168
1c	n.s.	11 – 15	4,39	,956	n.s.	50-249	4,00	1,211		51 – 75 a	4,42	,838	n.s.	51 – 75	4,57	,646
		>15	3,85	1,121		≥ 250	4,14	,949		76 – 100 ab	4,27	,883		76 – 100	3,91	1,164
		Total	4,08	1,114		Total	4,08	1,114		Total	4,08	1,114		Total	4,08	1,114
		1 – 5	3,75	,707		< 10	4,00	1,118		< 25	3,19	1,327		< 25	3,37	1,245
	2,214	6 – 10	3,95	1,203	0,673	10-49	3,47	1,183	1,582	26 – 50	3,89	1,079	0,633	26 – 50	3,33	1,231
1d	n.s.	11 – 15	3,64	1,224	n.s.	50-249	3,42	1,311	n.s.	51 – 75	3,58	1,170	n.s.	51 – 75	3,71	1,383
		>15	3,15	1,202		≥ 250	3,71	1,069		76 – 100	3,73	1,077		76 – 100	3,71	1,088
		Total	3,54	1,201		Total	3,54	1,201		Total	3,54	1,201		Total	3,54	1,201
		1 – 5	3,63	1,061		< 10	3,67	,707		< 25	2,81	1,352		< 25	3,10	1,242
	2,414	6 – 10	3,57	1,207	0,734	10-49	3,00	1,242	1,714	26 – 50	3,39	1,461	0,140	26 – 50	3,33	1,231
1e	n.s.	11 – 15	3,32	1,249	n.s.	50-249	3,26	1,413	n.s.	51 – 75	3,26	,933	n.s.	51 – 75	3,14	1,351
		>15	2,76	1,300		≥ 250	3,29	1,326		76 – 100	3,55	1,184		76 – 100	3,26	1,333
		Total	3,20	1,274		Total	3,20	1,274		Total	3,20	1,274		Total	3,20	1,274
		1 – 5	3,00	1,604		< 10	3,22	1,394		< 25	2,87	1,384		< 25	3,03	1,351
	0,429	6 – 10	3,52	1,123	0,324	10-49	3,33	1,352	2,571	26 – 50	3,89	1,323	1,085	26 – 50	3,83	1,115
1f	n.s.	11 – 15	3,43	1,399	n.s.	50-249	3,23	1,230	n.s.	51 – 75	3,58	1,170	n.s.	51 – 75	3,43	1,453
		>15	3,21	1,409		≥ 250	3,64	1,646		76 – 100	3,32	1,323		76 – 100	3,38	1,371
		Total	3,33	1,349		Total	3,33	1,349		Total	3,33	1,349		Total	3,33	1,349
		1 – 5 ab	3,75	1,282		< 10	3,00	1,000		< 25	2,71	1,270		< 25	2,77	1,357
	2,797	6 – 10 ab	3,00	1,095	0,230	10-49	3,11	1,389	2,516	26 – 50	3,61	1,685	1,347	26 – 50	3,58	1,832
1g	p<0,05	11 – 15 a	3,61	1,370	n.s.	50-249	3,13	1,565	n.s.	51 – 75	3,00	1,155	n.s.	51 – 75	3,29	1,437
		>15 b	2,73	1,464		≥ 250	3,43	1,222		76 – 100	3,55	1,299		76 – 100	3,29	1,169
		Total	3,16	1,381		Total	3,16	1,381		Total	3,16	1,381		Total	3,16	1,381

adopt non-governmental environmental standard. The companies which certified 25-50 or 51-75 percent of their production in the total amount of company's production rated this reason significantly higher compared to the companies which certified < 25 percent. No significant differences were observed between the companies which have certified nearly all of their production – 75-100 percent – from the mentioned above.

In the remaining questions, such as a wish to improve the image of the company (1b) or any other (1d, 1e, 1f) no significant difference was identified among the groups according to the age, size, amount of the certified production. Amount of the certified production which is for export had no significant influence on the decision to become certified, either it be for the client demand or any other reason.

Even though the absolute majority of the certified companies are manufacturers – more than 80 percent of the respondents, and others are (re)sellers or service providers – there were no significant differences between these groups when taking the decision to adopt the standard, either it be for the company image or any other reason (see Table 10).

Table 10. Summary of ANOVA results of adoption factors according to the activity of the company and previous experience

Dep. var.	*F*	**Activity**	Mean	SD	*F*	**Previous experience**	Mean	SD
1a	2,035 n.s.	Manufacturing	4,51	,848	2,244 n.s.	Yes	4,74	,752
		Trade	4,71	,469		No	4,45	,822
		Service	3,50	,707				
		All	4,52	,810		All	4,52	,810
1b	0,392 n.s.	Manufacturing	4,23	,944	4,050 p<0,05	Yes	4,52	,665
		Trade	4,00	,961		No	4,07	,990
		Service	4,00	,000				
		All	4,19	,935		All	4,19	,935
1c	0,636 n.s.	Manufacturing	4,14	1,051	7,532 p<0,05	Yes	4,61	,783
		Trade	3,86	1,460		No	3,90	1,156
		Service	3,50	,707				
		All	4,08	1,114		All	4,08	1,114
1d	0,163 n.s.	Manufacturing	3,51	1,150	5,613 p<0,05	Yes	4,04	1,022
		Trade	3,71	1,437		No	3,37	1,217
		Service	3,50	2,121				
		All	3,54	1,201		All	3,54	1,201
1e	0,044 n.s.	Manufacturing	3,22	1,285	4,026 p<0,05	Yes	3,65	1,335
		Trade	3,14	1,351		No	3,04	1,224
		Service	3,00	,000				
		All	3,20	1,274		All	3,20	1,274
1f	1,402 n.s.	Manufacturing	3,42	1,365	1,291 n.s.	Yes	3,61	1,270
		Trade	3,07	1,207		No	3,24	1,372
		Service	2,00	1,414				
		All	3,33	1,349		All	3,33	1,349
1g	0,121 n.s.	Manufacturing	3,19	1,421	2,771 n.s.	Yes	3,57	1,376
		Trade	3,00	1,240		No	3,01	1,365
		Service	3,00	1,414				
		All	3,16	1,381		All	3,16	1,381

Different situation is with the previous experience the companies had with environmental certification. More than 70 percent of respondents affirmed they have never used any other voluntary environmental instrument before. Adoption of the FSC, MSC or OEKO-TEX standard was their first step in using the VEIs. Thus, statistically significant was the fact of the previous experience in deciding to adopt the standard due to a wish to improve the image of the company (Dep.var. – 1b). The companies with the previously adopted any other environmental standard expected to improve the image of the company with another standard, be it either FSC, MSC or OEKO-TEX standards. And those who had no previous experience expected less.

The companies which had the previous experience also appreciated the possibility to gain access to certified markets (Dep.var. – 1c) after adopting the standard. Therefore, these companies which had previous experience evaluated this reason much more as important compared to the companies which had no experience before.

A wish to contribute to the conservation of natural resources (Dep.var. – 1d) was an important reason to adopt a standard for those companies who had experience before. As a comparison, the companies who had no previous experience ranked this reason as lower importance when taking the decision to get certified.

Again, companies with the previous experience evaluated as more important the possibility that the compliance with the standard will help to meet regulatory requirements (Dep.var. – 1e). This reason was not so important for the companies with no previous experience when taking the decision to adopt an environmental standard.

3.2.3.2 Problems after the decision to certify was taken

The answers to the second question about the problems the company faced after the decision to certify was taken were abbreviated from 2a to 2g (see Table 11).

Table 11. Dependent variables of the second question – problems after the decision to certify

Abbreviation	Meaning
2a	Certification price
2b	Time that the certification takes (respective preparation at the company, document handling, etc.)
2c	Lack of general knowledge about certification (what is it, what is the choice of certification labels, how certification is made, how much does it cost, etc.)
2d	It was unclear whether we will be able to implement all requirements of the chosen standard to obtain certificate
2e	We were threatened by the risk that if anyone would cheat in using certification label, allegations and bad reputation would fall on all others having the same label
2f	We were threatened by the risk that if many companies will get certified, then we will stop being exclusive

In ranking the problems which the companies faced after the decision to adopt the standard was taken, statistical analysis exposed significant differences among the groups according to their age, size, the amount of the certified production and export (see Table 12).

Statically significant differences were identified among different age companies (Table 12):

- a problem of lack of general knowledge about certification (2c) was rated significantly higher by the companies operating for 11-15 years than the companies within their 6-10 years. No significant differences were observed between the youngest and oldest companies operating for 1-5 and > 15 years.
- a challenge whether the company will be able to implement all requirements of the chosen standard to obtain a certificate (2d) was rated significantly higher by the companies operating for 11-15 years compared to those of 6-10 years. No significant differences were observed between the youngest and oldest companies operating for 1-5 and > 15 years.
- the risk that if anyone would cheat in using certification label, allegations and bad reputation would fall on all others having the same label (2e) was rated significantly higher by the youngest companies operating for 1-5 years and those for 11-15 years than the oldest companies – >15 years. No significant differences were observed between the companies which operate for 6-10 years.
- a risk that if many companies will get certified, the company will stop being exclusive (2f) was rated significantly higher by the youngest companies operating for 1-5 years and those for 11-15 years compared to the oldest companies which are >15 years and those which are in their 6-10 years.

Statically significant differences were identified among different size companies (Table 12), but only in ranking the Certification price as a problem. The companies with 10 - 49 employees rated this reason significantly higher than the companies with ≥ 250 employees. No significant differences were observed between the companies with less than 10 and 50-249 employees from the mentioned above.

Statically significant differences were also identified among the companies which certificate different share of their production (Table 12):

- certification price (2a) was rated as a problem significantly higher by those companies which certify up to 25 percent of their production in comparison to those which certify 51-75 percent. No significant differences were observed between the companies which certify respectively 26 - 50 and 76 - 100 percent of their production.
- time that the certification takes (2b) was also rated significantly higher by the companies which certify up to 25 percent of their production or 26 - 50 percent than those which certify 76-100 percent. No significant differences were observed between the companies which certify 51-75 percent of their production.
- a challenge whether the company will be able to implement all requirements of the chosen standard to obtain certificate (2d) was rated significantly higher by the companies which certify 26 - 50 percent of their production compared to those which certify 76 - 100 percent. No significant differences were observed between the companies which certify < 25 or 51-75 percent of their production.

Statically significant differences were identified among the companies exporting different part of their production (Table 12), but only in ranking one problem - a challenge whether the company will be able to implement all requirements of the chosen standard to obtain certificate (2d). The companies that export < 25 or 26 - 50 percent of their production rated this reason significantly higher compared to the companies which export 76-100 percent of their production. No significant differences were observed between the companies which export 51-75 percent of their production.

Table 12. Summary of ANOVA results of the problems according to the age, size, amount of certified production and export

Dep. var.	*F*	**Age**	Mean	SD	*F*	**Size**	Mean	SD	*F*	**Cert Prod**	Mean	SD	*F*	**Export**	Mean	SD
		1 – 5	4,25	,707		< 10 ab	4,00	1,000		< 25 a	4,23	,956		< 25	4,20	,961
	1,535	6 – 10	3,62	1,117	2,842	10-49 a	4,06	1,040	3,794	26 – 50 ab	4,11	1,079	1,736	26 – 50	3,75	1,357
2a	n.s.	11 – 15	4,11	1,031	p<0,05	50-249 ab	3,84	1,267	p<0,05	51 – 75 b	3,32	1,416	n.s.	51 – 75	3,71	1,541
		>15	3,58	1,437		≥ 250 b	3,00	1,359		76 – 100 ab	3,41	1,221		76 – 100	3,53	1,161
		Total	3,81	1,208		Total	3,81	1,208		Total	3,81	1,208		Total	3,81	1,208
		1 – 5	4,00	1,069		< 10	4,00	1,118		< 25 a	4,03	,836		< 25	3,90	,885
	0,968	6 – 10	3,71	1,271	0,472	10-49	3,72	1,085	4,437	26 – 50 a	4,06	,938	0,576	26 – 50	3,75	1,215
2b	n.s.	11 – 15	3,89	,832	n.s.	50-249	3,71	1,131	p<0,05	51 – 75 ab	3,58	1,121	n.s.	51 – 75	3,64	1,151
		>15	3,45	1,277		≥ 250	3,43	1,342		76 – 100 b	3,05	1,397		76 – 100	3,53	1,308
		Total	3,70	1,136		Total	3,70	1,136		Total	3,70	1,136		Total	3,70	1,136
		1 – 5 ab	3,75	1,035		< 10	3,00	1,000		< 25	3,00	1,238		< 25	3,10	1,242
	2,951	6 – 10 b	2,52	1,327	0,585	10-49	3,36	1,376	2,204	26 – 50	3,83	1,249	1,519	26 – 50	3,75	1,357
2c	p<0,05	11 – 15 a	3,50	1,232	n.s.	50-249	3,00	1,483	n.s.	51 – 75	3,00	1,453	n.s.	51 – 75	3,36	1,550
		>15 ab	3,06	1,368		≥ 250	2,93	1,072		76 – 100	2,86	1,320		76 – 100	2,85	1,282
		Total	3,13	1,334		Total	3,13	1,334		Total	3,13	1,334		Total	3,13	1,334
		1 – 5 ab	3,50	1,195		< 10	2,44	,882		< 25 ab	3,00	1,414		< 25 a	3,17	1,341
	4,572	6 – 10 b	2,38	1,244	0,964	10-49	3,03	1,404	3,114	26 – 50 a	3,44	1,247	3,530	26 – 50 a	3,50	1,624
2d	p<0,05	11 – 15 a	3,39	1,227	n.s.	50-249	2,87	1,384	p<0,05	51 – 75 ab	2,53	1,219	p<0,05	51 – 75 ab	2,64	1,151
		>15 ab	2,45	1,277		≥ 250	2,43	1,158		76 – 100 b	2,32	1,129		76 – 100 b	2,35	1,098
		Total	2,82	1,320		Total	2,82	1,320		Total	2,82	1,320		Total	2,82	1,320
		1 – 5 a	3,00	1,195		< 10	2,67	1,118		< 25	2,03	,912		< 25	2,40	1,070
	7,414	6 – 10 ab	1,95	,865	2,094	10-49	2,31	1,238	1,655	26 – 50	2,61	1,195	1,761	26 – 50	2,33	1,303
2e	p<0,05	11 – 15 a	2,61	1,286	n.s.	50-249	1,90	1,044	n.s.	51 – 75	1,84	1,119	n.s.	51 – 75	2,07	1,492
		>15 b	1,58	,792		≥ 250	1,71	,825		76 – 100	2,05	1,290		76 – 100	1,79	,880
		Total	2,11	1,126		Total	2,11	1,126		Total	2,11	1,126		Total	2,11	1,126
		1 – 5 a	3,00	1,069		< 10	2,44	,882		< 25	1,74	,855		< 25	2,03	1,129
	7,836	6 – 10 b	1,71	,845	1,853	10-49	2,22	1,267	2,204	26 – 50	2,56	1,294	1,087	26 – 50	2,50	1,382
2f	p<0,05	11 – 15 a	2,50	1,291	n.s.	50-249	1,77	1,117	n.s.	51 – 75	1,84	1,119	n.s.	51 – 75	1,93	1,385
		>15 b	1,52	,834		≥ 250	1,64	,745		76 – 100	2,05	1,253		76 – 100	1,82	,904
		Total	2,00	1,132		Total	2,00	1,132		Total	2,00	1,132		Total	2,00	1,132

No significant differences were observed among the companies, when evaluating the problems they faced after the decision to adopt the standard was taken, according to their main activity (either it being trade or manufacturing or other). Previous experience of the companies did not impact the rankings of the problems as well (Table 13).

Table 13. Summary of ANOVA results of problems according to the activity of the company and previous experience

Dep. var.	*F*	Activity	Mean	SD	*F*	Previous experience	Mean	SD
2a	0,566 n.s.	Manufacturing	3,76	1,248	0,109 n.s.	Yes	3,74	1,251
		Trade	4,00	1,038		No	3,84	1,201
		Service	4,50	,707				
		All	3,81	1,208		All	3,81	1,208
2b	0,571 n.s.	Manufacturing	3,66	1,162	0,378 n.s.	Yes	3,83	1,072
		Trade	3,79	1,051		No	3,66	1,162
		Service	4,50	,707				
		All	3,70	1,136		All	3,70	1,136
2c	0,095 n.s.	Manufacturing	3,16	1,395	0,540 n.s.	Yes	2,96	1,430
		Trade	3,00	1,109		No	3,19	1,305
		Service	3,00	,000				
		All	3,13	1,334		All	3,13	1,334
2d	1,237 n.s.	Manufacturing	2,85	1,362	0,282 n.s.	Yes	2,70	1,295
		Trade	2,50	1,019		No	2,87	1,336
		Service	4,00	1,414				
		All	2,82	1,320		All	2,82	1,320
2e	0,656 n.s.	Manufacturing	2,05	1,133	0,110 n.s.	Yes	2,04	1,224
		Trade	2,43	1,089		No	2,13	1,100
		Service	2,00	1,414				
		All	2,11	1,126		All	2,11	1,126
2f	0,307 n.s.	Manufacturing	1,99	1,164	0,181 n.s.	Yes	1,91	1,203
		Trade	2,14	1,027		No	2,03	1,114
		Service	1,50	,707				
		All	2,00	1,132		All	2,00	1,132

3.2.3.3 Compliance factors

The answers to the third question about the factors, which help to ensure compliance with the standard rules at the company, were abbreviated from 3a to 3g (see Table 14).

Table 14. Dependent variables of the third question – compliance factors

Abbreviation	Meaning
3a	A responsible person is appointed at the company and he/she ensures implementation of the rules
3b	This is a voluntary nongovernmental standard, thus its compliance is just a matter of honour of the market participants
3c	Knowing that compliance with the rules contributes to solving environmental problems
3d	Knowing that correct implementation of the rules will positively affect the company's performance or efficiency
3e	Easily and/or inexpensively implemented rules
3f	Control mechanism, i.e. audit procedure, threatening in losing the certificate
3g	We have/had external assistance – consultants that give advice on correct implementation of the rules

In ranking the elements which help the companies to implement and comply with the rules of the standard, statistical analysis revealed significant differences among the groups according to their age, size and the previous experience with voluntary standards that company had (see Table 15 and Table 16).

Statically significant differences were identified among different age companies (Table 15):

- knowing that compliance with the rules contributes to solving environmental problems (3c) was rated higher by the companies operating for 6-10 years than the companies which are oldest in the research – operating for >15 years. No significant differences were observed between the youngest companies: 1-5 and those of 11-15 years.
- knowing that correct implementation of the rules will positively affect the company's performance or efficiency (3d) was ranked higher by the companies operating for 6-10 and 11-15 years than those for >15 years. No significant differences were observed between the youngest companies (operating for 1-5 years).
- that a company has an external assistance – consultants that give advice on correct implementation of the rules (3g) was identified significantly higher as a compliance factor by the youngest companies operating for 1-5 years and 11-15 years, compared to the oldest companies of >15 years. No significant differences were observed between the companies which are in their 6-10 years.

Statically significant differences were identified among different size companies (Table 15), but only when ranking that it was easy and/or inexpensive to implement the rules (3e). The biggest companies – with 50-249 and ≥ 250 employees – rated higher this factor than those with 10-49 employees. No significant differences were observed between the smallest companies which have >10 employees.

Statically significant differences were identified among the companies which have different experience with environmental standards before they adopted one of the three non-governmental standards of this research (Table 16):

- knowing that compliance with the rules contributes to solving environmental problems (3c) was identified significantly higher as a compliance factor by the companies with previous experience with voluntary environmental standards.

Table 15. Summary of ANOVA results of compliance factors according to the age, size, amount of certified production and export

Dep. var.	*F*	**Age**	Mean	SD	*F*	**Size**	Mean	SD	*F*	**Cert Prod**	Mean	SD	*F*	**Export**	Mean	SD
3a	1,563 n.s.	1 – 5	4,63	,518	0,315 n.s.	< 10	3,89	1,269	1,003 n.s.	< 25	4,42	,848	0,602 n.s.	< 25	4,37	,809
		6 – 10	3,81	1,401		10-49	4,22	,929		26 – 50	4,06	1,110		26 – 50	4,17	1,193
		11 – 15	4,14	,970		50-249	4,13	1,176		51 – 75	4,11	1,049		51 – 75	4,00	1,109
		>15	4,30	,883		≥ 250	4,29	,914		76 – 100	3,95	1,214		76 – 100	4,06	1,153
		Total	4,17	1,041		Total	4,17	1,041		Total	4,17	1,041		Total	4,17	1,041
3b	0,080 n.s.	1 – 5	4,13	,641	0,597 n.s.	< 10	3,78	,972	0,369 n.s.	< 25	3,87	1,204	1,770 n.s.	< 25	4,03	,890
		6 – 10	4,00	1,049		10-49	3,97	1,028		26 – 50	3,94	,802		26 – 50	3,58	1,084
		11 – 15	4,00	,861		50-249	3,94	,892		51 – 75	4,16	1,015		51 – 75	4,43	,756
		>15	3,94	1,116		≥ 250	4,29	1,069		76 – 100	4,05	,722		76 – 100	3,91	1,055
		Total	3,99	,977		Total	3,99	,977		Total	3,99	,977		Total	3,99	,977
3c	2,837 p<0,05	1 – 5 ab	4,00	,756	0,988 n.s.	< 10	3,89	1,054	0,644 n.s.	< 25	3,42	1,336	0,119 n.s.	< 25	3,63	1,273
		6 – 10 a	4,10	1,261		10-49	3,47	1,134		26 – 50	3,89	1,183		26 – 50	3,83	,937
		11 – 15 ab	3,71	1,049		50-249	3,58	1,409		51 – 75	3,68	1,108		51 – 75	3,57	1,342
		>15 b	3,21	1,269		≥ 250	4,07	,917		76 – 100	3,73	1,120		76 – 100	3,62	1,206
		Total	3,64	1,202		Total	3,64	1,202		Total	3,64	1,202		Total	3,64	1,202
3d	3,759 p<0,05	1 – 5 ab	3,88	,641	0,340 n.s.	< 10	3,56	,726	0,975 n.s.	< 25	3,23	1,257	0,909 n.s.	< 25	3,37	1,217
		6 – 10 a	3,86	1,108		10-49	3,50	1,108		26 – 50	3,72	1,274		26 – 50	4,00	,953
		11 – 15 a	3,79	,995		50-249	3,39	1,383		51 – 75	3,53	1,429		51 – 75	3,64	1,216
		>15 b	2,97	1,403		≥ 250	3,79	1,424		76 – 100	3,73	,883		76 – 100	3,41	1,305
		Total	3,51	1,220		Total	3,51	1,220		Total	3,51	1,220		Total	3,51	1,220
3e	1,970 n.s.	1 – 5	3,00	1,195	3,555 p<0,05	< 10 ab	3,89	,601	0,847 n.s.	< 25	3,23	,990	1,538 n.s.	< 25	3,13	1,106
		6 – 10	3,52	,981		10-49 b	3,06	,955		26 – 50	3,56	,856		26 – 50	3,67	,651
		11 – 15	3,75	,887		50-249 a	3,61	1,022		51 – 75	3,47	1,073		51 – 75	3,64	1,151
		>15	3,24	1,001		≥ 250 a	3,79	,975		76 – 100	3,64	1,049		76 – 100	3,56	,894
		Total	3,44	,996		Total	3,44	,996		Total	3,44	,996		Total	3,44	,996
3f	1,081 n.s.	1 – 5	3,88	,835	0,643 n.s.	< 10	2,89	,928	0,373 n.s.	< 25	3,23	,956	0,471 n.s.	< 25	3,27	1,112
		6 – 10	3,10	1,261		10-49	3,42	,874		26 – 50	3,56	,984		26 – 50	3,58	,900
		11 – 15	3,36	1,026		50-249	3,35	1,253		51 – 75	3,32	1,250		51 – 75	3,14	1,351
		>15	3,36	,962		≥ 250	3,43	1,089		76 – 100	3,36	1,093		76 – 100	3,41	,925
		Total	3,34	1,051		Total	3,34	1,051		Total	3,34	1,051		Total	3,34	1,051
3g	3,257 p<0,05	1 – 5 a	3,88	,835	0,525 n.s.	< 10	3,33	1,225	0,132 n.s.	< 25	3,06	1,315	0,182 n.s.	< 25	3,13	1,358
		6 – 10 ab	3,24	1,375		10-49	3,28	1,344		26 – 50	3,28	1,447		26 – 50	3,17	1,586
		11 – 15 a	3,43	1,317		50-249	2,90	1,557		51 – 75	3,11	1,595		51 – 75	3,29	1,684
		>15 b	2,55	1,502		≥ 250	2,93	1,492		76 – 100	3,00	1,480		76 – 100	2,97	1,359
		Total	3,10	1,423		Total	3,10	1,423		Total	3,10	1,423		Total	3,10	1,423

- knowing that correct implementation of the rules will positively affect the company's performance or efficiency (3d) was also identified significantly higher as a compliance factor by those companies which have previous experience.

Table 16. Summary of ANOVA results of compliance factors according to the activity of the company and previous experience

Dep. var.	*F*	Activity	Mean	SD	*F*	Previous experience	Mean	SD
3a	0,532 n.s.	Manufacturing	4,12	1,110	0,934 n.s.	Yes	4,35	1,027
		Trade	4,43	,646		No	4,10	1,046
		Service	4,00	,000				
		All	4,17	1,041		All	4,17	1,041
3b	0,428 n.s.	Manufacturing	4,03	,936	1,109 n.s.	Yes	4,17	,887
		Trade	3,86	1,099		No	3,93	1,005
		Service	3,50	2,121				
		All	3,99	,977		All	3,99	,977
3c	0,122 n.s.	Manufacturing	3,62	1,190	6,354 p<0,05	Yes	4,17	1,029
		Trade	3,79	1,251		No	3,46	1,210
		Service	3,50	2,121				
		All	3,64	1,202		All	3,64	1,202
3d	0,038 n.s.	Manufacturing	3,53	1,263	4,269 p<0,05	Yes	3,96	1,296
		Trade	3,43	1,089		No	3,36	1,164
		Service	3,50	,707				
		All	3,51	1,220		All	3,51	1,220
3e	1,168 n.s.	Manufacturing	3,51	,983	1,989 n.s.	Yes	3,70	1,146
		Trade	3,07	1,072		No	3,36	,933
		Service	3,50	,707				
		All	3,44	,996		All	3,44	,996
3f	1,046 n.s.	Manufacturing	3,42	1,060	3,548 n.s.	Yes	3,70	1,259
		Trade	3,00	1,038		No	3,22	,951
		Service	3,00	,000				
		All	3,34	1,051		All	3,34	1,051
3g	0,141 n.s.	Manufacturing	3,07	1,474	0,014 n.s.	Yes	3,13	1,604
		Trade	3,21	1,251		No	3,09	1,368
		Service	3,50	,707				
		All	3,10	1,423		All	3,10	1,423

4.2.3.4 Changes within company after the certification

The answers to the fourth question about the changes that occurred at the company after adopting the standard, were abbreviated from 4a to 4g (see Table 17).

Table 17. Dependent variables of the fourth question – changes within company

Abbreviation	Meaning
4a	We did not lose a certain market share or even new market opportunities opened up
4b	Certain changes in the organisation of work had to be implemented in the company, e.g. new procedures emerged
4c	Company image improved
4d	We even more contribute to natural resource preservation
4e	Relations with business partners and clients improved
4f	In general, company's competitiveness increased
4g	We have better opportunities to advertise due to the used certification label (in Lithuanian or foreign markets)
4h	Certain structural changes had to be implemented in the company, e.g. introduction of new position, responsible for standard implementation supervision or assignment of these obligations to an existing employee
4i	Company's interest in environmental issues increased, e.g. adoption of other means at the company
4j	Generated profit increased (e.g. due to additional part of the price for certified production or the increased sales of certified production, etc.)
4k	Implementation of certain mandatory legislation at the company facilitated
4l	As a result of new rules, performance of certain works at the company became more efficient

- In ranking the statements about the changes which happened in the companies after the certification, statistical analysis revealed significant differences among the groups according to their age, size, the amount of the certified production and previous experience (see Table 18 and Table 19).

Statically significant differences were identified among different age companies (Table 18):

- assumption that the company contributes more to the preservation of natural resources (4d) was identified as a change and it was rated significantly higher by the companies operating for 6-10 years compared to the companies which are oldest in the research – >15 years. No significant differences were observed between the youngest companies of 1-5 and those of 11-15 years old.
- that company's competitiveness increased (4f) was rated significantly higher by the companies operating for 1-5 years than the companies which are oldest in the research – >15 years. No significant differences were observed between the companies of 6-10 and those of 11-15 years.
- that the company's interest in environmental issues increased (4i) was rated higher by the companies operating for 6-10 and 11-15 years than the oldest companies in this research – >15 years. No significant differences were observed between the youngest companies of 1-5 years.
- that the generated profit increased (e.g. due to additional part of the price for certified production or the increased sales of certified production, etc.) (4j) was identified as a change after the certification and was rated significantly higher by the com-

panies operating for 11-15 years compared to the companies which are oldest in the research – >15 years. No significant differences were observed between the youngest companies of 1-5 years and those in their 6-10 years.

- as a result of new rules, performance of certain works at the company became more efficient (4l) was affirmed and rated significantly higher by the companies operating for 1-5 years and 11-15 years compared to the companies which are oldest in this research – >15 years. No significant differences were observed between those companies operating for 6-10 years.

Statically significant differences were identified among different size companies (Table 18):

- companies confirmed that now they contributed even more to natural resource preservation (4d) and this outcome was rated significantly higher by the biggest companies with ≥ 250 than the companies with 10-49 and 50-249 employees. No significant differences were observed between the companies with less than 10 employees from the mentioned above.
- that certain structural changes had to be implemented in the company (4h) was also identified by the companies as a change and it was rated significantly higher by the companies with 50-249 than the companies with 10-49 employees. No significant differences were observed between the smallest companies with less than 10 employees and the biggest with ≥ 250 employees from the mentioned above.

Statically significant differences were identified among the companies with different share of certified production in the total amount of their production (Table 18):

- that the image of the company improved (4c) was rated significantly higher by those companies which certify 26-50 and 51-75 percent of their production than by those which certify only the small share, i.e. < 25 percent. No significant differences were observed between the companies which certify 76-100 percent of their production from the mentioned above.
- that company's competitiveness increased (4f) was rated significantly higher by those companies which certify 26-50 percent of their production than by those which certify only the small share, i.e. < 25 percent or nearly everything, I. e. 76-100 percent. No significant differences were observed between the companies which certify 51-75 percent of their production from the mentioned above.
- the company's interest in environmental issues increased, e.g. adoption of other means at the company (4i) was also a visible change in the companies. This reason was rated in the same manner as the statement analysed before: it was rated significantly higher by those companies which certify 26-50 percent of their production compared to those which certify only the small share, i.e. < 25 percent or nearly everything, i.e. 76-100 percent. No significant differences were observed between the companies which certify 51-75 percent of their production from the mentioned above.

Statically significant differences were identified among the companies which have different experience with environmental standards before they adopted one of the three non-governmental standards of this research: companies which had experience with voluntary standards before rated significantly higher than those companies which had no previous experience that company image improved (4c), that now they even more contribute to natural resource preservation (4d), that in general, company's competitiveness increased (4f), and that company's interest in environmental issues increased (4i) (Table 19).

3.2.4 The effect of the certification at company level: expectations and satisfactions

The effect of the standards adopted by the companies was intended to measure by comparing the adoption factors and the changes that the companies felt after the certification. In other words the expectations before the certification and satisfaction after it.

As was explained in the theoretical part of this work, certification may operate as three governance mechanisms. Each of these mechanisms performs different functions. In the survey different elements (statements) mean different function. The first mechanism consists of 3 items:

(1) New market opportunities or threats to lose the existing market (here – *Market Opportunities*);

(2) Responding to business partners, client demand (here – *Client Demand*); and

(3) Probability to improve company's performance efficiency or performance indicators (financial or other) (here – *Improved Performance*).

These items were interpreted to represent the expectation that certification would give some market advantages. This mechanism tentatively was labelled as "*a market-based*" mechanism which provides marketing opportunities only for the users of the standard.

The second mechanism has two items:

(1) Desire to contribute to natural resource preservation (here - *Resource Preservation*); and

(2) Believing that compliance with the standard rules may contribute to better compliance with the mandatory legislation (here - *Mandatory Legislation*).

These two items largely mean that certification will operate as a way to transfer knowledge about how to reach a better company's environmental performance. So this mechanism is labelled as "*a learning mechanism*" which helps the companies to get knowledge about sustainable practices.

The last mechanism consists of two items:

(1) Desire to improve company's image (here – *Improved Image)*; and

(2) Possibility to advertise by using certification label-logotype (in Lithuanian or foreign markets) (here – *Advertising Opportunities*).

These two items were interpreted to represent the expectation that certification would signal about the company's internal practices to the external public. Hence, the mechanism corresponding with these items is labelled as "*a signalling mechanism*".

In all cases the statements reflecting the mechanisms before the adoption of the standard were evaluated higher compared to the same statements after the certification procedure. Hence, the expectations were always higher than the satisfaction. Statically significant differences, however, were identified only between four pairs of statements (Table 20). All of them represent different mechanisms. The evaluation of all these statements was diverged most before and after certification – the expectations were much higher than the satisfaction.

Although the main adoption factor was the *Client Demand*, it turned out that after the certification procedure the majority of companies were most satisfied with the *Market Opportunities* (Mean=3.89). It means that while the satisfaction was higher with the factor other than the main adoption factor, both the primary expectation and the satisfaction factors were related to the market benefits. However, statically significant difference was

Table 18. Summary of ANOVA results of changes according to the age, size, amount of certified production and export

Dep. var.	*F*	**Age**	Mean	SD	*F*	**Size**	Mean	SD	*F*	**Cert Prod**	Mean	SD	*F*	**Export**	Mean	SD
		1 – 5	4,50	,535		< 10	3,78	,833		< 25	3,61	,989		< 25	3,53	,937
	1,592	6 – 10	3,90	,944	1,165	10-49	4,03	1,000	1,787	26 – 50	4,28	,826	2,442	26 – 50	4,17	1,030
4a	n.s.	11 – 15	3,96	,999	n.s.	50-249	3,65	1,050	n.s.	51 – 75	4,00	1,054	n.s.	51 – 75	3,79	1,122
		>15	3,67	1,109		≥ 250	4,14	1,027		76 – 100	3,86	1,082		76 – 100	4,15	,958
		Total	3,89	1,011		Total	3,89	1,011		Total	3,89	1,011		Total	3,89	1,011
		1 – 5	4,50	,926		< 10	3,78	1,093		< 25	3,84	1,186		< 25	4,10	,923
	1,247	6 – 10	3,81	1,327	0,408	10-49	3,67	1,069	0,317	26 – 50	3,94	,998	1,137	26 – 50	3,75	1,215
4b	n.s.	11 – 15	3,57	1,103	n.s.	50-249	3,97	1,197	n.s.	51 – 75	3,74	1,098	n.s.	51 – 75	3,57	1,158
		>15	3,76	1,251		≥ 250	3,64	1,646		76 – 100	3,59	1,501		76 – 100	3,59	1,417
		Total	3,78	1,207		Total	3,78	1,207		Total	3,78	1,207		Total	3,78	1,207
		1 – 5	3,88	1,126		< 10	3,78	1,302		< 25 b	3,32	1,137		< 25	3,53	1,137
	1,161	6 – 10	3,90	1,091	0,805	10-49	3,56	1,157	4,491	26 – 50 a	4,28	,669	0,959	26 – 50	3,92	1,165
4c	n.s.	11 – 15	3,93	1,086	n.s.	50-249	3,87	,957	p<0,05	51 – 75 a	4,11	,809	n.s.	51 – 75	4,07	,997
		>15	3,48	,972		≥ 250	4,00	,784		76 – 100 ab	3,64	1,136		76 – 100	3,76	,955
		Total	3,76	1,053		Total	3,76	1,053		Total	3,76	1,053		Total	3,76	1,053
		1 – 5 ab	3,75	,707		< 10 ab	4,11	,782		< 25	3,23	1,203		< 25	3,43	1,165
	3,646	6 – 10 a	3,90	1,179	3,472	10-49 b	3,22	1,245	1,672	26 – 50	4,00	,840	0,266	26 – 50	3,33	1,231
4d	p<0,05	11 – 15 ab	3,64	1,062	p<0,05	50-249 b	3,23	1,203	n.s.	51 – 75	3,42	1,346	n.s.	51 – 75	3,29	1,490
		>15 b	2,94	1,298		≥ 250 a	4,14	1,027		76 – 100	3,36	1,293		76 – 100	3,59	1,158
		Total	3,46	1,210		Total	3,46	1,210		Total	3,46	1,210		Total	3,46	1,210
		1 – 5	3,50	1,069		< 10	3,56	,882		< 25	3,26	,893		< 25	3,07	1,015
	2,257	6 – 10	3,52	,928	1,053	10-49	3,50	1,056	1,176	26 – 50	3,83	1,200	2,100	26 – 50	3,83	1,193
4e	n.s.	11 – 15	3,75	,928	n.s.	50-249	3,16	1,157	n.s.	51 – 75	3,32	1,057	n.s.	51 – 75	3,71	1,204
		>15	3,06	1,223		≥ 250	3,71	1,069		76 – 100	3,41	1,221		76 – 100	3,47	,992
		Total	3,42	1,081		Total	3,42	1,081		Total	3,42	1,081		Total	3,42	1,081
		1 – 5 a	4,00	,926		< 10	3,00	,866		< 25 b	2,90	1,076		< 25	3,13	1,167
	3,429	6 – 10 ab	3,52	1,078	1,098	10-49	3,19	1,305	4,848	26 – 50 a	4,00	1,138	0,402	26 – 50	3,33	1,231
4f	p<0,05	11 – 15 ab	3,54	1,071	n.s.	50-249	3,35	1,199	p<0,05	51 – 75 ab	3,68	1,003	n.s.	51 – 75	3,43	1,284
		>15 b	2,85	1,253		≥ 250	3,79	,893		76 – 100 b	3,05	1,214		76 – 100	3,44	1,160
		Total	3,32	1,179		Total	3,32	1,179		Total	3,32	1,179		Total	3,32	1,179

Dep. var.	*F*	Age	Mean	SD	*F*	Size	Mean	SD	*F*	Cert Prod	Mean	SD	*F*	Export	Mean	SD
		1 – 5	3,13	1,246		< 10	2,89	1,537		< 25	3,00	1,265		< 25	3,10	1,242
	0,978	6 – 10	3,48	1,289	0,443	10-49	3,31	1,238	1,902	26 – 50	3,78	,943	1,357	26 – 50	3,83	1,030
4g	n.s.	11 – 15	3,54	1,201	n.s.	50-249	3,42	1,177	n.s.	51 – 75	3,53	1,307	n.s.	51 – 75	3,57	1,399
		>15	3,06	1,171		≥ 250	3,36	1,082		76 – 100	3,18	1,181		76 – 100	3,21	1,149
		Total	3,31	1,215		Total	3,31	1,215		Total	3,31	1,215		Total	3,31	1,215
		1 – 5	3,50	1,512		< 10 ab	3,44	1,236		< 25	3,10	1,557		< 25	3,50	1,456
	0,286	6 – 10	3,19	1,470	2,964	10-49 b	2,61	1,248	0,399	26 – 50	3,39	1,335	1,860	26 – 50	2,33	1,371
4h	n.s.	11 – 15	3,11	1,423	p<0,05	50-249 a	3,65	1,624	n.s.	51 – 75	3,16	1,500	n.s.	51 – 75	3,21	1,477
		>15	2,97	1,649		≥ 250 ab	3,00	1,710		76 – 100	2,86	1,642		76 – 100	3,00	1,557
		Total	3,11	1,510		Total	3,11	1,510		Total	3,11	1,510		Total	3,11	1,510
		1 – 5 ab	3,13	,991		< 10	3,00	1,000		< 25 b	2,52	1,122		< 25	2,80	1,064
	6,673	6 – 10 a	3,10	,944	0,592	10-49	2,78	1,222	3,580	26 – 50 a	3,44	,784	0,027	26 – 50	2,83	1,267
4i	p<0,05	11 – 15 a	3,21	1,101	n.s.	50-249	2,65	1,082	p<0,05	51 – 75 ab	2,95	1,026	n.s.	51 – 75	2,86	1,460
		>15 b	2,18	,950		≥ 250	3,07	,829		76 – 100 b	2,55	1,143		76 – 100	2,76	,923
		Total	2,80	1,093		Total	2,80	1,093		Total	2,80	1,093		Total	2,80	1,093
		1 – 5 ab	2,75	1,389		< 10	2,44	1,236		< 25	2,42	1,177		< 25	2,47	1,042
	3,032	6 – 10 ab	2,67	1,065	0,792	10-49	2,75	1,273	0,740	26 – 50	2,89	1,231	1,792	26 – 50	3,25	1,357
4j	p<0,05	11 – 15 a	2,89	1,315	n.s.	50-249	2,35	1,142	n.s.	51 – 75	2,47	1,264	n.s.	51 – 75	2,36	1,216
		>15 b	2,03	1,075		≥ 250	2,29	1,267		76 – 100	2,36	1,255		76 – 100	2,35	1,276
		Total	2,51	1,220		Total	2,51	1,220		Total	2,51	1,220		Total	2,51	1,220
		1 – 5	2,38	1,061		< 10	2,78	,833		< 25	2,10	,978		< 25	2,30	1,022
	2,096	6 – 10	2,57	1,028	0,942	10-49	2,50	1,254	2,112	26 – 50	2,83	1,150	0,435	26 – 50	2,67	1,303
4k	n.s.	11 – 15	2,86	1,208	n.s.	50-249	2,26	1,237	n.s.	51 – 75	2,68	1,157	n.s.	51 – 75	2,57	1,399
		>15	2,15	1,093		≥ 250	2,79	,579		76 – 100	2,59	1,221		76 – 100	2,56	1,078
		Total	2,49	1,134		Total	2,49	1,134		Total	2,49	1,134		Total	2,49	1,134
		1 – 5 a	3,50	1,309		< 10	2,67	1,118		< 25	2,32	1,077		< 25	2,50	1,167
	5,057	6 – 10 ab	2,52	1,123	1,034	10-49	2,58	1,339	1,919	26 – 50	2,89	1,323	0,119	26 – 50	2,50	1,446
4l	p<0,05	11 – 15 a	2,79	1,258	n.s.	50-249	2,19	1,195	n.s.	51 – 75	2,79	1,182	n.s.	51 – 75	2,64	1,393
		>15 b	1,97	,984		≥ 250	2,79	,893		76 – 100	2,14	1,246		76 – 100	2,41	1,131
		Total	2,49	1,211		Total	2,49	1,211		Total	2,49	1,211		Total	2,49	1,211

Table 19. Summary of ANOVA results of changes according to the activity of the company and previous experience

Dep. var.	*F*	Activity	Mean	SD	*F*	Previous experience	Mean	SD
4a	1,243 n.s.	Manufacturing	3,86	1,025	1,781 n.s.	Yes	4,13	,920
		Trade	4,14	,949		No	3,81	1,033
		Service	3,00	,000				
		All	3,89	1,011		All	3,89	1,011
4b	0,659 n.s.	Manufacturing	3,76	1,237	2,690 n.s.	Yes	4,13	1,254
		Trade	4,00	1,109		No	3,66	1,175
		Service	3,00	,000				
		All	3,78	1,207		All	3,78	1,207
4c	1,088 n.s.	Manufacturing	3,82	,970	4,053 p<0,05	Yes	4,13	,968
		Trade	3,50	1,225		No	3,63	1,057
		Service	3,00	2,828				
		All	3,76	1,053		All	3,76	1,053
4d	0,428 n.s.	Manufacturing	3,41	1,193	4,594 p<0,05	Yes	3,91	1,240
		Trade	3,64	1,336		No	3,30	1,168
		Service	4,00	1,414				
		All	3,46	1,210		All	3,46	1,210
4e	0,468 n.s.	Manufacturing	3,39	1,108	2,707 n.s.	Yes	3,74	,964
		Trade	3,64	,929		No	3,31	1,104
		Service	3,00	1,414				
		All	3,42	1,081		All	3,42	1,081
4f	2,080 n.s.	Manufacturing	3,42	1,170	8,408 p<0,05	Yes	3,91	,949
		Trade	3,00	1,109		No	3,12	1,187
		Service	2,00	1,414				
		All	3,32	1,179		All	3,32	1,179
4g	2,691 n.s.	Manufacturing	3,45	1,112	1,358 n.s.	Yes	3,57	1,199
		Trade	2,71	1,490		No	3,22	1,216
		Service	2,50	2,121				
		All	3,31	1,215		All	3,31	1,215
4h	0,283 n.s.	Manufacturing	3,15	1,532	3,448 n.s.	Yes	3,61	1,588
		Trade	2,86	1,512		No	2,94	1,455
		Service	3,50	,707				
		All	3,11	1,510		All	3,11	1,510
4i	0,260 n.s.	Manufacturing	2,84	1,086	4,689 p<0,05	Yes	3,22	,951
		Trade	2,64	1,082		No	2,66	1,109
		Service	2,50	2,121				
		All	2,80	1,093		All	2,80	1,093
4j	1,670 n.s.	Manufacturing	2,57	1,240	0,196 n.s.	Yes	2,61	1,033
		Trade	2,43	1,089		No	2,48	1,283
		Service	1,00	,000				
		All	2,51	1,220		All	2,51	1,220
4k	0,219 n.s.	Manufacturing	2,51	1,162	1,027 n.s.	Yes	2,70	1,063
		Trade	2,43	1,089		No	2,42	1,157
		Service	2,00	,000				
		All	2,49	1,134		All	2,49	1,134
4l	0,889 n.s.	Manufacturing	2,43	1,217	1,324 n.s.	Yes	2,74	,864
		Trade	2,86	1,231		No	2,40	1,303
		Service	2,00	,000				
		All	2,49	1,211		All	2,49	1,211

identified between the evaluation of *Client Demand* before and after the certification. It means that certification did not bring the expected effect of the better clients' satisfaction. Even more, the decrease of a given value to this statement was the highest – 1.1 point (Table 20).

Further, the effect of *Improved image* was felt by the companies (Mean=3.76). This element represents a signalling mechanism. Statically significant difference was identified between the evaluation of this statement before and after the certification. It means that certification did not bring the expected effect of the better companies' image. The decrease of a given value to this statements was also high – 0.43 point (Table 20).

Statically significant difference was identified between the evaluation of the statement about *Improved Performance* before and after the certification. It means that certification did not bring the expected effect of the better companies' performance either it be financial or other. The decrease of a given value to this statements was also high – 0.64 point (Table 20).

Statically significant difference was also identified between the evaluation of the statement about *Mandatory Legislation* before and after the certification. It means that certification did not bring the expected effect of the better compliance with the mandatory legislation. The decrease of a given value to this statements was also very high – 0.71 point (Table 20).

The average values of given means to items representing each of the three mechanisms that certification can perform were deduced to compare the general evaluation of these mechanisms (See Figure 11).

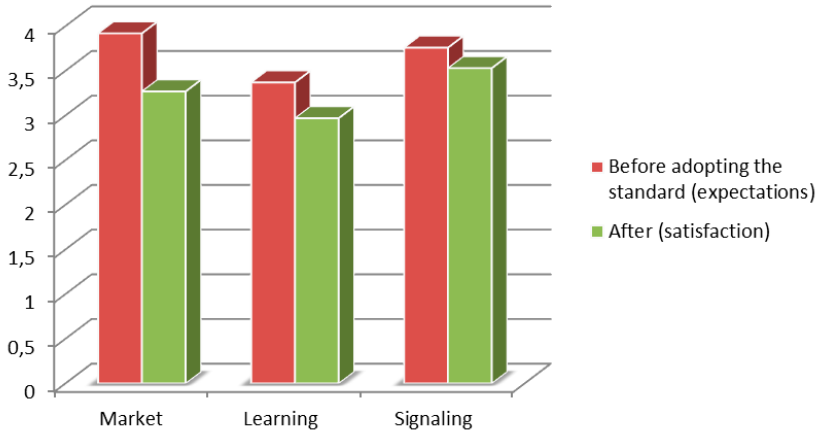


Figure 11. Different mechanisms of the certification: expectations and satisfaction

An overall evaluation of the three different mechanisms differs statically significantly in all the cases. All statements reflecting the certification as a market-based mechanism got the highest average value (Mean=3.92). The satisfaction with this mechanism after the standard adoption and certification, however, was lower than the expectations

Table 20. Summary of the Paired Samples Statistics results

		Statements reflecting the mechanism	Mean before / Mean after	Difference	Sig.	SD
Market	Pair 1	New market opportunities or threats to lose the existing market	4,08	0,19 decrease	n.s.	1,114
		We did not lose a certain market share or even new market opportunities opened up	3,89			1,011
	Pair 2	Responding to business partners, client demand	4,52	1,1 decrease	p<0,05	,810
		Relations with business partners and clients improved	3,42			1,081
	Pair 3	Probability to improve company's performance efficiency or performance indicators (financial or other)	3,16	0,65 decrease	p<0,05	1,381
		Generated profit increased (e.g. due to additional part of the price for certified production or the increased sales of certified production, etc.)	2,51			1,220
Learning	Pair 4	Desire to contribute to natural resource preservation	3,54	0,08 decrease	n.s.	1,201
		We even more contribute to natural resource preservation	3,46			1,210
	Pair 5	Believing that compliance with the standard rules may contribute to better compliance with the mandatory legislation	3,20	0,71 decrease	p<0,05	1,274
		Implementation of certain mandatory legislation at the company facilitated	2,49			1,134
Signalling	Pair 6	Desire to improve company's image	4,19	0,43 decrease	p<0,05	,935
		Company image improved	3,76			1,053
	Pair 7	Possibility to advertise by using certification label-logotype (in Lithuanian or foreign markets)	3,33	0,02 decrease	n.s.	1,349
		We have better opportunities to advertise due to the used certification label (in Lithuanian or foreign markets)	3,31			1,215

(Mean=3.27). The decrease in evaluation of this mechanism by 0.65 was statistically significant (Table 21).

The statements reflecting a signalling mechanism got the second highest average value (Mean=3.76). But the satisfaction with this mechanism after the standard adoption and certification, however, was lower than the expectations (Mean=3.53). The decrease in evaluation of this mechanism by 0.23 was statistically significant (Table 21).

Finally, the least average value was given to the statements reflecting a learning mechanism (Mean=3.37) (Table 21). And again, the satisfaction with this mechanism after the standard adoption and certification was lower than the expectations (Mean=2.97). The decrease in evaluation of this mechanism by 0.4 was statistically significant (Table 21).

Table 21. Summary of Paired Samples Test results

	Statements reflecting the mechanism	Mean before / Mean after	Difference	Sig.	SD
Market	Market opportunities Client demand Improved performance	3,9185 / 3,2741	0,65 decrease	p<0,05	0,78022
Learning	Resource preservation Mandatory legislation	3,3722 / 2,9722	0,4 decrease	p<0,05	0,79394
Signalling	Improved image Advertising opportunities	3,7611 / 3,5333	0,23 decrease	p<0,05	0,80435

To illustrate these results an Importance-performance graph (IPA) (Martilla & James, 1977) was developed. It helps to visualise and explain how the certification works. From the graph below it can be seen that companies assigned high importance to each of the mechanisms, but not all of them have satisfied the expectations. Clearly, the most satisfactory performance of certification is that of a signalling mechanism (Figure 12). Both of the signalling-related items are located in the high expectation/high performance quadrant. As a market mechanism, companies assigned high expectations to all of the three items, and poor performance was assigned only to one of them. One learning item was placed in high performance/high expectation quadrant, another – in high performance, but low expectation. Thus, certification operates poor as a learning mechanism (Figure 12).

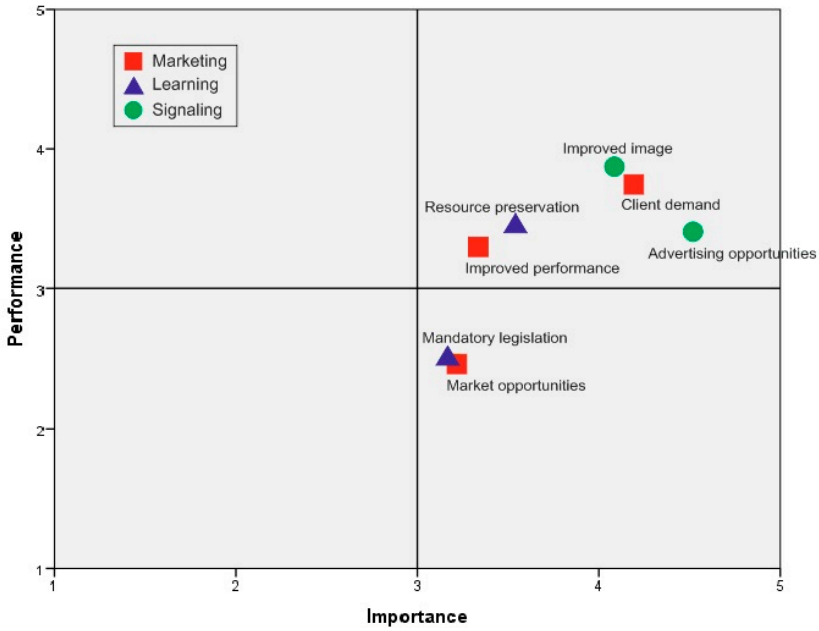


Figure 12. Mean importance and performance of Likert items for market, learning and signalling factors

To sum up, the highest expectations of certification were related to its ability to function as the market-based mechanism. Expectations with the signalling and learning aspects of certification were lower. Despite the fact that expectations were high, satisfaction of market-based aspects of certification was low. Respondents rated that certification works best as the signalling mechanism. In the case of learning new practices, both expectations and satisfaction were largely low.

3.3 Discussion

This study sought to answer the questions about self-regulation through environmental certification: the reasons why companies adopt voluntary environmental standards and comply with their rules as well as what is the effect certification brings to Lithuanian companies. This chapter explains what the results mean, if and why they differ from what other researchers have found.

Diverse results originated due to the different manner of empirical data collection and analysis. Initial qualitative study revealed that voluntary environmental certification as a self-regulatory instrument has additional effects which go beyond rules implementation and compliance. It also drew the path for further quantitative research. Meanwhile, the quantitative study revealed the general situation about the certified companies, their motives and the effect that certification has.

3.3.1 Why companies adopt voluntary environmental standards and comply with the rules

Characteristics of companies

The research revealed that environmental self-regulation through non-governmental certification is a new phenomenon in Lithuania as the majority of the companies use this type of certification for a few years only. Such companies usually are small or medium-sized enterprises. This contrast with other countries, where the research revealed that larger companies, having more employees, are significantly more likely to adopt VEIs (Potoski & Prakash, 2005). This difference can be explained by the fact that in general there are few large enterprises in Lithuania. The research also revealed that the least number of certified companies are microenterprises. The reason as to why microcompanies do not become certified might be the fact that it is too expensive for them considering that the price of the certification was indicated as the biggest problem companies faced after the decision to certify was taken.

The majority of the certified companies operate for more than 10 years, which means that younger companies seldom choose to certificate. Again, it is obvious that younger companies perceive certification as too expensive tool even if it could be used as a competitive advantage for them in trying to get their market share.

Interesting is the fact that companies export either a small proportion of their certified production or nearly everything. This indicates that certification is used for different reasons and geographies – for local or international markets.

More than 70 percent of the companies affirmed they have never used any other voluntary environmental instrument before the adoption of the FSC, MSC or OEKO-TEX standard. This fact is important as non-governmental rules now guide the actions of those companies which before were not aware of their environmental performance more than the mandatory rules obliged them to. Nevertheless, this contrasts with the research in other countries which disclosed that this type of certification was most often used by the pioneers – by those who are environmentally aware and have already used other measures, for instance ISO1400 or EMAS (Prakash & Potoski, 2012). The results of this study, however, showed that environmental non-governmental certification was used by the "laggards" rather than the pioneers in Lithuania.

Adoption factors

This research was based on several organizational theories, which help to explain why companies decide to self-regulate and change their activities with adopting certain rules. The results revealed that mostly it was external pressures from the stakeholders or a wish to inform the outsiders about the environmental commitments of the company. Thus, the stakeholder or information theories suit the best to explain the phenomenon of self-regulation through voluntary environmental certification in Lithuania.

The main idea of environmental self-regulation through certification is to contribute to the conservation and management of natural resources. This, however, was not an important reason for the companies in Lithuania when taking the decision to certify their products. The results showed that the main adoption factor that determined enterprise's decision to adopt the standard was the client demand and respond to business partners' requirements. Similar results were observed in previous studies. Morris and Dunne (2004)

presented the empirical study on the environmental certification and its impact on the furniture and timber products value chain in South Africa. When analysing the driving forces that push certification within the South African companies they found there were only minority of the companies that certified due to the environmental concerns. Most of the time it was due to the requirement from the big foreign retailers. Other study also confirmed that external pressures from the stakeholders either it be customers or neighbourhood and community groups was an important factor in taking the decision to self-regulate (Gulbrandsen, 2005; Henriques & Sadorsky, 1996; Khanna & Damon, 1999; Potoski & Prakash, 2005). This confirms the fact that the external pressures from different stakeholders are one of the strongest motives for the companies to self-regulate and participate in voluntary environmental programmes. This is an important factor despite the geographical location of the company owing to the fact that the results of different studies are the same in different countries. What is important, however, is that the size of the company is significant when evaluating the demand from the customers and business partners as the reason to adopt the environmental standard. This research revealed that micro and small companies evaluated this motive as more important compared to medium-sized and large enterprises. This can be explained by the fact that usually smaller companies are more dependent on their customers and business partners, while the large companies have bigger number of clients and a variety of business partners. On the other hand, not only the number of clients or business partners is important, but also the characteristics of the relationship between them. Even though the closeness of the relationship does not influence the supplier's decision to certify since both with closer relationships and with more distant relationships with their customers are likely to adopt the VEIs (although for different reasons), suppliers tend more to meet the environmental requirements of their customers' when relationship-specific investment occurs (Delmas & Montiel, 2009; Simpson et al., 2007). This reasoning suits for this research as well and is supported by the qualitative data obtained through the interviews after the questionnaire was filled in by several representatives of different companies. Interviewee from the small company admitted that they have invested relatively big money into specific manufacturing equipment to ensure the contract with now their main client and loosing this client would be detrimental for the company.

This research revealed that self-regulation decision of companies was also motivated by the desire to improve company's image. Significant difference in expecting to improve company's image publicly was among those companies which had previous experience with other VEIs: those companies which used any other environmental management instrument before adopting one of the three analysed standards ranked this factor higher. This can mean that companies with previous experience already knew if self-regulation through VEIs can or cannot contribute to the improvement of their company's image. This supports the results of previous studies which revealed that company's public image was one of the most important variable that encouraged participation in different voluntary environmental programs (Celdran et al., 1996; Coglianese & Nash, 2006; King & Lenox, 2000; Morris & Dunne, 2004). Moreover, the findings support the notion that an organization's complementary resources (such as quality managements systems, innovative technologies, etc.) facilitate the adoption of various environmental practices (Darnall, 2006). Hence, previous experience with other management instruments or other

organization's resources can not only facilitate, but also encourage companies to take the decision to adopt the VEI in a first place as the previous experience can provide more confidence to the company that it will succeed to implement all the requirements.

Possibility to gain access to certified markets or threats to lose the existing market share was also an important motive for the companies to start self-regulation and to adopt one of the three voluntary environmental standards. Analogous results were found in previous studies. Goyert et al. (2010) analysed the adoption of the MSC standard for sustainable fisheries at the Maine lobster fisheries in the USA. The top reasons for supporting certification there were the possibility that certification will open new markets and that the industry may lose markets if it does not get certified. Thus, this reason was the most important in Maine lobster industry when taking the decision to certify their production. Other studies also discovered that new market opportunities or a threat to lose the existing market are good incentives for the companies to adopt voluntary environmental standards (Carlsen et al., 2012; Overdevest & Rickenbach, 2006; Pérez-Ramírez et al., 2012). However, this research revealed that the share of certified production in the total amount of company's production also has the effect in assessing the above analysed adoption motive. The important difference was among those companies which certify large amount of their production and only a small part of it. Logical looks the result that those companies which certified only a small part of their production rated significantly lower this reason than the companies which certified a large amount of their production. Additionally, important difference in expecting to gain access to certified markets or not to lose the existing market share was among those companies which had previous experience with other voluntary management instruments. Those companies which had previous experience rated this adoption reason as much more important compared to those who previously did not have any other experience with certification. This presupposes that experienced companies already knew that the decision to certify can bring these market benefits.

Interesting is the result that companies with the previous experience in general had bigger expectations compared to those which had never used other voluntary environmental instrument before. The former companies expected that adoption of the environmental standard will bring benefits of improved image, open new markets, contribute to the conservation of natural resources and, on top of that, the compliance with the standard rules will contribute to the better compliance with the mandatory legislation. This result means that companies which are more environmentally aware and tend to self-regulate through more than one environmental management instrument are likely to expect more from the instruments they use. Meanwhile, those companies that had never used any other instrument before were more sceptical about the benefits the certification will bring. Since the major factor which influenced the adoption decision of the companies was the client demand or the requirement from business partners, this presupposes that those companies which had not used any other environmental instruments before were simply forced to certify even if they did not believe in the effectiveness thereof.

The economic rationale suggests that companies self-regulate and adopt voluntary environmental certification due to economic benefits (Rotherham, 2005). The results, however, showed that this was not an important standard adoption factor. Probability to improve enterprise's performance efficiency or indicators (financial or other) was rated as the lowest expectation that the certification can bring. Similar results were observed in previous

studies. Wilson, Takahashi, and Vertinsky (2001) presented the results of a survey designed to analyse the attitudes of Canadian forest companies toward the ISO 14001, CSA, FSC and ForestCare certification schemes and the underlying basis for those attitudes. The results, which include responses from 117 companies, showed that companies did not expect to get a price premium from any of the certification scheme. Other work also presented similar results (Overdevest & Rickenbach, 2006). Still, an important difference in expecting to get these benefits was among the companies of different age: the oldest companies expected less than the younger ones. This presupposes that younger companies, possibly due to their inexperience, expected more financial benefits from using VEIs.

It should be noted that the results of this research also showed some differences from other works. The size of export did not show significant differences among the companies in their decision to certify. Different results were found in the study of certified companies in China (Christmann & Taylor, 2001). There the proportion of export to developed countries was an important factor for the companies to become certified. This difference can be explained by the fact revealed in the initial qualitative research. The first to get certified, for instance, in wood processing sector, were several large companies, which led to a snowball effect – their suppliers had to become certified as well. Exporters usually are such large companies and thus their suppliers are smaller companies, which do not export their certified production but sell it in Lithuanian market to those large companies.

To sum up, external pressures, such as requirements from the stakeholders, or reasons emerging from the inside of a company, such as desire to improve company's image or previous experience with other VEIs was equally important factors that influenced companies' decisions to certify their practices. Though, when speaking about the theoretical background, it is obvious that theories related to the external pressures or theories related to informational exchanges are both suitable to explain the phenomenon of self-regulation through environmental certification in Lithuania.

Problems after the decision to adopt the standard was taken

To better understand the whole process of environmental certification and management within the companies, problems were analysed which had arisen after the decision to adopt the standard was taken. The main challenge the enterprises faced was the certification price and the time it takes handling the documents and adopting the new practices within the company. Similar results were observed in previous studies. In the study by Goyert et al. (2010) among the top concerns that members of the Maine's lobster industry expressed about the MSC certification were doubts related to the funding and who will pay for on-going certification costs as well as worries of additional bureaucracy. Other studies also show that expenses, either it be price or time, are the most significant concerns that companies face after they decide to adopt certain environmental management standards (Morris & Dunne, 2004). When evaluating these problems, important difference, however, emerges among different size companies. Certification price was more important for smaller companies compared to the larger ones. Similar results were observed in previous studies even if these analysed certification of environmental management systems (Nakamura, Takahashi, & Vertinsky, 2001; Nishitani, 2009). This can be explained by the fact that for the smaller companies expenditures are relatively higher than for the larger ones. There is also a possibility that larger organization may already possess certain

skills and practices required by the standard. Therefore, larger companies have a greater incentive to self-regulate and adopt various VEIs. Additionally, companies that certify only a small amount of their production ranked the price and the time it takes to get the certificate as more important issues in comparison with companies which certify large amounts of their production. This result is very predictable as those companies which use certification only for a small amount of their production value the certification less.

When evaluating the other problems that companies faced, significant differences were observed among different age companies. A problem of shortage of general knowledge about certification and doubts regarding the abilities to implement all requirements were more important to the older companies. It can be explained by the fact that in general older organizations are more resistant to any organizational change as inertia increases with age – organizations tend to become inflexible as they grow older (Hannan & Freeman, 1984). The risk about cheating of others by using the same certification and a risk that if many enterprises will get certified, the company will stop being exclusive in general were ranked as not important problems, but important differences were observed among different age companies. These problems were more important to the youngest companies and those in their 11-15 years of operation. This result is somewhat unexpected as the question of reputation usually is more important for the older companies, i.e. for those who have gained the reputation through the long years of operation. Since responsible practices can enhance reputation (Hoejmose, Roehrich, & Grosvold, 2014), logically such damaged reputation of the certification scheme can have an impact on the companies using that certification. The reasons as to why companies do not care about the damaged reputation can originate from the weak "green" society in Lithuania which has a low environmental concern, poor knowledge about the causes and solutions of environmental problems and weak involvement into environmental activities, like participation in NGOs (Balzekiene & Telesiene, 2011). Most likely the customers in such society are not very demanding and responsive to environmental injustice.

To summarize, the research revealed that companies were concerned about the problems related to the internal environment of the company, such as finance (ability to pay for the process) or employees and business processes (ability to implement all the rules required), rather than the problems coming from the external micro environment (competitors which can damage the reputation of certification or potential entrants which can also use the same certification and prevent from being exclusive).

Compliance factors

Transnational environmental management standards and certification schemes that have been advocated as a governance mechanism for company self-regulation and promotion of sustainable environmental practices can be effective only if certified companies comply with the requirements of the standards. Organizations may successfully implement the certification procedure and be issued the certificate. In this way they demonstrate their environmental commitments, however, this can be decoupled from the actual practices in the organization (Meyer & Rowan, 1977). Moreover, companies are verified by independent third-party auditors, but questions about the auditors' qualification and independence as well as the significance and reliability of the certification process raise general concerns about the effectiveness of third-party certifications (Boiral,

2003; Heras-Saizarbitoria, Dogui, & Boiral, 2013). This research did not aim to reveal whether companies comply with the standard's rules. Rather the opposite – it was taken for granted that companies do comply with the rules and the question was raised about the compliance incentives and facilitators. The results revealed that nearly all the companies have an appointed person who is responsible for the implementation of and compliance with the certification rules. This is an important fact showing that compliance with the rules is perceived as a problem of one person within the organization. It means that not everyone is involved in the process, although the participatory approach by *all* employees usually is an important condition for the successful implementation of the rules (see, for example, the requirements of FSC, MSC, EMAS and other).

As the results have shown, companies perceive that the compliance with the rules of non-governmental voluntary standards is just a matter of honour and the control mechanism with a threat of losing the certificate is not an inducement to comply with the requirements. This result differs from previous studies which showed that certified companies select their level of compliance depending on customer preferences, monitoring, and expected sanctions by customers (Christmann & Taylor, 2005).

When considering whether the rules were easy or inexpensive to implement and that this was the main facilitator for a successful compliance, important differences emerged among different size companies. Medium-sized and large enterprises rated that it was easy and inexpensive to implement the standard's rules, however, micro and small enterprises were not so optimistic. This fact once again supports the notion that in general larger companies can easier implement self-regulation through the adoption and implementation of the rules of environmental standards as expenditures are relatively smaller for them; moreover, they may already possess certain skills and practices needed to obtain the certificate.

Interesting to note that more than a half of the companies stated they comply with the rules because they know it will positively affect the enterprise's performance or efficiency. Despite that, this factor was not an important adoption motive and it was evaluated as the least important among all the motives.

Even though the compliance with the certification rules was not the key question of this research, findings suggest that there is a need to pay more attention to the actual implementation of the standards' rules. The fact that company has a certificate does not necessarily mean it fully complies with the rules of the standard. It might help to explain why in some studies researchers revealed certification did not improve companies' environmental performance (Andrews, Hutson, & Edwards, 2006; King et al., 2005). Further research needs to evaluate the fact of the actual implementation and compliance with environmental standards' rules and estimate how the level of implementation may affect the results.

3.3.2 Changes and the effect of voluntary environmental standards at company level

Changes in company after adopting the standard

Evidence suggests that major changes which happened in the companies after they started self-regulation processes were not related to the changes of internal managerial practices, but it was an effect seen or felt from the outside of the company, such as improved image or better relations with business partners. Less changes happened to the managerial practices inside the companies, such as introduction of new procedures or certain

structural changes. Results showed that some changes in organizing the work had to be implemented in nearly two thirds of the certified enterprises, e.g. new procedures were introduced, and this was the main managerial change required by the rules of certification. This can mean that certification of the companies operating in the middle of the supply chain does not require much of the changes in their managerial practices. But since these companies were required to obtain the certificates by their partners and customers, likely is the fact that they adapted their practices to the rules of the standard much earlier before the certification. Thus the certification procedure was just the formality to get the certificate and the permission to use the label.

Research results revealed that the most important change which happened in the companies after the certification was the fact that companies did not lose market share or even new market opportunities opened up. Similar results were observed in previous studies. Morris and Dunne (2004) in their analysis of South African timber manufacturers revealed that the FSC certification has not had the effect of giving access to a whole new range of customers, but it definitely helped to maintain the current market share. The study of the MSC certification in Argentina revealed that the market maintenance was one of the main benefits received after the certification (Pérez-Ramírez et al., 2012). Yet another study of the MSC certification in the US revealed the same result – certification could potentially provide benefits of maintaining access to markets for exclusive products (Goyert et al., 2010). Thus the findings of this research presuppose the idea that certification is needed for the companies to maintain the market, especially for those companies operating in the middle of the supply chain.

The results also showed that companies felt their image was improved due to the certificate they hold. Interesting is the fact that important difference in ranking this change was among different size companies: larger enterprises felt the effect of improved image more than the smallest companies. This can be explained by the fact that large companies usually are more often targeted by various green groups and even by the regulator (e.g. the European Commission) to disclose information and to increase their transparency on environmental and social matters.[26] Environmental certificate is a good way to demonstrate environmental commitments to the stakeholders and release the pressure. The improved image and a positive public reputation was found as a benefit of certification in the other studies as well (Owari et al., 2006; Pérez-Ramírez et al., 2012).

The results of this research showed that companies did not gain direct financial benefits after the certification. Analogous results were presented in the other studies. Therefore, the findings confirm the fact that environmental certification does not offer price premiums for the certified products. Quantitative and qualitative studies developed by different authors in different countries, such as the study by Morris and Dunne (2004) where the South African timber manufacturers are analysed, the research by Owari et al. (2006) where the wood suppliers in Finland are researched or the study by Goyert et al. (2010) where fishing industry in the US is analysed, showed that environmental certification did not bring price premiums for the certified products to the producers or suppliers.

Empirical evidence implies that EMS certification is effective at improving members' regulatory compliance (Potoski & Prakash, 2005). However, the results of this research revealed

[26] See for instance, the proposal for a Directive amending Council Directives 78/660/EEC and 83/349/EEC as regards disclosure of non-financial and diversity information by certain large companies and groups: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52013PC0207:EN:NOT [accessed on 10 March 2014]

somewhat different view – nearly half of the companies claimed they disagree or completely disagree with the fact that implementation of certain mandatory legislation at the enterprise facilitated after the certification. There can be several explanations for this discrepancy. First of all, the majority of the VEIs induce companies to follow the law and thus it could potentially help to comply with the regulations but only in the countries with weak governments' capacity to make and enforce the law and/or where the culture of compliance among companies is not conventional (Prakash & Potoski, 2012). Such countries usually are developing countries and likely certification in Lithuania is not the main reason for compliance with environmental regulations. On the other hand, EMS is the certification for the systems and this research analysed self-regulation through the certification for products (see Chapter 2.1.1). It is possible that EMS certification could potentially provide benefits at improving regulatory compliance, but not the certification of products due to different rules and application.

As was stated above, the research showed that in most cases enterprises certified not to contribute to the environment protection, but mainly due to the requirement from business partners and clients. Therefore, it was not in essence an actual voluntary decision for self-regulation and contribution to the environment protection. The author of this thesis expected, however, that the adoption of one environmental standard would raise the environmental awareness of the company and consequently it would get more interested in other additional environmental instruments. Nonetheless, the research exposed that adoption of one non-governmental environmental standard did not raised companies' interest in environmental issues.

The effect of voluntary environmental standards

Various researchers referred to certification as different mechanisms in the way it operates and what benefits it provides. The analytical framework for the investigation of the effect that voluntary environmental certification brings to the companies was adopted mainly from the research by Overdevest and Rickenbach (2006). This research characterized certification as a market-based mechanism, as a signal to the stakeholders about the sustainable practices, or as a learning mechanism which helps to transfer good practice to the companies. The effect of the standards adopted by the companies was measured by comparing the adoption factors and the changes that the companies felt after the certification, i.e. the expectations compared with the satisfaction.

The findings suggest that the overall expectations were higher than the satisfaction in all cases. Companies expected that certification will operate the best as a market-based mechanism, however, they were disappointed in its ability to create new market opportunities, to improve relations with business partners or clients as well as to earn price premiums. Since there is no satisfaction with economic and market dimensions of certification, some other mechanism must explain its diffusion.

Another explanation about the way certification operates and the benefits it provides is the ability to transfer knowledge and good practice to the companies. Results showed that companies were not motivated by such expectations nor were they satisfied with the benefits certification provided in this respect. In fact, the lowest expectations and satisfactions were related to learning services of certification.

Finally, the possibility to send the signal about the sustainable practices in the company was not the main expectation of certification. However, the most satisfactory performance

was accredited exactly to the signalling mechanism, even though the satisfaction was still lower than the expectations.

Despite the fact that the target group there was the forest owners which hold the FSC certificate and that there were some differences in questionnaires, the results of this research are mainly similar to those of the study by Overdevest and Rickenbach (2006). Their results showed that while expectations were high, certification operates poorly as a market-based mechanism. Respondents were disappointed in certification's ability to create new market opportunities, to gain access to certified markets or to earn price premiums. Certification's ability to transfer knowledge and good practice to forest owners, i.e. to operate as a learning mechanism, was not a primary expectation. And landowners mostly were not satisfied with the effect in this regard. Only one learning item (which was not included in the survey of this research) was evaluated high. The landowners placed high expectations and got strong return in expecting the certification will help to meet high ecological standards. Only the items related to the signalling mechanism were placed relatively high, and got strong returns. Thus this study identified that certification operates better as a signalling mechanism compared to provision of any other services.

The findings of this research support the notion that some may think these results indicate that sooner or later certification will fail as in general it does not meet the expectations (Overdevest & Rickenbach, 2006, p. 101). However, the attention has to be drawn to the relatively high rates of the overall satisfaction despite that market or other expectations were not fulfilled. Research suggests that certification provides various benefits for the companies; the problem might be exaggerated expectations. Eventually self-regulation through environmental certification could become a commonness among the companies and unmet expectations would not be a part of it anymore as everyone would know what to expect and what could be received.

3.3.3 Problems, capacity and prospects of self-regulation through environmental non-governmental certification

Self-regulation through environmental certification has been the central subject in this work. Initial qualitative research revealed different aspects of the beginning of private environmental certification in Lithuania. It turns out that certification of forest management started in national forests first. It was a political decision to certify all national forests. Later there was an attempt to certify a group of private forests as well but it did not work out. The main hindrance for the diffusion of certification within the private forests was the price of certification. It may change, if the certification scheme would change in the future. For instance, if only a symbolic fee would be charged for certification, then perhaps private owners would also certify their forest areas. Or a fee for certification or logo use would be applied according to the amount of wood sold. Especially since such a scheme would mean that the environmental standard is applied for works at the forest, but its logging would not be a priority or a necessity in order to recoup the certification costs. In such way certification would not cause the adverse side effect – the desire to log the forest as soon as possible and to recover the invested assets. Thus, to be an attractive and widely used environmental instrument for raw material suppliers, be it foresters or fishermen, and to become an effective self-regulatory instrument the certification scheme has to be well considered in advance, especially its implementation process and related costs.

Initial qualitative research also highlighted unintended consequences of certification. The situation when the forest workers apply the rules of the forest management standard in uncertified forests is a good example of the positive unintended consequences. Obvious is that the requirements are well developed and acceptable to those who are working in the forest and that should be the reason why they easily get used to it. Later foresters work only according to the rules of the standard no matter whether the forest is certified or not.

This research also revealed the negative unintended consequences that certification might have. An example of such implication is related to the average size of private forest in Lithuania which is three ha; while clear-cut, allowed by the FSC is five ha. Consequently, after certification of an average private Lithuanian forest estate, it could be logged at once. This means that, firstly, it is not worth having the certificate for 5 years. On the other hand, the negative side effect of certification should be considered. If, let's say, a significant price premium would be received for the certified wood, then it is likely that the private forest owners would get massively certified and log their forests.

Still, as the research has demonstrated, the private environmental standards have large positive effect on the companies and beyond. It may not only change work organisation and culture in companies, contribute to the enforcement of regulations, but also affect the amendments of legislation. This is an interesting aspect that the research has revealed. The part of rules and instructions of the FSC *Forest-management* standard was directly introduced into official Lithuanian forestry legislation. This could be an indication of the major prospect of this instrument. The author believes Lithuanian case is not exclusive and unique. Such case could also happen in countries with much lower environmental requirements. It means certification has a potential to tighten up the country's environmental regulations. Implications of certification for developing countries were already analysed by the researchers, for instance, in Brazil (Espach, 2006), Bolivia (Nebel, Quevedo, B., & Helles, 2005), Mexico (Klooster, 2006). However, the effect on the national regulation, requires broader research, especially in countries with less stringent environmental regulations and weakest enforcement. The results of this research goes in line with what has been previously stated that an assessment of certification effects needs to consider both the direct effects and broader consequences, be it positive or negative unintended consequences (Auld et al., 2008).

CONCLUSIONS

Environmental self-regulation through voluntary environmental certification perhaps cannot be a panacea for solving environmental problems. Nonetheless, discarding this model of governance might mean that opportunity to strengthen environmental governance is missed.

In the last few decades processes within global and the EU environmental policy are marked with the changes in governance as a traditional hierarchical governmental control. This change appears through new and innovative institutional arrangements, active involvement of non-state actors and the overall awareness to the broader context in which environmental governance functions. Increasing number of initiatives to contribute to environmental protection has appeared from the civil society and private sector. With such initiatives new forms of governing emerged with a distinct proliferation of self-regulation by private sector. Self-regulation is different from traditional governmental regulation and can be indicated through the formation of actor networks and various sub-systems to address environmental issues. Even though the need for the intervention of governments to provide corrective measures is always possible, self-regulation can serve as a mitigation to the resistance of government-driven policy. Furthermore, it is highly democratic governance model which fosters engagement.

One of the most prominent examples of self-regulation is environmental certification. It is the voluntary environmental instrument which first was developed by the public authorities. In contrast to self-declaration claims, a certificate or an eco-label is awarded by the third party only to those products (i.e. goods or services) that meet the established standards. Next to the public schemes, the emergence of private organizations providing third-party certification started. And thus, certification scheme can be developed and used exclusively by non-governmental actors. The growing role of such private standards has raised many questions related to the diffusion and the effect they have, credibility or concerns about the legitimacy of such standards' setting processes. Despite all these questions, environmental non-governmental certification continues to be popular globally among different companies. Therefore, this research aimed to answer the key research question, which is why companies choose to self-regulate and to adopt voluntary environmental standards and what is their effect. According to some researchers the adoption decisions are fundamental to assessing the effects, but the author of this thesis suggests that important is also the opposite – the reasons for the decision to certify can be explained by the effect that certification brings to the companies. Rather than proposing a general framework for successful functioning of certification schemes that would work for every environmental problem and in every different setting (which obviously is impossible), this research revealed the way in which the process of diffusion and the use of the certification work in reality. Knowledge of the factors which encourage adoption as well as understanding the effect these schemes have, help to comprehend better the capacity and prospects of this self-regulatory instrument. Thus, this research identified internal and external factors that stimulate the adoption of transnational environmental standards and certification of companies in Lithuania. The research also explored the effect certification has on a company and revealed whether the expectations of the certified companies were justified. Furthermore, the research revealed several unintended consequences of

certification, which are very important for the discussion of self-regulation and private environmental governance.

Theoretical framework to answer the key research question and thus to investigate the adoption patterns was constructed using four organizational theories. These theories provide the means to analyse the activities by individuals and organizations that govern themselves. Information theory which deals with the situation when the transaction decision has to be made and where one party has more or better information than the other was discussed. Institutional model of isomorphic change is also proposed here as a suitable theoretical perspective to analyse self-regulation. It explains how different pressures influence changes of organizations within the same field. Another useful theoretical approach to make general working assumptions about self-regulation is social network theory. It considers social relationships among the organizations or individuals within the organization. Stakeholder theory was the last organizational theory discussed. It states that companies can be affected by different parties, called stakeholders, which can be internal or external to the company. Although these perspectives can be used to examine different phenomena, still, they are compatible in terms of their ontological and epistemological assumptions. The empirical material of this research confirms that it is valuable to consider the integration of different perspectives into a comprehensive framework. For instance, an interesting combination may occur when simultaneously applying information theory and stakeholder theory. Information theory indicates that in case of self-regulation through environmental certification managers will attempt to reduce the informational gap. Thinking from this perspective, researchers may tend to miss the real reason for such an attempt. Stakeholder theory, however, indicates that the informational gap may be required to reduce by different stakeholders and not by the managers themselves. Hence, another reason for self-regulation and environmental certification is the requirement from the stakeholders. These two theories applied together can help to explain more precisely the reasons for the decision to adopt environmental standards. The research offered more examples of using multiple theoretical perspectives. The combination of different perspectives in one research, therefore, is a great opportunity which helps to uncover fertile and complex way of explaining organizational practices with respect to self-regulation through environmental certification.

The reasons for the decision to choose environmental certification as a self-regulatory instrument can be explained by the effect certification brings to the companies. To explore direct effects the analytical framework was used. It was proposed by other researchers examining forest certification, however, it was adapted broader in this research. The analytical structure was developed by distinguishing three different views which are the most common in the scientific literature. The framework suggests that the effect of certification to the companies can be related to one of the three mechanisms that certification can operate as: market-based, learning or signalling, meaning that certification can provide a market advantage, transfer knowledge or inform others about the firm's sustainable practices.

Initial empirical qualitative research

Qualitative data collected through the interviews during the initial research revealed somewhat unexpected results. First of all it disclosed that product certification on the basis of

non-governmental standards is basically performed in the chain of custody only (CoC), while operation certification cases are observed in national forests only and, in isolated cases, in textile industry. No fish farms are certified against the MSC standard at all. This information resulted in adjustment of the questionnaire for the quantitative research and adjust it to companies having only the chain of custody certificates. Further, the research showed that Lithuania has only several accredited auditors to certify against the analysed non-governmental standards. Obviously, the question whether the auditors' impartiality is ensured and whether this may have consequences for the quality of certification process remains relevant.

The initial research resulted in new knowledge on the forestry certification in Lithuania. As the results have shown, certification brought many positive changes in forestry, the most important of them being in the environmental and work safety areas. The research also revealed the unintended positive effects of certification, such as the contract foresters working according to the standard in uncertified forests as well or the intense dissemination of information on the activities performed in state-owned forests which started after their certification. The research, however, revealed the potential adverse consequences as well, when after adoption of a decision to self-regulate through certification the use of the standard may lead to counterproductive actions – not environmental preservation, but its destruction. The example of this could be the standard's permission for a clear-cut in certain area, which is significantly larger than the average size of Lithuanian forest holding. Forest owners may start massive clear-cuts to recover the costs of certification or get a price premium, if such would exist.

Considering broader consequences, the initial research also revealed somewhat unexpected result of certification. As has been already mentioned, forest management standard is used in state-owned forests, therefore its provisions are well-known to the relevant government representatives. Finally, certain standard's provisions were transposed to legislation. Here the important is the fact that privately designed self-regulatory instrument has the potential to influence the amendments of national legislation. This is an important, though not widely analysed effect of certification to environmental management. Thus, the quantitative survey revealed that self-regulation through non-governmental certification may have not only direct impact, but broader consequences as well – both positive and negative unintended consequences. Moreover, not only in regard to certificate holders, but even to legal regulation.

Empirical quantitative research

Empirical exploration and evaluation of internal and external factors that encourage self-regulation through the adoption of voluntary standards of the companies in Lithuania were made through the survey of the companies certified against the standards selected for the research. The research revealed that environmental self-regulation through non-governmental certification is a new phenomenon in Lithuania as the majority of the companies use this type of certification for a few years only. For the majority of the analysed companies this step was the first one towards the environmental self-regulation.

The research revealed the reasons as to why companies decided to start self-regulation. Standards' adoption pattern was mostly influenced by the external pressures from the stakeholders and the company's wish to inform the outsiders about their environmental commitments. Thus, to start self-regulation, companies in Lithuania are commonly

encouraged by their stakeholders. On the other hand, information theory also suits to explain the phenomenon of environmental self-regulation through certification, since information asymmetry reduction was also among the top reasons. The empirical material of initial qualitative research also indicates that the first to get certified were several large companies, which led to a snowball effect – their suppliers had to become certified as well. The participation of the few industry leaders in the certification schemes sets an example for the rest depending on the social network. Therefore, not the least is the assumption that environmental self-regulation can be affected by the social relationships among the organizations. This is a good tendency in environmental terms considering that if most companies would reject certification, there could not be a broad-scale change of unsustainable practices.

To understand better the whole process of environmental certification within the companies, problems which arose after the decision to adopt the standard and the factors that influence the compliance with the rules were explored through the same survey of the certified companies. The research revealed that companies were concerned about the problems related to the internal environment of the company, such as finance (ability to pay for the process) or other processes (ability to implement all the rules required), rather than the problems coming from the external micro environment, like competitors which can damage the reputation of certification or potential entrants which can also use the same certification and prevent from being exclusive.

This research did not aim to reveal whether companies comply with the standard's rules. Rather the opposite – it was taken for granted that companies do comply. The question was raised about the compliance incentives and facilitators. The results revealed that despite well-developed control mechanisms in all of the selected certification schemes, nearly all the companies do not treat it as a helping factor to ensure the compliance. Mostly companies rely on their internal capacities and appointed person for the implementation of certification rules. Thus, the research has shown that auditing measures with possible sanctions are not the determinant to ensure the compliance with the rules when those rules are adopted voluntary by the organization for their self-regulation.

Empirical exploration of the changes and the effect that the standards have on a company level were also made through the multi-wave survey. Evidence suggests that major changes which happened in the companies were not related to the changes of internal managerial practices, but that was other effects, such as maintained market share or improved image. Looking at the evidence of actual changes in the companies as a result of certification, certain changes in organizing the work had to be implemented in nearly two thirds of the certified enterprises. Research results revealed, however, that chain of custody certification as a tool for self-regulation does not require much of the changes to make more sustainable managerial practices in the companies. Given the data available, it is difficult to draw the conclusions about the actual effect on environmental performance of the certified companies.

The effect of the standards adopted by the companies was measured by comparing the adoption factors and the changes that the companies received after the certification, i.e. the expectations compared with the satisfaction. The findings suggest that the overall expectations were higher than the satisfaction in all cases. Companies expected that certification will operate the best as a market-based mechanism, however, the

most satisfactory performance was accredited to the signalling mechanism. The lowest expectations and satisfactions were related to learning services of certification. The attention has to be drawn to the relatively high rates of the overall satisfaction despite that market or other expectations were not fulfilled. Research suggests that certification provides various benefits for the companies and the problem might be exaggerated expectations. If self-regulation through environmental certification would eventually become a commonness, the unmet expectations would not be a part of it anymore as everyone would know what to expect and what could be received.

It is important to note that the research also explored whether the adoption of one environmental instrument for self-regulation raises general environmental awareness of the company. Even though environmental certification is a tool for self-regulation, the research exposed that adoption of one standard did not raise companies' interest in further environmental self-regulation, for instance, through additional instruments. This fact raises the question of the voluntary nature of self-regulation through environmental certification and future work should explore the relationship between the real environmental commitments of the company and pressures from the stakeholders. What remains unclear is whether certification is a tool for self-regulation or for regulation of others.

Practical recommendations suggested by this work

The research has revealed the reason why companies in Lithuania involve in environmental self-regulation and certify their activities as well as what changes occur in the companies after the adoption of environmental standards. The results show that the main factors of self-regulation to the companies are external, the key of them being the stakeholders. This is an important signal for those interested in the environmental protection in Lithuania. Environmental NGOs, socially and environmentally responsible companies and other stakeholders can and should exert more pressure on polluting companies operating in Lithuania. As the research shows, the companies are agile to pressure and may involve in environmental self-regulation, which, in turn, is beneficial to them, not forgetting the most important – the benefits to society.

The research has demonstrated that environmental certification brings many changes within the companies along with the potential to affect the external environment, e.g. legal. Therefore these self-regulatory instruments need more attention from public administrators as well: both to understand their effect and possibilities to use such instruments in saving the overall costs of public sector for the development of state regulatory instruments.

Companies, in turn, could be more interested in and perceive the environmental impact caused by their operation, to apply more often the environmental measures in their activities proactively, rather than on the request of stakeholders or facing the risk to lose the market, etc. This should become an internal corporate policy, in particular realizing the changing environmental conditions and the future challenges, on which business success will depend.

Meanwhile, the standard development organisations should look into the control mechanisms, the development of this is time-consuming and audit procedures are costly to the companies. As the research has revealed, it is not necessarily the control that forces companies to self-regulate and to strictly follow the standard rules. Besides, a sensitive issue remains ensuring the auditors' impartiality, which affects the whole control mechanism.

Limitations and directions for further research

This study contributes to the current literature examining adoption factors and effect of self-regulation programs and enhances the management and governance literature on offering further evidence material. This notwithstanding, it is important to address several limitations of this research. First of all, the instrument of empirical research employed in this study in certain cases could be improved. Several factors associated with the adoption decision could have been missed due to the limited capacity of the questionnaire type data collection instrument. The researcher cannot always know the suitable and all-inclusive answers to the questions provided. Thus, there always remains the possibility that unobserved factors which have influenced both the decision for self-regulation and its effect will be missed out.

Choosing Lithuania as the setting for empirical studies that evaluate the effect of voluntary environmental certification may significantly underestimate the effects of such certification in other countries. But of course, this research is not seeking to generalize the conclusions and to present them as universal, therefore, the results of this study is only a contribution to the literature of the similar research.

Knowledge gained through this research also helped to indicate the future challenges. Evidently, environmental self-regulation through non-governmental and governmental voluntary programs, through transnational standards which govern environmental management continue to proliferate. There is a great need to find out which self-regulatory instruments are trustworthy and can reliably distinguish their participants from others committed to sustainable environmental practices, and which features of the instrument are critical for having an effective and credible tool. Without such knowledge, much time and money can be wasted for implementation of ineffective instruments. The effect as well as the effectiveness of the growing number of initiatives that seek to contribute or in some cases to substitute governmental regulation will remain in doubt until robust research proves that they are able to produce wanted effect and elicit performance improvements. Further research also has to be developed to analyse broader consequences of self-regulation through certification beyond its rule implementation and compliance. Positive and negative unintended consequences are an important area for analysis. Future research should consider these questions using various methods and research instruments.

Scientific exploration of the effect and effectiveness of voluntary environmental programs, transnational standards and other codes of conduct usually have been focused on a single certification scheme within a country. Although this study represents an important step forward in understanding the impact of social influences on adoption of the rules behind different certification programs in one country as well as the effect these several different standards cause in different sectors, cross-national and cross-program analyses remain rare. This should also be addressed in future research.

LITERATURE

Internet sources

1. Blue Angel ecolabel: http://www.blauer-engel.de/en/ [accessed on 20 Jan 2011]
2. Etymology Dictionary: http://www.etymonline.com [accessed on 22 Nov 2011]
3. EU Ecolabel website: http://ec.europa.eu/environment/ecolabel/ [accessed on 2 June 2012]
4. FSC official website: http://www.fsc.org/ [accessed on 25 April 2013]
5. Global Ecolabelling Network: http://www.globalecolabelling.net/what_is_ecolabelling/index.htm [accessed on 9 Feb 2013]
6. Greener Choises: http://www.greenerchoices.org/eco-labels/label.cfm?LabelID=6 [accessed on 25 April 2013]
7. IFOAM official website: http://www.ifoam-eu.org/ [accessed on 5 Feb 2012]
8. Lithuanian Apparel and Textile Industry Association: http://www.latia.lt/ Lietuvos aprangos ir tekstilės įmonių asociacija. (2008). Lietuvos aprangos ir tekstilės pramonės strategija ir LATIA ilgalaikės veiklos programa 2009-2013 m. Vilnius. [accessed on 7 Jan 2012]
9. MSC official website: http://www.msc.org/about-us [accessed on 25 April 2013]
10. Oeko-Tex official website: https://www.oeko-tex.com [accessed on 25 April 2013]
11. UNEP:http://www.unep.org/Documents.multilingual/Default.asp?DocumentID=97&ArticleID=1519&l=en [accessed on 20 Sept 2011]
12. WWF official website: http://wwf.panda.org/who_we_are/history/50_years_of_achievements/ stories/?199902/Making-fishing-sustainable [accessed on 25 April 2013]

Articles, Books and Conference Papers

13. Abbott, K. W., & Snidal, D. (2009) Strengthening International Regulation Through Transnational New Governance: Overcoming the Orchestration Deficit. *Vanderbilt Journal of Transnational Law,* Vol. *42* (2): 501.
14. Aerts, W., Cormier, D., & Magnan, M. (2006) Intra-industry imitation in corporate environmental reporting: An international perspective. *Journal of Accounting and Public Policy,* Vol. *25* (3): 299-331.
15. Aguilar, F. X., & Cai, Z. (2010) Conjoint effect of environmental labeling, disclosure of forest of origin and price on consumer preferences for wood products in the US and UK. *Ecological Economics,* Vol. *70* (2): 308-316.
16. Akerlof, G. A. (1970) The Market for "Lemons": Quality Uncertainty and the Market Mechanism. *The Quarterly Journal of Economics,* Vol. *84* (3): 488-500.
17. Andrews, R. N. L., Hutson, A. M., & Edwards, D. (2006) Environmental management under pressure: how do private-sector mandates affect performance? In C. Coglianese & J. Nash (Eds.), *Leveraging the private sector: management-based strategies for improving environmental performance*. Washington, DC: Resources for the Future Press.
18. Armitage, D. R., Plummer, R., Berkes, F., Arthur, R. I., Charles, A. T., Davidson-Hunt, I. J., . . . Wollenburg, E. K. (2009) Adaptive co-management for social-ecological complexity. *Frontiers in Ecology and the Environment,* Vol. *7* (2): 95-102.
19. Asafu-Adjaye, J. (2000) *Environmental economics for non-economists*. Singapore; River Edge, N.J.: World Scientific.

20. Auld, G., & Gulbrandsen, L. H. (2010) Transparency in Nonstate Certification: Consequences for Accountability and Legitimacy. *Global Environmental Politics,* Vol. *10* (3): 97.
21. Auld, G., Gulbrandsen, L. H., & McDermott, C. L. (2008) Certification Schemes and the Impacts on Forests and Forestry. *Annual Review of Environment and Resources,* Vol. *33*: 187-211.
22. Bailey, I. (2007) Market environmentalism, new environmental policy instruments, and climate policy in the United Kingdom and Germany. *Annals of the Association of American Geographers,* Vol. *97* (3): 530-550.
23. Ball, A., & Craig, R. (2010) Using neo-institutionalism to advance social and environmental accounting. *Critical Perspectives on Accounting,* Vol. *21* (4): 283-293.
24. Balzekiene, A., & Telesiene, A. (2011) Issues of sustainability in individual and organizational life. *Socialiniai mokslai,* Vol. *4* (74): 7-19.
25. Bartley, T. (2003) Certifying Forests and Factories: States, Social Movements, and the Rise of Private Regulation in the Apparel and Forest Products Fields. *Politics* & *Society,* Vol. *31* (3): 433-464.
26. Bartley, T. (2007a) How foundations shape social movements: The construction of an organizational field and the rise of forest certification. *Social Problems,* Vol. *54* (3): 229-255.
27. Bartley, T. (2007b) Institutional emergence in an era of globalization: The rise of transnational private regulation of labor and environmental conditions. *American Journal of Sociology,* Vol. *113* (2): 297-351.
28. Baum, L. M. (2012) It's Not Easy Being Green … Or Is It? A Content Analysis of Environmental Claims in Magazine Advertisements from the United States and United Kingdom. *Environmental Communication: A Journal of Nature and Culture,* Vol. *6* (4): 423-440.
29. Bernstein, S., & Cashore, B. (2007) Can non-state global governance be legitimate? An analytical framework. *Regulation* & *Governance,* Vol. *1* (4): 347-371.
30. Bevir, M. (2013) *The SAGE handbook of governance*. London: SAGE.
31. Bevir, M., & Trentmann, F. (2007) *Governance, consumers and citizens : agency and resistance in contemporary politics*. Basingstoke, Hampshire; New York: Plagrave Macmillan.
32. Biermann, F. (2007) 'Earth system governance' as a crosscutting theme of global change research. *Global Environmental Change,* Vol. *17* (3-4): 326-337.
33. Biermann, F., & Pattberg, P. (2008) Global environmental governance: taking stock, moving forward. *Annual Review of Environment and Resources,* Vol. *33* (1): 277-294.
34. Birnie, P., Boyle, A., & Redgwell, C. (2009) *International law and the environment*. Oxford: Oxford University Press.
35. Blackman, A., & Rivera, J. (2011) Producer-Level Benefits of Sustainability Certification. *Conservation Biology,* Vol. *25* (6): 1176-1185.
36. Boddy, D. (2008) *Management: an introduction. 4th ed.* Pearson Education Limited: Essex, England.
37. Boiral, O. (2003) ISO 9000: Outside the Iron Cage. *Organization Science,* Vol. *14* (6): 720-737.
38. Burt, R. S. (1992) *Structural holes : the social structure of competition*. Cambridge, Mass.: Harvard University Press.
39. Carlsen, K., Hansen, C. P., & Lund, J. F. (2012) Factors affecting certification uptake — Perspectives from the timber industry in Ghana. *Forest Policy and Economics,* Vol. *25* (0): 83-92.

40. Carter, N. (2007) *The politics of the environment : ideas, activism, policy*. Cambridge; New York: Cambridge University Press.
41. Cashore, B. (2002) Legitimacy and the Privatization of Environmental Governance: How Non–State Market–Driven (NSMD) Governance Systems Gain Rule–Making Authority. *Governance,* Vol. *15* (4): 503-529.
42. Cashore, B., Auld, G., & Newsom, D. (2004) *Governing Through Markets : Forest Certification and the Emergence of Non-State Authority*. New Haven, CT, USA: Yale University Press.
43. Celdran, A., Clark, Hecht, J., Kanamaru, E., Orantes, P., & Garduno, M. S. (1996) The Participation Decision In A Voluntary Pollution Prevention Program: The USEPA 33/50 Program As A Case Study In H. Clark (Ed.), *Developing the Next Generation of the USEPA's 33/50 Program: A Pollution Prevention Research Project [Report]*. Durham, NC: Duke University Nicholas School of the Environment.
44. Christmann, P., & Taylor, G. (2001) Globalization and the Environment: Determinants of Firm Self-Regulation in China. *Journal of International Business Studies,* Vol. *32*: 439-458.
45. Christmann, P., & Taylor, G. (2005) Firm self-regulation through international certifiable standards: determinants of symbolic versus substantive implementation. *Journal of International Business Studies,* Vol. *37* (6): 863-878.
46. Clegg, S. R., & Hardy, C. (1999) *Studying Organization : Theory and Method*. London, GBR: SAGE Publications Ltd. (UK).
47. Clemens, B., & Douglas, T. J. (2006) Does coercion drive firms to adopt 'voluntary' green initiatives? Relationships among coercion, superior firm resources, and voluntary green initiatives. *Journal of Business Research,* Vol. *59* (4): 483-491.
48. Codex Alimentarius Commission. *Thirty-Second Session Report*. Paper presented at the Thirty-Second Session of The Codex Alimentarius Commission, 29 June - 4 July 2009, Rome.
49. Coglianese, C., & Nash, J. (2001) Environmental management systems and the new policy agenda. In C. Coglianese & J. Nash (Eds.), *Regulating from the inside: can environmental management systems achieve policy goals?* Washington, DC: Resources for the Future.
50. Coglianese, C., & Nash, J. (2006) *Beyond Compliance. Business Decision Making and the US EPA's Performance Track Program. Regulatory Policy Program Report.* Harvard University: JFK School of Government.
51. Connelly, B., Ketchen, D., & Slater, S. (2011) Toward a theoretical toolbox for sustainability research in marketing. *Journal of the Academy of Marketing Science,* Vol. *39* (1): 86-100.
52. Cook, K. (1977) Exchange and Power in Networks of Interorganizational Relations. *The Sociological Quarterly,* Vol. *18* (1): 62-82.
53. Dahlström, K., Howes, C., Leinster, P., & Skea, J. (2003) Environmental management systems and company performance: assessing the case for extending risk-based regulation. *European Environment,* Vol. *13* (4): 187-203.
54. Dankers, C. (2003). Environmental and social standards, certification and labelling for cash crops (C. a. T. Division, Trans.) *FAO Technical Paper. Raw Materials, Tropical and Horticultural Products Service.* (2003 ed., Vol. 2, p. 1-120). Rome: FAO.
55. Darby, M. R., & Karni, E. (1973) Free Competition and the Optimal Amount of Fraud. *Journal of Law and Economics,* Vol. *16* (1): 67-88.
56. Darnall, N. (2006) Why Firms Mandate ISO 14001 Certification. *Business & Society,* Vol. *45* (3): 354-381.

57. Davis, G. F., & Mizruchi, M. S. (1999) The Money Center Cannot Hold: Commercial Banks in the U.S. System of Corporate Governance. *Administrative Science Quarterly,* Vol. *44* (2): 215-239.
58. de Loë, R. C., Armitage, D., Plummer, R., Davidson, S., & Moraru, L. (2009). From government to governance: a state-of-the-art review of environmental governance. Final Report. Prepared for Alberta Environment, Environmental Stewardship, Environmental Relations. Guelph, ON: Rob de Loë Consulting Services.
59. Delmas, & Montiel. (2009) Greening the Supply Chain: When Is Customer Pressure Effective ? *Journal of Economics & Management Strategy,* Vol. *18* (1): 171-201.
60. DeSombre, E. R. (2000) *Domestic sources of international environmental policy: industry, environmentalists, and U.S. power*. Cambridge, Mass.: MIT Press.
61. Development, U. S. (1992) AGENDA 21. *United Nations Conference on Environment & Development, Rio de Janerio, 3-14 June 1992*.
62. DiMaggio, P., & Powell, W. (1983) The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality in Organizational Fields. *American Sociological Review,* Vol. *48* (2): 147-160.
63. Dingwerth, K. (2007) *The new transnationalism : transnational governance and democratic legitimacy*. Basingstoke [England]; New York: Palgrave Macmillan.
64. Ebeling, J., & Yasue, M. (2009) The effectiveness of market-based conservation in the tropics: forest certification in Ecuador and Bolivia. *Journal of Environmental Management,* Vol. *90* (2): 1145-1153.
65. Espach, R. (2006) When is Sustainable Forestry Sustainable? The Forest Stewardship Council in Argentina and Brazil. *Global Environmental Politics,* Vol. *6* (2): 55-84.
66. Falkner, R. (2003) Private Environmental Governance and International Relations: Exploring the Links. *Global Environmental Politics,* Vol. *3* (2): 72-87.
67. FAO. (2010) Draft report on a global survey on private standards, codes of conduct and guidelines in the livestock sector. *Working document, 2010*.
68. FAO/WHO. (2010). *Consideration of the impact of private standards*. Paper presented at the Joint FAO/WHO food standards programme codex alimentarius commission, 33rd session, Geneva, 5-9 July 2010, Geneva.
69. Farazmand, A. (2004) *Sound governance: policy and administrative innovations*. Westport, Conn.: Praeger Publishers.
70. Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005) Adaptive governance of social-ecological systems. *Annual Review of Environment and Resources,* Vol. *30* (1): 441-473.
71. Frankel, R. M., & Devers, K. J. (2000) Study Design in Qualitative Research-1: Developing Questions and Assessing Resource Needs. *Education for Health: Change in Learning & Practice,* Vol. *13* (2): 251-261.
72. Fransen, L. W., & Kolk, A. (2007) Global Rule-Setting for Business: A Critical Analysis of Multi-Stakeholder Standards. *Organization,* Vol. *14* (5): 667-684.
73. Frederickson, H. G., & Smith, K. B. (2003) *The public administration theory primer*. Boulder, Colo.: Westview Press.
74. Freeman, R. E. (1984) *Strategic management : a stakeholder approach*. Boston: Pitman.
75. FSC. (2000) FSC Principles and Criteria. Oaxaca, Mexico: FSC A.C.
76. Galaskiewicz, J., & Wasserman, S. (1994) *Advances in social network analysis: research in the social and behavioral sciences*. Thousand Oaks: Sage.

77. Glasbergen, P. (1998) The question of environmental governance. In P. Glasbergen (Ed.), *Co-operative environmental governance; public-private agreements as a policy strategy*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
78. Global Ecolabelling Network. (2004). Information paper: introduction to ecolabelling. Online: http://www.globalecolabelling.net/docs/documents/intro_to_ecolabelling.pdf [accessed on 28 Nov 2012].
79. Gnyawali, D. R., & Madhavan, R. (2001) Cooperative Networks and Competitive Dynamics: a Structural Embeddedness Perspective. *Academy of Management Review,* Vol. *26* (3): 431-445.
80. Goyert, W., Sagarin, R., & Annala, J. (2010) The promise and pitfalls of Marine Stewardship Council certification: Maine lobster as a case study. *Marine Policy,* Vol. *34* (5): 1103-1109.
81. Golub, J. (1998) *New instruments for environmental policy in the EU*. London; New York: Routledge.
82. González, P., Sarkis, J., & Adenso-Díaz, B. (2008) Environmental management system certification and its influence on corporate practices: Evidence from the automotive industry. *International Journal of Operations* & *Production Management,* Vol. *28* (11): 1021-1041.
83. Greener, I. (2009) *Public management: a critical text*. New York: Palgrave Macmillan.
84. Gulbrandsen, L. H. (2005) Explaining different approaches to voluntary standards: A study of forest certification choices in Norway and Sweden. *Journal of Environmental Policy & Planning,* Vol. *7* (1): 43-59.
85. Gulbrandsen, L. H. (2006) Creating markets for eco-labelling: are consumers insignificant? *International Journal of Consumer Studies,* Vol. *30* (5): 477-489.
86. Gullison, R. E. (2003) Does forest certification conserve biodiversity? *Oryx,* Vol. *37* (02): 153-165.
87. Gunningham, N., Kagan, R. A., & Thornton, D. (2003) *Shades of green: business, regulation, and environment*. Stanford, Calif: Stanford Law and Politics.
88. Gunningham, N., & Rees, J. (1997) Industry self-regulation: an institutional perspective. *Law & Policy,* Vol. *19* (4): 363-414.
89. Hannan, M. T., & Freeman, J. (1984) Structural inertia and organizational change. *American Sociological Review,* Vol. *49* (2): 149-164.
90. Hatch, M. J. (1997) *Organization Theory: Modern, Symbolic, and Postmodern Perspectives*: Oxford University Press, Incorporated.
91. Haufler, V. (2002) *A public role for the private sector : industry self-regulation in a global economy*. Washington, DC: Carnegie Endowment for Internat. Peace.
92. Hey, C. (2005) EU environmental policies: a short history of the policy strategies In S. Scheuer (Ed.), *EU Policy Handbook. A Critical Analysis of EU Environmental Legislation*. Brussels: European environmental bureau
93. Henriques, I., & Sadorsky, P. (1996) The Determinants of an Environmentally Responsive Firm: An Empirical Approach. *Journal of Environmental Economics and Management,* Vol. *30* (3): 381-395.
94. Henson, S., Humphrey, J. (2009) The impacts of private food safety standards on the food chain and on public standard-setting processes. *Paper Prepared for FAO/WHO, Rome. ALINORM 09/32/9D Part II*.
95. Heras-Saizarbitoria, I., Dogui, K., & Boiral, O. (2013) Shedding light on ISO 14001 certification audits. *Journal of Cleaner Production,* Vol. *51*: 88-98.

96. Hoejmose, S. U., Roehrich, J. K., & Grosvold, J. (2014) Is doing more doing better? The relationship between responsible supply chain management and corporate reputation. *Industrial Marketing Management,* Vol. *43* (1): 77-90.
97. ISO. (2010) ISO 14020:2000 "Environmental labels and declarations – General principles". Geneva.
98. Yamasaki, S. H., Kneeshaw, D. D., Munson, A. D., & Dorion, F. (2002) Bridging boundaries among disciplines and institutions for effective implementation of criteria and indicators. *The Forestry Chronicle,* Vol. *78* (4): 487-491.
99. Janulaitis, J. (2008). *The case study of certification system and audit results of Lithuanian state forest enterprises*. Master's Theses, Vilnius University, Vilnius.
100. Jennings, P. D., & Zandbergen, P. A. (1995) Ecologically Sustainable Organizations: An Institutional Approach. *Academy of Management Review,* Vol. *20* (4): 1015-1052.
101. Jiang, R. J., & Bansal, P. (2003) Seeing the Need for ISO 14001. *Journal of Management Studies,* Vol. *40* (4): 1047-1067.
102. Jones, C., Hesterly, W., & Borgatti, S. (1997) A General Theory of Network Governance: Exchange Conditions and Social Mechanisms. *The Academy of Management Review,* Vol. *22* (4): 911-945.
103. Karna, J. H. E. J. H. (2003) Environmental activity and forest certification in marketing of forest products - a case study in Europe. *Silva fennica,* Vol. *37*: 253-267.
104. Keohane, R. O., & Nye, J. S. (2000) Introduction. In J. S. Nye & J. D. Donahue (Eds.), *Governance in a globalizing world*. Washington, D.C.: Brookings Institution Press.
105. Khanna, M., & Damon, L. A. (1999) EPA's Voluntary 33/50 Program: Impact on Toxic Releases and Economic Performance of Firms. *Journal of Environmental Economics and Management,* Vol. *37* (1): 1-25.
106. Kilbourne, W. E., Beckmann, S. C., & Thelen, E. (2002) The role of the dominant social paradigm in environmental attitudes: a multinational examination. *Journal of Business Research,* Vol. *55* (3): 193-204.
107. Kilduff, M., & Tsai, W. (2003) *Social networks and organizations*. Thousand Oaks, Calif.: SAGE.
108. Kinderyte, L., Ciegis, R., & Staniskis, J. K. (2010) Assessment of enterprise performance for efficient sustainability management. *Transformations in Business & Economics,* Vol. *9* (3): 104-118.
109. King, A. A., & Lenox, M. J. (2000) Industry Self-Regulation Without Sanctions: The Chemical Industry's Responsible Care Program. *Academy of Management Journal,* Vol. *43* (4): 698-716.
110. King, A. A., Lenox, M. J., & Terlaak, A. (2005) The Strategic Use of Decentralized Institutions: Exploring Certification With the ISO 14001 Management Standard. *Academy of Management Journal,* Vol. *48* (6): 1091-1106.
111. Kirton, J. J. (2007) *Hard choices, soft law : voluntary standards in global trade, environment and social governance*. Aldershot: Ashgate.
112. Klooster, D. (2006) Environmental certification of forests in Mexico: the political ecology of a nongovernmental market intervention. *Annals of the Association of American Geographers,* Vol. *96* (3): 541-565.
113. Lemos, M. C., & Agrawal, A. (2006) Environmental governance. *Annual Review of Environment and Resources,* Vol. *31*: 297-325.

114. Liu, P. (2009). *Private standards in international trade: issues and opportunities*. Paper presented at the WTO/CTE workshop on environment-related private standards, certification and labelling requirements, Geneva, 9 July 2009.
115. Lyngbæk, A. E., Muschler, R. G., & Sinclair, F. L. (2001) Productivity and profitability of multistrata organic versus conventional coffee farms in Costa Rica. *Agroforestry Systems,* Vol. *53* (2): 205-213.
116. Lounsbury, M. (2001) Institutional Sources of Practice Variation: Staffing College and University Recycling Programs. *Administrative Science Quarterly,* Vol. *46* (1): 29-56.
117. Martilla, J. A., & James, J. C. (1977) Importance-Performance Analysis. *Journal of Marketing,* Vol. *41* (1): 77-79.
118. Meadowcroft, J. (1998) Co-Operative Management Regimes: a Way Forward? In P. Glasbergen (Ed.), *Cooperative environmental governance: public-private agreements as a policy strategy*. Dordrecht, The Netherlands: Kluwer Academic Publishers.
119. Meyer, J. W., & Rowan, B. (1977) Institutionalized organizations: formal structure as myth and
120. ceremony. *American Journal of Sociology,* Vol. *83* (2): 340-363.
121. Miles, M. B., & Huberman, A. M. (1994) *Qualitative data analysis : an expanded sourcebook*. Thousand Oaks, Calif.: Sage Publications.
122. Mitchell, R. B., Agle, B., & Wood, D. (1997) Toward a theory of stakeholder identification and salience: Defining the principle of who and what really counts. *The Academy of Management Review,* Vol. *22*: 853.
123. Mol, A. P. J. (2007) Bringing the environmental state back in: partnerships in perspective. In P. Glasbergen, Biermann, F., Mol, A.P.J. (Ed.), *Partnerships, Governance and Sustainable Development. Reflections on Theory and Practice*. Cheltenham: Edward Elgar.
124. Morris, M., & Dunne, N. (2004) Driving environmental certification: its impact on the furniture and timber products value chain in South Africa. *Geoforum,* Vol. *35* (2): 251-266.
125. Muijs, D. (2011) *Doing quantitative research in education with SPSS*. Thousand Oaks, Calif.: SAGE.
126. Nakamura, M., Takahashi, T., & Vertinsky, I. (2001) Why Japanese Firms Choose to Certify: A Study of Managerial Responses to Environmental Issues. *Journal of Environmental Economics and Management,* Vol. *42* (1): 23-52.
127. Nebel, G., Quevedo, L., B., J. J., & Helles, F. (2005) Development and economic significance of forest certification: the case of FSC in Bolivia. *Forest Policy and Economics,* Vol. *7* (2): 175-186.
128. Nelson, P. (1970) Information and Consumer Behavior. *The Journal of Political Economy,* Vol. *78* (2): 311-329.
129. Nishitani, K. (2009) An empirical study of the initial adoption of ISO 14001 in Japanese manufacturing firms. *Ecological Economics,* Vol. *68* (3): 669-679.
130. O'Neil, K. (2009) *The environment and international relations* (1st ed.). Cambridge: University Press.
131. Ostrom, E. (2011) Background on the Institutional Analysis and Development Framework. *Policy Studies Journal,* Vol. *39* (1): 7-27.
132. Ostrom, E. (2007) A diagnostic approach for going beyond panaceas. *Proceedings of the national academy of sciences of the United States of America,* Vol. *104* (39): 15181-15187.

133. Overdevest, C., & Rickenbach, M. G. (2006) Forest certification and institutional governance: An empirical study of forest stewardship council certificate holders in the United States. *Forest Policy and Economics,* Vol. *9* (1): 93-102.
134. Owari, T., Juslin, H., Rummukainen, A., & Yoshimura, T. (2006) Strategies, functions and benefits of forest certification in wood products marketing: Perspectives of Finnish suppliers. *Forest Policy and Economics,* Vol. *9* (4): 380-391.
135. Padel, S. (2010) The European regulatory framework and its implementation in influencing organic inspection and certification systems in the EU. *CERTCOST report 11, The organic research centre, Elm Farm*.
136. Pattberg, P. (2005) The Institutionalization of Private Governance: How Business and Nonprofit Organizations Agree on Transnational Rules. *Governance,* Vol. *18* (4): 589-610.
137. Pérez-Ramírez, M., Lluch-Cota, S., & Lasta, M. (2012) MSC certification in Argentina: Stakeholders' perceptions and lessons learned. *Marine Policy,* Vol. *36* (5): 1182-1187.
138. Peters, B. G., & Pierre, J. (1998) Governance Without Government? Rethinking Public Administration. *Journal of Public Administration Research and Theory,* Vol. *8* (2): 223-243.
139. Pierre, J., & Peters, B. G. (2000) *Governance, politics, and the state*. New York: St. Martin's Press.
140. Polak, J. (2003). *Trade as an Environmental Policy Tool? GEN, Ecolabelling and Trade*. Paper presented at the World Trade Organization Public Symposium. Challenges Ahead on the Road to Cancun.
141. Potoski, M., & Prakash, A. (2005) Green Clubs and Voluntary Governance: ISO 14001 and Firms' Regulatory Compliance. *American Journal of Political Science,* Vol. *49* (2): 235-248.
142. Prakash, A., & Potoski, M. (2012) Voluntary environmental programs: A comparative perspective. *Journal of Policy Analysis and Management,* Vol. *31* (1): 123-138.
143. Pulver, S. (2003). *Organizing Business: Industry NGOs in the Climate Debates*. Paper presented at the Annual meeting of the American Sociological Association, Atlanta, 16 August 2003, Atlanta Hilton Hotel, Atlanta, GA.
144. Rametsteiner, E. (2002) The role of governments in forest certification—a normative analysis based on new institutional economics theories. *Forest policy and economics,* Vol. *4* (3): 163-173.
145. Rhodes, R. A. W. (1997) *Understanding governance : policy networks, governance, reflexivity, and accountability*. Buckingham; Philadelphia: Open University Press.
146. Rhodes, R. A. W. (2007) Understanding Governance: Ten Years On. *Organization Studies,* Vol. *28* (8): 1243-1264.
147. Rivera, J. (2004) Institutional Pressures and Voluntary Environmental Behavior in Developing Countries: Evidence From the Costa Rican Hotel Industry. *Society & Natural Resources,* Vol. *17* (9): 779-797.
148. Rockstrom, J., Steffen, W., Noone, K., Persson, A., Chapin, F. S., Lambin, E., . . . Foley, J. (2009) Planetary Boundaries: Exploring the Safe Operating Space for Humanity. *Ecology and Society,* Vol. *14* (2).
149. Roheim, C. A., Sudhakaran, P. O., & Durham, C. A. (2012) Certification of shrimp and salmon for best aquaculture practices: assessing consumer preferences in Rhode island. *Aquaculture Economics & Management,* Vol. *16* (3): 266-286.
150. Rosenau, J. N., & Czempiel, E. O. (1992) *Governance without government : order and change in world politics*. Cambridge: Cambridge University Press.

151. Rotherham, T. (2005) The Trade and Environmental Effects of Ecolabels: Assessment and Response. *Report prepared for UN Environment Programme, Geneva.*: 1-44.
152. Rowley, T. (1997) Moving beyond dyadic ties: A network theory of stakeholder influences. *The Academy of Management Review,* Vol. *22*: 887.
153. Ruzevicius, J. (2009) Environmental Management Systems and Tools Analysis. *Inzinerine Ekonomika-Engineering Economics* (4): 49-59.
154. Ruzevicius, J., & Waginger, E. (2007) Eco-labelling in Austria and Lithuania: a Comparative Study. *Inzinerine Ekonomika-Engineering Economics* (4): 96-102.
155. Sarkis, J., Zhu, Q., & Lai, K. (2011) An organizational theoretic review of green supply chain management literature. *International Journal of Production Economics,* Vol. *130* (1): 1-15.
156. Schulze, H., Albersmeier, F., Spiller, A., & Jahn, G. (2006). *Audit Risk Factors in Certification: How can risk- oriented audits improve the quality of certification standards?* Paper presented at the The 98 th EAAE Seminar 'Marketing Dynamics within the Global Trading System: New Perspectives', Chania, Greece 29 June – 2 July, 2006., Goettingen.
157. Scott, J. (2000) *Social network analysis : a handbook*. London; Thousands Oaks, Calif.: SAGE Publications.
158. Scott, W. R. (2004) Institutional theory. In G. Ritzer (Ed.), *Encyclopedia of social theory* (p. 408-412). London: SAGE.
159. Shields, P. M. (1998) Pragmatism as a Philosophy of Science: A Tool for Public Administration. In J. D. White (Ed.), *Research in public administration. Vol.4*. Stamford, Conn.; London: Jai Press.
160. Simpson, D., Power, D., & Samson, D. (2007) Greening the automotive supply chain: a relationship perspective. *International Journal of Operations & Production Management,* Vol. *27* (1): 28-48.
161. Spence, M. (1973) Job Market Signaling. *The Quarterly Journal of Economics,* Vol. *87* (3): 355-374.
162. Speth, J. G., & Haas, P. M. (2006) *Global environmental governance*. Washington: Island Press.
163. Staniskis, J. K., & Stasiskiene, Z. (2006) Environmental management accounting in Lithuania: exploratory study of current practices, opportunities and strategic intents. *Journal of Cleaner Production,* Vol. *14* (14): 1252-1261.
164. Tietenberg, T. H. (2006) *Emissions trading : principles and practice*. Washington, DC: Resources for the Future.
165. Treib, O., Bahr, H., & Falkner, G. (2007) Modes of governance: towards a conceptual clarification. *Journal of European Public Policy,* Vol. *14* (1): 1-20.
166. Urban, B., & Govender, D. P. (2012) Empirical Evidence on Environmental Management Practices. *Inzinerine Ekonomika-Engineering Economics,* Vol. *23* (2): 209-215.
167. Uzzi, B. (1996) The Sources and Consequences of Embeddedness for the Economic Performance of Organizations: The Network Effect. *American Sociological Review,* Vol. *61* (4): 674-698.
168. Vertinsky, I., & Zhou, D. (2000) Product and process certification - systems, regulations and international marketing strategies. *International Marketing Review,* Vol. *17* (3): 231-253.
169. Walls, M. A. (2011). *Deposit-Refund Systems in Practice and Theory*. Paper presented at the Resources for the Future, Washington, DC.

170. Wartick, S. L., & Mahon, J. F. (1994) Toward a Substantive Definition of the Corporate Issue Construct: A Review and Synthesis of the Literature. *Business & Society,* Vol. *33* (3): 293-311.
171. Wasserman, S., & Faust, K. (1994) *Social network analysis : methods and applications*. Cambridge; New York: Cambridge University Press.
172. Wilson, B., Takahashi, T., & Vertinsky, I. (2001) The Canadian commercial forestry perspective on certification: National survey results. *Forestry chronicle,* Vol. *77*: 309-314.
173. Wood, S. (2006) Voluntary Environmental Codes and Sustainability. In B. J. Richardson & S. Wood (Eds.), *Environmental law for sustainability : a reader* (p. 229-276). Oxford; Portland, OR: Hart Pub.
174. WTO. (2009) Effects of SPS-related private standards - compilation of replies. *Report by the Committee on Sanitary and Phytosanitary Measures, Geneva*.
175. Wuyts, S., Stremersch, S., Van den Bulte, C. e., & Franses, P. H. (2004) Vertical Marketing Systems for Complex Products: A Triadic Perspective. *Journal of Marketing Research,* Vol. *41* (4): 479-487.
176. Zaborek, P. (2009) Qualitative and quantitative research methods in management science. In M. Strzyzewska (Ed.), *Selected methodological issues for doctoral students*. Warsaw: Warsaw School of Economics.

MYKOLAS ROMERIS UNIVERSITY

Ieva Misiūnė

ENVIRONMENTAL SELF-REGULATION: CHANGES OF CERTIFIED COMPANIES IN LITHUANIA

Summary of Doctoral Dissertation
Social Sciences, Management (03 S)

Vilnius, 2014

Doctoral dissertation prepared during the period 2008–2014 at Mykolas Romeris University.

Scientific Supervisor:

Prof. Habil. Dr. Vida Motiekaitytė (Mykolas Romeris University, Biomedical Sciences, Botany – 04B) (2008-2012);

Assoc. Prof. Dr. Pranas Mierauskas (Mykolas Romeris University, Social Sciences, Management – 03 S) (2012-2014).

Scientific Consultant:

Assoc. Prof. Dr. Philipp Pattberg (VU University Amsterdam, Social Sciences, Political Sciences – 02 S).

The doctoral dissertation is defended at the Management Research Council of Mykolas Romeris University:

The Chairman of the Council:

Prof. Habil. Dr. Vygandas Kazimieras Paulikas (Mykolas Romeris Universitety, Social Sciences, Management – 03 S).

Members of the Council:

Prof. Habil. Dr. Romualdas Juknys (Vytautas Magnus University, Biomedical Sciences, Ecology and Environmental Sciences, 03 B);

Dr. Agni Kalfagianni (VU University Amsterdam, Social Sciences, Political Sciences – 02 S);

Prof. Dr. Imantas Lazdinis (Mykolas Romeris University, Social Sciences, Management – 03 S);

Prof. Dr. Alvydas Raipa (Mykolas Romeris University, Social Sciences, Management – 03 S).

Opponents:

Assoc. Prof. Dr. Dangis Gudelis (Mykolas Romeris University, Social Sciences, Management – 03 S);

Prof. Habil. Dr. Borisas Melnikas (Vilnius Gediminas Technical University, Social Sciences, Management – 03 S).

The public defence of the doctoral dissertation will take place at the Management Research Council at Mykolas Romeris University on 25 September 2014 at 10:00 AM (Room II-230).

Address: Ateities str. 20, LT-08303 Vilnius, Lithuania.

The summary of the doctoral dissertation sent out on 25 August 2014.

The Doctoral Dissertation is available at Martynas Mažvydas National Library of Lithuania (Gedimino ave. 51, Vilnius) and Mykolas Romeris University Library (Ateities str. 20, Vilnius).

Ieva Misiūnė

ENVIRONMENTAL SELF-REGULATION: CHANGES OF CERTIFIED COMPANIES IN LITHUANIA

Summary

Background

Environmental governance has gained prominence in the late 1960's when the problems caused by the industry were disclosed by the scientists and exposed widely by various newly formed environmental movements. The growing concern about the issues such as the dispersion of DDT or the ozone layer depletion was promulgated widely to the civil society. The governmental responses gained a momentum and governments continue to use their powers to regulate and address environmental challenges. Nationally, states employ command and control measures or market-based instruments, such as environmental charges or subsidies, to control the pollution and protect the environment. Over the last few decades, however, the general understanding of governance as a traditional hierarchical governmental control has changed as new forms of governing have emerged. This is particularly apparent in environmental governance, where the increasing number of initiatives to contribute to environmental protection has appeared from the civil society or private sector. These are different from traditional governmental regulation and indicate some form of self-regulation. One of the most prominent examples are self-regulation through environmental certification. Certification and labelling consists of the agreed rules – a standard that makes an economic activity more sustainable. Participants adopting the standard are verified by a third party and issued a certification confirming their compliance. Finally, the label on the product is a confirmation sign of its producer's declarations.

The phenomenon of an enormous and rapid development of voluntary environmental standards, especially those created by the private sector, has emerged in the last decade (Bartley, 2003; Cashore, 2002; Fransen & Kolk, 2007; Gulbrandsen, 2006; Pattberg, 2005). Some of the schemes have been created *transnationally* – on the global level by private actors without the involvement of governments, government agencies, or intergovernmental organizations (Pattberg, 2005). Their standards encompass global principles and criteria which later are to be adopted locally. This phenomenon reveals an interesting change in environmental governance. The top-down governmental regulation shifts to the bottom-up approach where the private actors create rules and voluntarily adopt them. It means that no longer a state is an exclusive actor in creation and enforcement of environmental governance rules.

The aim of the research

At the state level a citizen or a legal entity has an environmental duty which means they are responsible for the actions they take that affect the environment. Democratically elected officials create legal norms and rules which embed various duties and responsibilities. Environmental standards and ecolabelling as an instrument for the environmental

protection can be created by non-governmental organizations or the private sector – by suppliers, manufacturers, traders, or their associations. In many cases such certification systems with their rules and norms as well as participants and other stakeholders form the whole self-regulatory institutions. Thus, there are many private or civil organizations which create their own certification schemes – standards, verification systems and labels confirming the compliance. Prominent examples are the Forest Stewardship Council, the Marine Stewardship Council or various certification schemes for the organic farming. Many of these schemes were created by democratic Western societies. Subsequently, they crossed the national borders to the other parts of the world – East Europe, Asia or Africa. It means that non-official environmental rules are implemented voluntarily and widely as self-regulatory instruments. These rules are not official laws, however, due to different reasons participants adopt the standards and comply with their rules. The question that remains is what factors influence the adoption of the global principles of environmental standards by the local companies. What is the effect of these rules on their organizational and environmental practices? Are there any other effects that go beyond the rule implementation and compliance?

Therefore, ***the focus of this research*** is the changes in certified companies and beyond that are caused by environmental self-regulation through the standards. ***The aim of this research*** is to increase knowledge and to gain new insights of the phenomenon – self-regulation process through voluntary environmental standards. First, this research aims to identify the internal and external factors that stimulate the adoption of transnational environmental standards in Lithuanian companies. Such analysis will give the understanding of the diffusion process of such standards. Second, it aims to explore the effect that certification has on company level (or beyond) as well as to reveal whether the expectations have been justified.

Since the aim of this research is to identify the factors and reveal the effect, its objective is ***exploratory***. It helps to explain *why* transnational voluntary environmental standards are adopted and identify *how* they affect companies.

Research questions and methodological framework

To meet the research aim, ***the key research question*** is to be answered:

- Why companies decide to self-regulate and to adopt voluntary environmental standards and what is their effect?

To reach the research aim and answer the key research question ***the following objectives*** should be fulfilled:

- Description and comparison of different theoretical perspectives which allow to analyse the phenomenon of environmental self-regulation and to answer the key research question of this work;
- Description of the analytical framework, which was proposed to analyse the effect of environmental certification, and its adaptation to the current research;
- Initial empirical investigation of the current situation of certification in Lithuania: description of the beginning of certification, certification process according to different stakeholders and the view of the officials;
- Empirical exploration and evaluation of internal and external factors that encourage self-regulation through the adoption of the selected voluntary standards of companies in Lithuania;

- Empirical exploration and evaluation of the problems that companies faced after their decision to adopt the standard and the factors that influence the compliance with the rules;
- Empirical exploration of the changes and the effect that these standards have at company level: expectations and satisfaction;
- Development of conclusions and recommendations for further research.

An examination of self-regulation through certification will help us to understand why companies decide to self-regulate and what effect it has for a company. The analysis of the diffusion of this self-regulatory instrument will also help to identify whether there are other broader consequences. This can help in estimating whether self-regulation and the instrument used for it have the potential to supplement or enforce the rules of traditional governmental regulation. The author does not seek to identify all the factors that could influence self-regulation through certification, but rather to reveal the motives and processes of the adoption and compliance with the rules. To explore all possible changes in the companies after the certification is not the main target of this research as well. The author stresses the distinction between direct effects on the company and other consequences of the diffusion and entrenchment of one or another certification scheme. While an investigation of the direct effects on the company is the appropriate strategy for evaluating a company itself, for instance, its satisfaction with the certification, the other consequences coming from the diffusion of this self-regulatory instrument provide a basis for searching the full capacity and prospects of self-regulation and its instrument. The idea is not to define such capacity and draw the possibilities of the certification, but rather to identify whether the process of self-regulation and the system related to this process is limited only to those directly involved. Therefore, this research is largely based on the ***positivist epistemology***, which assumes one can discover "what truly happens in organizations through the categorization and scientific measurement of the behaviour of people and systems" (Hatch, 1997, p. 13). The research, however, is not strictly limited to this paradigm. The author believes there may be many different understandings and interpretations of the reality at the same time. And even though it is quite common to link quantitative methods with positivist approach and qualitative ones with non-positivist philosophy, such position presupposes that the use of specific research tools should identify the philosophical views of researcher. The author agrees that this should not be the case as research methods should be based on the problem analysed rather than on any given philosophical view (Zaborek, 2009).

Thus, to answer the key research question and to fulfil other objectives, the literature analysing environmental governance and self-governance through voluntary environmental standards will be systematically reviewed and analysed to prepare the theoretical framework. Later, empirical research will be developed with the help of the theoretical framework. It will be based on the practical experience of the companies that use environmental certification for self-regulation and on everyday practice of experts who certify the companies or are otherwise related to the process. ***The mixed-methods research approach*** will be used for the empirical research. Different procedures will be carried out to supplement the findings of one method with another. A qualitative method for exploratory purposes will be fulfilled in the beginning. Initially, the qualitative data will be collected through the interviews with different stakeholders. An interview method,

which is usually used by the interpretivists, will be employed to disclose the reality in the most precise and comprehensive manner. Inductive reasoning will be employed to analyse the data retrieved through interviews. Subsequently, a quantitative method with a large sample will be used so that results could be generalized. Quantitative empirical data will be received from the certified companies using the questionnaire and the statistical analysis will be carried out for the examination. Companies holding one of the three widely used transnational environmental non-governmental standards for the forestry and logging (FSC), fishing and aquaculture (MSC), and production of textiles (OEKO-TEX) were chosen for the analysis.

Scientific novelty

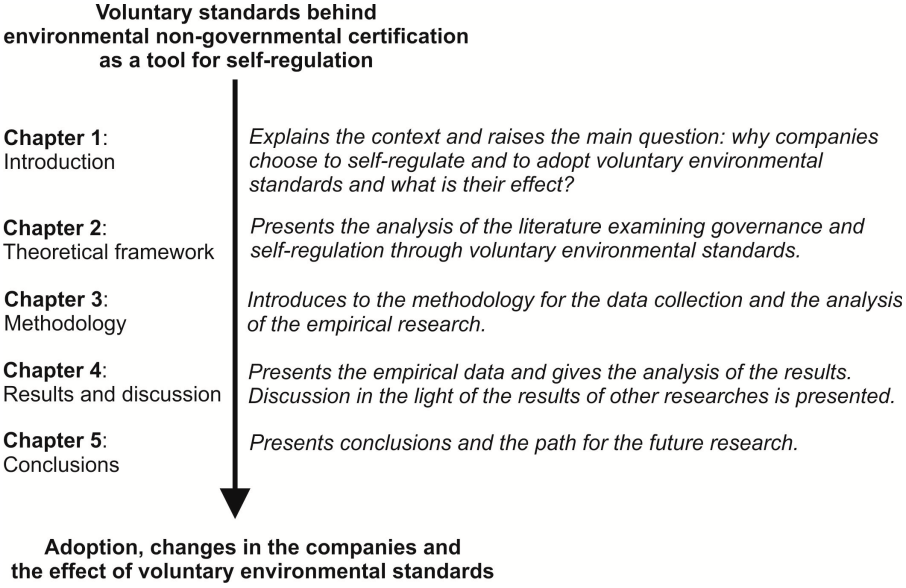
Environmental governance researchers often analyse environmental non-governmental certification as an example of private voluntary actions for self-regulation. Scholars have carried out the research studies to explain how these new governance initiatives emerge, what the main drivers are and what their governance structure is (Bartley, 2003, 2007a, 2007b; Cashore, Auld, & Newsom, 2004). There are also studies implemented to evaluate their implications and overall impact on the regulatory arrangements (Auld, Gulbrandsen, & McDermott, 2008). Furthermore, there have been studies on the transparency and legitimacy of these schemes (Auld & Gulbrandsen, 2010; Bernstein & Cashore, 2007; Dingwerth, 2007).

Adoption motives are fundamental when assessing the effects of certification (Auld et al., 2008). There is a significant body of literature which focus on the empirical exploration of factors behind the adoption of voluntary environmental standards as a self-regulatory tool. Studies show that different pressures affect the decision to adopt the standards. External pressure exerted by different stakeholders is one of the important factors and it varies according to the characteristics of the companies such as the export or the size of the company (Christmann & Taylor, 2001; Potoski & Prakash, 2005). Characteristics of the relationship between the supplier and the customer can also be the crucial factor in deciding to comply with the requirements of the standard (Delmas & Montiel, 2009; Simpson, Power, & Samson, 2007). Reasons emerging from the inside of a company, such as previous experience, mandate from parent companies, internal environmental policy can also be the important factors behind the adoption of voluntary environmental standards (Darnall, 2006; Simpson et al., 2007). There are also studies analysing the effect that environmental certification has on a company performance (Morris & Dunne, 2004; Pérez-Ramírez, Lluch-Cota, & Lasta, 2012; Potoski & Prakash, 2005), however, there is a need for more studies of the causal effects of certification (Blackman & Rivera, 2011). All but a few studies found in the international literature were developed in the Western European countries, North America or Australia. Recently there were several studies developed in other countries like Argentina, China, Ghana or South Africa (Carlsen, Hansen, & Lund, 2012; Christmann & Taylor, 2005; Pérez-Ramírez et al., 2012; Urban & Govender, 2012). However, to the author's knowledge, no research was carried out on the adoption factors and the effect of environmental non-governmental certification in Lithuania as well as published in the international literature. Lithuanian authors developed more analytical studies on environmental management systems and sustainability management

(Kinderyte, Ciegis, & Staniskis, 2010; Ruzevicius, 2009). There are also some empirical studies examining the current state of environmental management accounting practices together with environmental management systems and cleaner production innovations in Lithuanian enterprises (Staniskis & Stasiskiene, 2006) or the statistical review of the use of Lithuanian eco-label "Water Lily" and the EU eco-label "European Flower" in Lithuanian enterprises (Ruzevicius & Waginger, 2007; Staniskis & Stasiskiene, 2006). Nevertheless, there were no studies found to analyse the adoption factors or the effect the environmental standards have at company level. It is obvious that environmental non-governmental certification is not analysed empirically in Lithuania. Hence, this work aims to fill this gap and contribute to the current state of knowledge about self-regulation and the factors which influence the adoption of environmental non-governmental standards as well as the effect the certification has. The knowledge produced by this research will contribute to the discussion on self-regulation and environmental governance without government.

Outline of the thesis

The following figure shows the arrangement of the dissertation. The left column presents the number of the chapter and the right one explains the purpose of the relevant chapter. From explaining how environmental non-governmental certification works as a tool for self-regulation this dissertation moves to the analysis of the adoption of and the effect the standards have on companies in Lithuania and beyond.



The first part of the thesis describes the theoretical framework (Chapter II). In the beginning some concepts are explained. The concept of governance and self-regulation is presented. It is clarified how the terms are related to the topic of the thesis. The framework

is built through an overview of existing literature. It presents different views of organization theory that addresses self-regulation, directly or indirectly.

The second part of the thesis gives an overview of the methodology used for the empirical research (Chapter III). The third part (Chapter IV) represents the results of an empirical data collected from the certified Lithuanian companies. Participants of the three transnational environmental non-governmental certification schemes were selected for the research. The results of the interviews with different stakeholders were also presented here as a supplementary data. This part also includes a discussion with interpretation of the results in the light of other published outcomes. The final part of this work (Chapter V) contains the conclusions, some practical recommendations and recommendations for future research. Appendices with data collection instruments and other relevant information are attached at the end.

Environmental governance and self-regulation through non-governmental certification

The history of the global and the EU environmental policy demonstrates the growing attention towards the innovative instruments, new actors and new forms of governing. Consequently, the understanding of the concept *environmental governance*, which is a narrower form of the broad concept of *governance*, has changed. Environmental governance has supplemented with new elements, such as new and innovative institutional arrangements, active involvement of non-state actors and awareness to broader context in which environmental governance functions. New forms of governing emerged as well with a distinct proliferation of self-regulation by private sector. The growing attention from non-governmental actors to the global environmental problems, such as climate change, deforestation or decreasing fish stocks led to the rapid development of transnational non-governmental environmental standards and certification schemes. This phenomenon raised many question to the researchers, one of them being "Why companies choose to self-regulate and engage in such schemes and what effect do they have on them?"

The analysis of the adoption motives and the compliance factors with the rules of private environmental voluntary standards is a challenge for researchers. There is a great source of theoretical perspectives allowing to explore the raised questions. This work is based on the well-established theoretical perspective in social science – the organization theory. Four organizational theories, which provide the means to analyse the activities by individuals and organizations that govern themselves, were considered.

First, information theory was discussed. It deals with the situation when the transaction decision has to be made and where one party has more or better information than the other. This unequal possession of information means that one party can make better decision than the other. To close the informational gap the party having more information can send the signal to the other party. This theory may be useful in explaining the motives of the companies to become certified. When a company is environmentally committed, it can send the signal by using environmental certification to inform their stakeholders about its environmental awareness.

Institutional model of isomorphic change is also proposed here as a suitable theoretical perspective to analyse certification. It explains how different pressures influence changes of organizations within the same field. The theory allows explaining the pressures that make

companies become certified. This might be coercive pressures from various stakeholders, including the government; normative pressures from the customers or emerging industry trends; and mimetic pressures encouraged by uncertainty or the aspiration to follow successful competitors. Finally, to copy the practices of other organizations to enhance their own legitimacy is also an explanation as to why the companies get certified.

Another useful theoretical approach to make general working assumptions about the certification is social network theory. It considers social relationships among the organizations or individuals within the organizations. These relationships influence the behaviour of organizations and their managerial practices as well. Sustainable decisions, such as the decision to get certified in one organization may diffuse and influence the behaviour of others in the network to which the former organization belongs.

Stakeholder theory was the last organizational theory suggested here. It states that companies can be affected by different parties, called stakeholders, which can be internal or external to the company. Different groups of stakeholders can have demands on the company and thus increase the pressure on it. Often they are able to affect the managerial practices of the focal company. Stakeholders can make specific demands and influences over the companies regarding their environmental performance. Especially green groups, like NGOs, or environmentally conscious customers may require the companies to prove their environmental awareness and become certified against the environmental standards.

Although these perspectives can be used to examine different phenomena, still, they are compatible in terms of their ontological and epistemological assumptions. And since "no single theoretical perspective will enable us to explain everything about organizational interaction" (Cook, 1977, p. 77), it is valuable to consider the usefulness of each theory and to integrate different perspectives into a comprehensive framework. For instance, an interesting combination may occur when simultaneously applying information theory and stakeholder theory. Information theory indicates that in case of environmental certification managers will attempt to reduce the informational gap. Thinking from this perspective, researchers may tend to miss the real reason for such an attempt. Stakeholder theory, however, indicates that the informational gap may be required to be reduced by different stakeholders and not by the managers themselves. Thus another reason for environmental certification is the requirement from the stakeholders. These two theories applied together may explain more precisely the reasons for the decision to adopt environmental standards.

On the other hand, the stakeholder theory highlights the pressure coming from different parties with specific demands regarding environmental performance of the company. Social network theory analyses relationships within and between the organizations. Such relationships can be the reason for the pressure, but they can also provide the added value to the company. For instance, a manager may have a tie to the other manager in other company which is environmentally aware and so the former may learn about green initiatives and implement them in his own company. To combine multiple theoretical perspectives in one research, therefore, can be a great opportunity which would uncover fertile and complex way of explaining organizational practices with respect to environmental certification.

Although the adoption decisions are fundamental to assessing effects (Auld & Gulbrandsen, 2010), important is also the opposite. The reasons for the decision to certify can be explained by the effect certification brings to the companies. Different mechanisms

can be assigned to voluntary environmental standards depending on what companies obtain from them. Thus, environmental certification may operate as three mechanisms: market-based, learning and signalling mechanism. To find out about the effect the certification conveys to the company the knowledge about expectations and satisfaction of the company has to be gained.

Methodology of empirical research

The mixed-methods research approach was used for the empirical research. Three transnational environmental non-governmental certification schemes for the forestry and logging (FSC), fishing and aquaculture (MSC), and production of textiles (OEKO-TEX) were chosen for the analysis. Thus, the *target group* of this research is the companies holding a certificate from one of the three given organizations. They are the most popular private standards for the production certification in Lithuania. Additionally, representatives from non-governmental organizations, independent auditors as well as several government representatives were involved in the research. Interviews were conducted with them to find out how certification functions in reality, what are the experiences and the opinion of the stakeholders.

Initial data collection was made through 1 to 3 hour-length semi-structured interviews with 10 different stakeholders during June – September 2012. And *the main data collection* was made through the multi-wave e-mail survey of the certified companies. The survey was conducted in July 2012 and repeatedly conducted in September 2012. Inductive reasoning was employed to analyse the data retrieved during the interviews and it was presented in the form of a narrative. Statistical analysis was carried out to analyse the data obtained through the questionnaire.

There are 161 enterprises certified against the selected standards in Lithuania. Respondents from all the certified companies were asked to fill in the questionnaire (N = 161). More than half of certificate holders responded to the survey (n = 90) with a response rate of 56%, which is consistent with or even higher response rate than of the previous studies on the environmental practices in the companies. The survey collected 64 variables from each respondent, including information about the certificate holder, standard adoption motives, compliance facilitation factors, expectations and experience with the use of the standards.

Conclusions

Environmental self-regulation through voluntary environmental certification perhaps cannot be a panacea for solving environmental problems. Nonetheless, discarding this model of governance might mean that opportunity to strengthen environmental governance is missed.

In the last few decades processes within global and the EU environmental policy are marked with the changes in governance as a traditional hierarchical governmental control. This change appears through new and innovative institutional arrangements, active involvement of non-state actors and the overall awareness to the broader context in which environmental governance functions. Increasing number of initiatives to contribute to environmental protection has appeared from the civil society and private sector. With

such initiatives new forms of governing emerged with a distinct proliferation of self-regulation by private sector. Self-regulation is different from traditional governmental regulation and can be indicated through the formation of actor networks and various sub-systems to address environmental issues. Even though the need for the intervention of governments to provide corrective measures is always possible, self-regulation can serve as a mitigation to the resistance of government-driven policy. Furthermore, it is highly democratic governance model which fosters engagement.

One of the most prominent examples of self-regulation is environmental certification. It is the voluntary environmental instrument which first was developed by the public authorities. In contrast to self-declaration claims, a certificate or an eco-label is awarded by the third party only to those products (i.e. goods or services) that meet the established standards. Next to the public schemes, the emergence of private organizations providing third-party certification started. And thus, certification scheme can be developed and used exclusively by non-governmental actors. The growing role of such private standards has raised many questions related to the diffusion and the effect they have, credibility or concerns about the legitimacy of such standards' setting processes. Despite all these questions, environmental non-governmental certification continues to be popular globally among different companies. Therefore, this research aimed to answer the key research question, which is why companies choose to self-regulate and to adopt voluntary environmental standards and what is their effect. According to some researchers the adoption decisions are fundamental to assessing the effects, but the author of this thesis suggests that important is also the opposite – the reasons for the decision to certify can be explained by the effect that certification brings to the companies. Rather than proposing a general framework for successful functioning of certification schemes that would work for every environmental problem and in every different setting (which obviously is impossible), this research revealed the way in which the process of diffusion and the use of the certification work in reality. Knowledge of the factors which encourage adoption as well as understanding the effect these schemes have, help to comprehend better the capacity and prospects of this self-regulatory instrument. Thus, this research identified internal and external factors that stimulate the adoption of transnational environmental standards and certification of companies in Lithuania. The research also explored the effect certification has on a company and revealed whether the expectations of the certified companies were justified. Furthermore, the research revealed several unintended consequences of certification, which are very important for the discussion of self-regulation and private environmental governance.

Theoretical framework to answer the key research question and thus to investigate the adoption patterns was constructed using four organizational theories. These theories provide the means to analyse the activities by individuals and organizations that govern themselves. Information theory which deals with the situation when the transaction decision has to be made and where one party has more or better information than the other was discussed. Institutional model of isomorphic change is also proposed here as a suitable theoretical perspective to analyse self-regulation. It explains how different pressures influence changes of organizations within the same field. Another useful theoretical approach to make general working assumptions about self-regulation is social network theory. It considers social relationships among the organizations or individuals

within the organization. Stakeholder theory was the last organizational theory discussed. It states that companies can be affected by different parties, called stakeholders, which can be internal or external to the company. Although these perspectives can be used to examine different phenomena, still, they are compatible in terms of their ontological and epistemological assumptions. The empirical material of this research confirms that it is valuable to consider the integration of different perspectives into a comprehensive framework. For instance, an interesting combination may occur when simultaneously applying information theory and stakeholder theory. Information theory indicates that in case of self-regulation through environmental certification managers will attempt to reduce the informational gap. Thinking from this perspective, researchers may tend to miss the real reason for such an attempt. Stakeholder theory, however, indicates that the informational gap may be required to reduce by different stakeholders and not by the managers themselves. Hence, another reason for self-regulation and environmental certification is the requirement from the stakeholders. These two theories applied together can help to explain more precisely the reasons for the decision to adopt environmental standards. The research offered more examples of using multiple theoretical perspectives. The combination of different perspectives in one research, therefore, is a great opportunity which helps to uncover fertile and complex way of explaining organizational practices with respect to self-regulation through environmental certification.

The reasons for the decision to choose environmental certification as a self-regulatory instrument can be explained by the effect certification brings to the companies. To explore direct effects the analytical framework was used. It was proposed by other researchers examining forest certification, however, it was adapted broader in this research. The analytical structure was developed by distinguishing three different views which are the most common in the scientific literature. The framework suggests that the effect of certification to the companies can be related to one of the three mechanisms that certification can operate as: market-based, learning or signalling, meaning that certification can provide a market advantage, transfer knowledge or inform others about the firm's sustainable practices.

Initial empirical qualitative research

Qualitative data collected through the interviews during the initial research revealed somewhat unexpected results. First of all it disclosed that product certification on the basis of non-governmental standards is basically performed in the chain of custody only (CoC), while operation certification cases are observed in national forests only and, in isolated cases, in textile industry. No fish farms are certified against the MSC standard at all. This information resulted in adjustment of the questionnaire for the quantitative research and adjust it to companies having only the chain of custody certificates. Further, the research showed that Lithuania has only several accredited auditors to certify against the analysed non-governmental standards. Obviously, the question whether the auditors' impartiality is ensured and whether this may have consequences for the quality of certification process remains relevant.

The initial research resulted in new knowledge on the forestry certification in Lithuania. As the results have shown, certification brought many positive changes in forestry, the most important of them being in the environmental and work safety areas. The research

also revealed the unintended positive effects of certification such as the contract foresters working according to the standard in uncertified forests as well or the intense dissemination of information on the activities performed in state-owned forests which started after their certification. The research, however, revealed the potential adverse consequences as well, when after adoption of a decision to self-regulate through certification the use of the standard may lead to counterproductive actions – not environmental preservation, but its destruction. The example of this could be the standard's permission for a clear-cut in certain area, which is significantly larger than the average size of Lithuanian forest holding. Forest owners may start massive clear-cuts to recover the costs of certification or get a price premium if such would exist.

Considering broader consequences, the initial research also revealed somewhat unexpected result of certification. As has been already mentioned, forest management standard is used in state-owned forests, therefore its provisions are well-known to the relevant government representatives. Finally, certain standard's provisions were transposed to legislation. Here the important is the fact that privately designed self-regulatory instrument has the potential to influence the amendments of national legislation. This is an important, though not widely analysed effect of certification to environmental management. Thus, the quantitative survey revealed that self-regulation through non-governmental certification may have not only direct impact, but broader consequences as well – both positive and negative unintended consequences. Moreover, not only in regard to certificate holders, but even to legal regulation.

Empirical quantitative research

Empirical exploration and evaluation of internal and external factors that encourage self-regulation through the adoption of voluntary standards of the companies in Lithuania were made through the survey of the companies certified against the standards selected for the research. The research revealed that environmental self-regulation through non-governmental certification is a new phenomenon in Lithuania as the majority of the companies use this type of certification for a few years only. For the majority of the analysed companies this step was the first one towards the environmental self-regulation.

The research revealed the reasons as to why companies decided to start self-regulation. Standards' adoption pattern was mostly influenced by the external pressures from the stakeholders and the company's wish to inform the outsiders about their environmental commitments. Thus, to start self-regulation, companies in Lithuania are commonly encouraged by their stakeholders. On the other hand, information theory also suits to explain the phenomenon of environmental self-regulation through certification, since information asymmetry reduction was also among the top reasons. The empirical material of initial qualitative research also indicates that the first to get certified were several large companies, which led to a snowball effect – their suppliers had to become certified as well. The participation of the few industry leaders in the certification schemes sets an example for the rest depending on the social network. Therefore, not the least is the assumption that environmental self-regulation can be affected by the social relationships among the organizations. This is a good tendency in environmental terms considering that if most companies would reject certification, there could not be a broad-scale change of unsustainable practices.

To understand better the whole process of environmental certification within the companies, problems which arose after the decision to adopt the standard and the factors that influence the compliance with the rules were explored through the same survey of the certified companies. The research revealed that companies were concerned about the problems related to the internal environment of the company, such as finance (ability to pay for the process) or other processes (ability to implement all the rules required), rather than the problems coming from the external micro environment, like competitors which can damage the reputation of certification or potential entrants which can also use the same certification and prevent from being exclusive.

This research did not aim to reveal whether companies comply with the standard's rules. Rather the opposite – it was taken for granted that companies do comply. The question was raised about the compliance incentives and facilitators. The results revealed that despite well-developed control mechanisms in all of the selected certification schemes, nearly all the companies do not treat it as a helping factor to ensure the compliance. Mostly companies rely on their internal capacities and appointed person for the implementation of certification rules. Thus, the research has shown that auditing measures with possible sanctions are not the determinant to ensure the compliance with the rules when those rules are adopted voluntary by the organization for their self-regulation.

Empirical exploration of the changes and the effect that the standards have on a company level were also made through the multi-wave survey. Evidence suggests that major changes which happened in the companies were not related to the changes of internal managerial practices, but that was other effects, such as maintained market share or improved image. Looking at the evidence of actual changes in the companies as a result of certification, certain changes in organizing the work had to be implemented in nearly two thirds of the certified enterprises. Research results revealed, however, that chain of custody certification as a tool for self-regulation does not require much of the changes to make more sustainable managerial practices in the companies. Given the data available, it is difficult to draw the conclusions about the actual effect on environmental performance of the certified companies.

The effect of the standards adopted by the companies was measured by comparing the adoption factors and the changes that the companies received after the certification, i.e. the expectations compared with the satisfaction. The findings suggest that the overall expectations were higher than the satisfaction in all cases. Companies expected that certification will operate the best as a market-based mechanism, however, the most satisfactory performance was accredited to the signalling mechanism. The lowest expectations and satisfactions were related to learning services of certification. The attention has to be drawn to the relatively high rates of the overall satisfaction despite that market or other expectations were not fulfilled. Research suggests that certification provides various benefits for the companies and the problem might be exaggerated expectations. If self-regulation through environmental certification would eventually become a commonness, the unmet expectations would not be a part of it anymore as everyone would know what to expect and what could be received.

It is important to note that the research also explored whether the adoption of one environmental instrument for self-regulation raises general environmental awareness of the company. Even though environmental certification is a tool for self-regulation,

the research exposed that adoption of one standard did not raise companies' interest in further environmental self-regulation, for instance, through additional instruments. This fact raises the question of the voluntary nature of self-regulation through environmental certification and future work should explore the relationship between the real environmental commitments of the company and pressures from the stakeholders. What remains unclear is whether certification is a tool for self-regulation or for regulation of others.

Practical recommendations suggested by this work

The research has revealed the reason why companies in Lithuania involve in environmental self-regulation and certify their activities as well as what changes occur in the companies after the adoption of environmental standards. The results show that the main factors of self-regulation to the companies are external, the key of them being the stakeholders. This is an important signal for those interested in the environmental protection in Lithuania. Environmental NGOs, socially and environmentally responsible companies and other stakeholders can and should exert more pressure on polluting companies operating in Lithuania. As the research shows, the companies are agile to pressure and may involve in environmental self-regulation, which, in turn, is beneficial to them, not forgetting the most important – the benefits to society.

The research has demonstrated that environmental certification brings many changes within the companies along with the potential to affect the external environment, e.g. legal. Therefore these self-regulatory instruments need more attention from public administrators as well: both to understand their effect and possibilities to use such instruments in saving the overall costs of public sector for the development of state regulatory instruments.

Companies, in turn, could be more interested in and perceive the environmental impact caused by their operation, to apply more often the environmental measures in their activities proactively, rather than on the request of stakeholders or facing the risk to lose the market, etc. This should become an internal corporate policy, in particular realizing the changing environmental conditions and the future challenges, on which business success will depend.

Meanwhile, the standard development organisations should look into the control mechanisms, the development of this is time-consuming and audit procedures are costly to the companies. As the research has revealed, it is not necessarily the control that forces companies to self-regulate and to strictly follow the standard rules. Besides, a sensitive issue remains ensuring the auditors' impartiality, which affects the whole control mechanism.

Limitations and directions for further research

This study contributes to the current literature examining adoption factors and effect of self-regulation programs and enhances the management and governance literature on offering further evidence material. This notwithstanding, it is important to address several limitations of this research. First of all, the instrument of empirical research employed in this study in certain cases could be improved. Several factors associated with the adoption decision could have been missed due to the limited capacity of the questionnaire type data collection instrument. The researcher cannot always know the suitable and all-

inclusive answers to the questions provided. Thus, there always remains the possibility that unobserved factors which have influenced both the decision for self-regulation and its effect will be missed out.

Choosing Lithuania as the setting for empirical studies that evaluate the effect of voluntary environmental certification may significantly underestimate the effects of such certification in other countries. But of course, this research is not seeking to generalize the conclusions and to present them as universal, therefore, the results of this study is only a contribution to the literature of the similar research.

Knowledge gained through this research also helped to indicate the future challenges. Evidently, environmental self-regulation through non-governmental and governmental voluntary programs, through transnational standards which govern environmental management continue to proliferate. There is a great need to find out which self-regulatory instruments are trustworthy and can reliably distinguish their participants from others committed to sustainable environmental practices, and which features of the instrument are critical for having an effective and credible tool. Without such knowledge, much time and money can be wasted for implementation of ineffective instruments. The effect as well as the effectiveness of the growing number of initiatives that seek to contribute or in some cases to substitute governmental regulation will remain in doubt until robust research proves that they are able to produce wanted effect and elicit performance improvements. Further research also has to be developed to analyse broader consequences of self-regulation through certification beyond its rule implementation and compliance. Positive and negative unintended consequences are an important area for analysis. Future research should consider these questions using various methods and research instruments.

Scientific exploration of the effect and effectiveness of voluntary environmental programs, transnational standards and other codes of conduct usually have been focused on a single certification scheme within a country. Although this study represents a step forward in understanding the impact of social influences on adoption of the rules behind different certification programs in one country as well as the effect these several different standards cause in different sectors, cross-national and cross-program analyses remain rare. This should also be addressed in future research.

LIST OF SCIENTIFIC PUBLICATIONS

1. Misiune, I. (2012) Environmental non-governmental certification: adoption, compliance of voluntary standards and their effects for the enterprises. *Strategy and Practice of Sustainable Development: Scientific Publications*, 2012 No 1 (6). Mykolas Romeris University, p. 48-57.
2. Kapaciauskaite, I. (2011) Environmental governance in the Baltic Sea Region and the role of non-governmental actors. *Procedia - Social and Behavioural Sciences. Regional Environmental Governance: Interdisciplinary Perspectives, Theoretical Issues, Comparative Designs,* 2011 Vol. 14. Elsevier, p. 90-100. DOI: 10.1016/j.sbspro.2011.03.027
3. Kapaciauskaite, I. (2010) The role of non-governmental actors in global environmental governance (source language – Lithuanian: Nevyriausybiniu veikėjų vaidmuo globaliame aplinkos valdyme). *Strategy and Practice of Sustainable Development: Scientific Publications*, 2010 No 1 (4). Mykolas Romeris University, p. 63-70.
4. Kapaciauskaite, I. and Motiekaityte, V. (2009) Changes of the global environmental governance and the reflections at the EU environmental policy (source language – Lithuanian: Globalaus aplinkos valdymo pokyčių atspindžiai Europos Sąjungos politiniame procese). *Strategy and Practice of Sustainable Development: Scientific Publications*, 2009 No. 1 (3). Mykolas Romeris University, p. 4-11.

PRESENTATIONS AT SCIENTIFIC CONFERENCES

5. Misiune, I. (2012) "*Environmental non-governmental certification: adoption, compliance of voluntary standards and their effects for the enterprises*" at the SOCIN 2012 – Social Innovations: Theoretical and Practical Insights. International Interdisciplinary Scientific Conference, 25-26 October, 2012, MRU, Vilnius, Lithuania.
6. Misiune, I. (2012) "*The necessity of organic production regulation: are public ecolabelling schemes better than private ones*?" at the Lund Conference on *Earth System Governance: Towards Just and Legitimate Earth System Governance – Addressing Inequalities*. 18-20 April, 2012, Lund University, Lund, Sweden.
7. Misiune, I. (2011) "*The necessity and effectiveness of organic production regulations that contribute to maintaining biodiversity*" at the SENSE PhD Training School on *Earth system governance: the challenge of adaptive governance*. 26-29 September, 2011, Vrije University, Amsterdam, The Netherlands.
8. Kapaciauskaite, I. (2010) „*Environmental governance in the Baltic Sea Region and the role of non-governmental actors*" at the conference *Regional Environmental Governance*. 16-18 June, 2010, Geneva University, Geneva, Switzerland.

CURRICULUM VITAE

PERSONAL DETAILS

Name	IEVA MISIUNE
Date of Birth	18th of February 1984
Email	ieva.misiune@gmail.com
Personal website	http://www.earthsystemgovernance.org/people/person/ieva-misiune

RESEARCH INTERESTS

Environmental governance:

- self-regulation through environmental certification,
- private environmental standards, and
- global environmental governance through regimes.

European environmental law

EDUCATION

2008 – present	PhD researcher at the Department of Environmental Policy Mykolas Romeris University, Vilnius, Lithuania
2010 – 2011	LL.M. in European Law Gent University, Gent, Belgium
2006 – 2008	Master of Environmental policy and administration Mykolas Romeris University, Vilnius, Lithuania
2002 – 2006	Bachelor of Geography *Vilnius University, Vilnius, Lithuania*

WORK EXPERIENCE

2011 September – present	Lecturer Department of Environmental Policy, Mykolas Romeris University, Vilnius
2006 April – 2009 November	Consultant JSC "SWECO Lietuva", Vilnius, Lithuania Specialization in environmental consultations and legislation matters: Environmental Impact Assessment, Feasibility studies, Waste management. Experience with the projects financed from the EU funds.

LANGUAGES

Lithuanian – mother tongue
English – fluent

COMPUTER SKILLS

MS Office, MS Project, EndNote X4, SPSS Statistics, ArcGIS (basics), Corel (basics), PhotoShop (basics)

AFFILIATIONS

February 2009 – present

- Member of the COST Action IS0802 (TGEG) second work group *Multi-level Governance of GEG*: http://transformation-geg.org
- Research fellow of the *Earth System Governance Project*: http://earthsystemgovernance.org

COURSES AND RESEARCH VISITS

25 October, 2012

Participant of the 1st International Interdisciplinary Conference on Social Innovations. MRU, Vilnius.

18-20 April, 2012

Participant of the 2012 Lund Conference on Earth System Governance. Lund, Sweden.

22-23 March, 2012

Participant of the 2012 workshop "*Governing Sustainability: Global Standards and Certification Schemes in the Natural Resources Sector*". Munich, Germany.

26-29 September, 2011

Participant of the 2011 SENSE PhD Training School on *Earth system governance: the challenge of adaptive governance.* Amsterdam, The Netherlands.

16-18 June, 2010

Participant of the 2010 conference "*Regional Environmental Governance*". Geneva, Switzerland.

1-31 March, 2010

Visiting Research Fellow at the Institute for Environmental Studies, Vrije University, Amsterdam. Supervisor: Dr. Ph. Pattberg.

2-4 December, 2009

Participant of the 2009 Amsterdam Conference on the Human Dimensions of Global Environmental Change. Amsterdam, The Netherlands.

24 November – 2 December, 2009

Participant of the 2009 Marie Curie European PhD Winter School on the Human Dimensions of Global Environmental Change. Amsterdam, The Netherlands.

15 February – 25 May, 2009

Visiting researcher at Gent University, Gent, Belgium. Supervisor: Prof. Dr. Jan Orbie.

14-18 November, 2009

Participant of the international BUP conference on Climate change and Human rights. Gniezno, Poland.

ORGANIZATION OF EVENTS

27-30 September, 2010

Organizer of the 2010 COST PhD Training School on Global Environmental Governance: The Multidisciplinary Approach. Vilnius, Lithuania.

MYKOLO ROMERIO UNIVERSITETAS

Ieva Misiūnė

APLINKOSAUGINĖ SAVIREGULIACIJA: POKYČIAI SERTIFIKUOTOSE ĮMONĖSE LIETUVOJE

Daktaro disertacijos santrauka
Socialiniai mokslai, vadyba (03 S)

Vilnius, 2014

Disertacija rengta 2008–2014 metais Mykolo Romerio universitete

Mokslinis vadovas:

prof. habil. dr. Vida Motiekaitytė (Mykolo Romerio Universitetas, biomedicinos mokslai, botanika – 04 B) (2008-2012 m.);

doc. dr. Pranas Mierauskas (Mykolo Romerio universitetas, socialiniai mokslai, vadyba – 03 S) (2012-2014 m.).

Mokslinis konsultantas:

doc. dr. Philipp Pattberg (Amsterdamo Vrije universitetas, socialiniai mokslai, politikos mokslai – 02 S).

Daktaro disertacija ginama Mykolo Romerio universiteto Vadybos mokslo krypties taryboje:

Pirmininkas:

prof. habil. dr. Vygandas Kazimieras Paulikas (Mykolo Romerio universitetas, socialiniai mokslai, vadyba – 03 S).

Tarybos nariai:

prof. habil. dr. Romualdas Juknys (Vytauto Didžiojo universitetas, biomedicinos mokslai, ekologija ir aplinkotyra – 03 B);

dr. Agni Kalfagianni (Laisvasis Amsterdamo universitetas, socialiniai mokslai, politikos mokslai – 02 S);

prof. dr. Imantas Lazdinis (Mykolo Romerio universitetas, socialiniai mokslai, vadyba – 03 S);

prof. dr. Alvydas Raipa (Mykolo Romerio universitetas, socialiniai mokslai, vadyba – 03 S).

Oponentai:

doc. dr. Dangis Gudelis (Mykolo Romerio universitetas, socialiniai mokslai, vadyba – 03 S);

prof. habil. dr. Borisas Melnikas (Vilniaus Gedimino technikos universitetas, socialiniai mokslai, vadyba – 03 S).

Daktaro disertacija bus ginama viešame Vadybos mokslo krypties tarybos posėdyje 2014 m. rugsėjo 25 d. 10 val. Mykolo Romerio universitete (II-230 aud.).

Adresas: Ateities g. 20, LT-08303 Vilnius, Lietuva.

Daktaro disertacijos santrauka išsiųsta 2014 m. rugpjūčio 25 d.

Daktaro disertaciją galima peržiūrėti Lietuvos nacionalinėje Martyno Mažvydo bibliotekoje (Gedimino pr. 51, Vilnius) ir Mykolo Romerio universiteto (Ateities g. 20, Vilnius) bibliotekoje.

Ieva Misiūnė

APLINKOSAUGINĖ SAVIREGULIACIJA: POKYČIAI SERTIFIKUOTOSE ĮMONĖSE LIETUVOJE

Santrauka

Įvadas

Dėmesys aplinkosaugos valdymui ėmė didėti nuo 1960-ųjų pabaigos, kai pramonės keliamos problemos buvo mokslininkų atskleistos ir plačiai paviešintos įvairių naujai susiformavusių aplinkosauginių judėjimų. Augantis susirūpinimas, pvz., dėl plataus insekticido DDT naudojimo ar ozono sluoksnio mažėjimo, buvo skelbiamas plačiajai pasaulio visuomenei. Vyriausybių atsakas į šių problemų sprendimą įgijo pagreitį, tad ir šiandien jos toliau naudojasi savo įgaliojimais reguliuoti ir spręsti aplinkosaugos problemas. Taršos kontrolei ir bendrai aplinkos apsaugai nacionaliniu lygmeniu šalys naudoja taip vadinamas nurodymo ir kontrolės (angl. *command and control*) priemones ar rinkos instrumentus, pavyzdžiui, aplinkos apsaugos mokesčius ar subsidijas. Vis dėl to per paskutinius du dešimtmečius *valdymo* sąvoka pasikeitė ir išsiplėtė. Greta tradicinio hierarchinio valstybinio valdymo atsirado naujų valdymo formų. Tai ypatingai išryškėjo aplinkosaugos valdyme, kur vis dažniau atsiranda nevyriausybinių iniciatyvų prisidėti prie aplinkosaugos tiek iš pilietinės visuomenės, tiek iš privataus sektoriaus. Suprantama, šios iniciatyvos skiriasi nuo tradicinio valstybinio reguliavimo ir yra vadinamos savireguliacija. Vienas ryškiausių pavyzdžių yra savireguliacija per nevyriausybinį aplinkosauginį sertifikavimą. Sertifikavimas ir ženklinimas yra tam tikros sutartos taisyklės – standartas, kuris leidžia vykdyti tvaresnę ekonominę veiklą. Dalyviai, įsipareigojantys dirbti pagal standartą yra tikrinami trečiosios šalies ir gauna sertifikatą, patvirtinantį, kad yra laikomasi standarto taisyklių. Galiausiai yra naudojamas ženklas ant produkto, kuris patvirtina apie gamintojo aplinkosauginius įsipareigojimus.

Per pastarąjį dešimtmetį paplito spartaus savanoriškų aplinkosaugos standartų kūrimo ir plataus jų naudojimo reiškinys, ypač tų, kuriuos sukūrė ne valstybinis sektorius, bet nevyriausybinės organizacijos ar verslas (Bartley, 2003; Cashore, 2002; Fransen & Kolk, 2007; Gulbrandsen, 2006; Pattberg, 2005). Kai kurios sertifikavimo programos buvo sukurtos transnacionaliniu lygmeniu – privačių subjektų, veikiančių net globaliu lygiu, tačiau be vyriausybių, tarptautinių jų agentūrų ar tarpvyriausybinių organizacijų dalyvavimo (Pattberg, 2005). Jų standartai apima globalius principus ir kriterijus, kurie vėliau būna naudojami lokaliai. Šis reiškinys atskleidžia svarbų pokytį aplinkosaugos valdyme. Vyriausybinis reguliavimas vykstantis „iš viršaus į apačią“ keičiasi į iniciatyvas „iš apačios į viršų“, kur privatūs subjektai sukuria taisykles ir savanoriškai jų laikosi. Tai reiškia, kad valstybė nebėra išskirtinis veikėjas aplinkosaugos taisyklių kūrime ir įgyvendinime.

Tyrimo tikslas

Valstybiniu lygiu pilietis ar juridinis asmuo turi atsakyti už savo vykdomus veiksmus, jeigu jie neigiamai paveikia aplinką. Paprastai demokratiškai išrinkti vyriausybių atstovai kuria teisines normas, kurios apima įvairias pareigas ir atsakomybę aplinkosauginiu atžvilgiu. Aplinkosauginiai standartai ir ekologinis ženklinimas kaip aplinkos apsaugos

priemonė gali būti sukurti nevyriausybinių organizacijų ar privataus sektoriaus – tiekėjų, gamintojų, prekybininkų ar jų asociacijų. Daugeliu atvejų tokios sertifikavimo programos su savo taisyklėmis, jų besilaikančiais dalyviais ir kitais suinteresuotais asmenimis suformuoja ištisas savireguliacijos institucijas. Taigi, yra daug privačių ar pilietinės visuomenės organizacijų, kurios sukuria savo sertifikavimo programas – standartus, kontrolės sistemas ir ženklinimą, patvirtinantį atitikimą taisyklėms. Gerai žinomi pavyzdžiai yra Miškų valdymo taryba (angl. *Forest Stewardship Council*), Jūrų valdymo taryba (angl. *Marine Stewardship Counci*) arba įvairūs ekologinio ūkininkavimo standartai. Daugelis šių sertifikavimo programų buvo sukurtos demokratinėse Vakarų visuomenėse. Vėliau jie paplito po visą pasaulį – Rytų Europą, Aziją ar Afriką. Tai reiškia, kad nevalstybinės aplinkosaugos taisyklės yra plačiai naudojamos savanoriškai kaip savireguliacijos priemonės. Šios taisyklės nėra oficialūs įstatymai, tačiau dėl tam tikrų priežasčių dalyviai diegiasi šiuos standartus ir laikosi jų taisyklių. Iškyla klausimas – kokie veiksniai įtakoja vietines organizacijas diegtis globalių aplinkosaugos standartų principus? Kokie yra šių taisyklių sukeliami pokyčiai jų organizacinėje ar aplinkosauginėje veikloje? Ar šie standartai sukelia papildomų pokyčių, kurie vyksta ne tik taisykles įgyvendinančiose ir jų besilaikančiose įmonėse?

Atsižvelgiant į išryškėjusį fenomeną – savireguliaciją per nevyriausybinį aplinkosauginį sertifikavimą – šio tyrimo **objektas** (ang. *focus*) yra savanoriškų aplinkosaugos standartų sukeliami pokyčiai įmonėse ar už jų ribų. Šio tyrimo **tikslas** (angl. *aim*) – pagilinti žinias ir suteikti naujų įžvalgų apie savireguliacijos procesus per nevyriausybinį aplinkosauginį sertifikavimą. Pirma, šis tyrimas siekia nustatyti vidinius ir išorinius veiksnius, kurie skatina transnacionalinių aplinkos apsaugos standartų diegimą Lietuvoje veikiančiose įmonėse. Tokia analizė suteiks žinių apie šių standartų paplitimo procesus. Antra, juo siekiama atskleisti poveikį, kurį sertifikavimas sukelia įmonėms arba už jų ribų, ir išsiaiškinti, ar įmonių lūkesčiai dėl sertifikavimo buvo pateisinti.

Kadangi šio tyrimo tikslas yra nustatyti veiksnius ir atskleisti poveikį, jo tikslas yra **tiriamasis**. Tiriamojo pobūdžio darbas padės paaiškinti, *kodėl* savanoriški aplinkosaugos standartai yra diegiami ir nustatyti, *kaip* jie gali paveikti įmones.

Tyrimo klausimai ir metodologija

Šio darbo tikslui pasiekti, reikia atsakyti į pagrindinį **tyrimo klausimą** (angl. *key research question*):

- kodėl įmonės apsisprendžia vykdyti savireguliaciją ir diegtis savanoriškus aplinkosaugos standartus bei kokį poveikį tai turi jų veiklai?

Tikslui pasiekti ir atsakyti į pagrindinį tyrimo klausimą turi būti įgyvendinti šie **uždaviniai**:

- aprašyti ir palyginti skirtingi teoriniai požiūriai, leidžiantys analizuoti aplinkosauginės savireguliacijos reiškinį ir atsakyti į pagrindinį šio tyrimo klausimą;
- aprašyta analitinė struktūra, kuri buvo pasiūlyta kaip priemonė aplinkosauginio sertifikavimo poveikio analizei, ir parengtas jos pritaikymas šiam tyrimui;
- atliktas pradinis empirinis tyrimas, leidžiantis atskleisti dabartinę sertifikavimo situaciją: sertifikavimo pradžios Lietuvoje aprašymas; sertifikavimo proceso atskleidimas pagal skirtingus suinteresuotus asmenis; ir valdžios atstovų požiūrio atskleidimas.

- surinkti empirinius duomenis, padedančius ištirti ir įvertinti vidinius ir išorinius veiksnius, kurie daro įtaką Lietuvoje veikiančių įmonių apsisprendimui diegtis tyrimui pasirinktus aplinkosauginius standartus;
- surinkti empirinius duomenis, leidžiančius atskleisti ir įvertinti problemas, su kuriomis įmonės susiduria po apsisprendimo diegtis standartus, bei faktorius, kurie skatina įmones ir po sertifikavimo laikytis standarte nurodytų taisyklių;
- ištirti empiriškai, kokie pokyčiai įvyksta įmonėse po standarto diegimo ir kokie įmonių lūkesčiai sertifikavimo atžvilgiu pasitvirtino;
- pateikti išvadas ir rekomendacijas tolimesniems tyrimams.

Savireguliacijos, naudojant sertifikavimą, tyrimas padės geriau suprasti, kodėl įmonės apsisprendžia vykdyti savireguliaciją ir kokį tai poveikį turi jų veiklai. Taip pat šios savireguliacijos priemonės paplitimo analizė padės nustatyti, ar yra kitų, platesnių sertifikavimo pasekmių, vykstančių už įmonės ribų. Tai gali padėti įvertinti, ar savireguliacija ir jai naudojama priemonė turi potencialo papildyti ar prisidėti prie tradicinio valstybinio reguliavimo taisyklių įgyvendinimo. Šiuo darbu nėra siekiama nustatyti visus veiksnius, kurie gali turėti įtakos savireguliacijai, taikant nevyriausybinį sertifikavimą, tačiau siekiama atskleisti įmonių motyvus ir procesus, vykstančius priimant ir laikantis standartų taisyklių. Ištirti visus galimus pokyčius įmonėse po sertifikavimo taip pat nėra pagrindinė šio tyrimo idėja. Autorė pabrėžia skirtumą tarp tiesioginio sertifikavimo poveikio įmonėms ir kitų pasekmių, kylančių iš sertifikavimo paplitimo. Nors tiesioginių pasekmių tyrimas yra tinkama strategija vertinant pačią įmonę, pavyzdžiui, jos lūkesčių pateisinimą, kitų pasekmių ištyrimas, kylančių iš šio savireguliacijos instrumento paplitimo, suteiktų pagrindo analizuojant visas savireguliacijos ir jos priemonių perspektyvas. Pagrindinė idėja nėra apibrėžti tokias perspektyvas ir išsiaiškinti sertifikavimo galimybes, o pirmiausiai nustatyti, ar savireguliacijos procesas ir visa su tuo susijusi sistema apsiriboja tik tais, kurie tiesiogiai dalyvauja sertifikavime. Taigi, šis tyrimas iš esmės remiasi **pozityvistine** epistemologija, kuri teigia, kad atrasti galima tai, „kas tikrai vyksta organizacijose, naudojant klasifikavimą ir mokslinį žmonių bei sistemų elgsenos matavimą“ (Hatch, 1997, p. 13) ir **sistemine-procesine** tyrimo prieiga. Vis dėlto, šis mokslinis tyrimas neapsiriboja griežtai tik šia paradigma. Autorė mano, kad tuo pačiu metu gali egzistuoti ir daugiau nei vienas realybės supratimas bei interpretavimas. Ir nors gana įprasta yra sieti kiekybinius tyrimo metodus su pozityvizmu, o kokybinius su ne pozityvistine filosofija, tokia pozicija preziumuoja, kad tam tikrų tyrimo priemonių naudojimas turėtų identifikuoti filosofinį tyrėjo požiūrį. Tačiau autorė sutinka, kad taip neturėtų būti, nes tyrimo metodai turėtų būti parenkami pagal analizuojamą problemą, o ne pasirinktą filosofinį požiūrį (Zaborek, 2009).

Taigi, siekiant atsakyti į pagrindinį tyrimo klausimą ir įgyvendinti iškeltus tikslus, šio darbo teorinio pagrindo parengimui bus atlikta sisteminė literatūros, aprašančios aplinkos apsaugos valdymą ir savireguliaciją per savanoriškus aplinkosaugos standartus, analizė. Vėliau bus atlikti empiriniai tyrimai teorinio pagrindo pagalba. Empirinis tyrimas bus grindžiamas praktine įmonių, kurios naudoja aplinkosauginį sertifikavimą savireguliacijai, patirtimi ir kasdiene ekspertų, kurie sertifikuoja įmones ar yra kitaip susijęs su procesu, praktika. Empiriniame tyrime bus taikomas **mišrus tyrimų metodas** . Pradžioje tiriamaisiais tikslais bus naudojamas kokybinis metodas . Iš pradžių kokybiniai duomenys bus renkami interviu metodu, apklausiant įvairius suinteresuotus asmenis. Interviu metodas, kurį paprastai naudoja konstruktyvizmo šalininkai, bus naudojamas siekiant kuo tiksliau

ir išsamiau atskleisti tikrovę. Indukcinis samprotavimas bus naudojamas išanalizuoti šių interviu metu gautus duomenis . Vėliau bus taikomas didelės imties kiekybinis metodas tam, kad rezultatai galėtų būti generalizuojami. Kiekybiniai empiriniai duomenys bus gauti iš sertifikuotų įmonių naudojant klausimyną, o duomenų analizei bus naudojama statistinė analizė. Analizei buvo pasirinktos įmonės, turinčios vieną iš trijų plačiai naudojamų tarptautinių aplinkosaugos standartų miškininkystės ir medienos ruošos srityje (FSC), žuvininkystės srityje (MSC) ir tekstilės pramonės srityje (Oeko-Tex).

Mokslinis naujumas

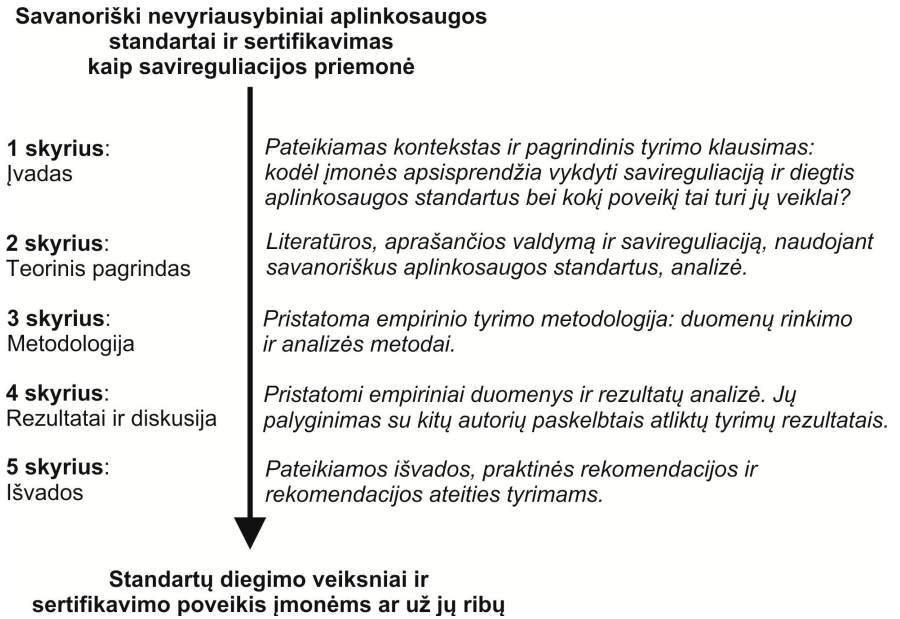
Socialinių mokslų tyrėjai, dirbantys aplinkosaugos srityje, nevyriausybinį aplinkosauginį sertifikavimą dažnai pateikia kaip savireguliacijos ar net privataus valdymo pavyzdį: standartą diegia ir jo taisyklių laikosi daugybė įmonių pasaulyje, nors tai ir nėra nustatyta teisės aktų privaloma veikla. Mokslininkai yra tyrę šių sertifikavimo organizacijų atsiradimą, kokios to pagrindinės priežastys ir kokia jų valdymo struktūra (Bartley, 2003, 2007a, 2007b; Cashore, Auld, & Newsom, 2004). Taip pat yra analizuota sertifikavimo reikšmė ir poveikis bendrai aplinkosaugos valdymo sistemai (Auld, Gulbrandsen, & McDermott, 2008). Papildomai yra paskelbta studijų, tiriančių šių sertifikavimo programų skaidrumą ir legitimumą (Auld & Gulbrandsen, 2010; Bernstein & Cashore, 2007; Dingwerth, 2007).

Standartų diegimo ir sertifikavimo, kaip savireguliacijos priemonės paplitimas taip pat tirtas mokslininkų. Tyrimai rodo, kad skirtingi veiksniai turi įtakos sprendimui diegti standartus. Išorinis spaudimas, kylantis iš įvairių suinteresuotų asmenų, yra vienas iš svarbiausių veiksnių ir jis kinta priklausomai nuo įmonės charakteristikos, pavyzdžiui, eksporto ar įmonės dydžio (Christmann & Taylor, 2001; Potoski & Prakash, 2005). Ryšių tarp tiekėjo ir kliento pobūdis taip pat gali būti lemiamas veiksnys, apsisprendžiant laikytis tam tikrų standarto reikalavimų (Delmas & Montiel, 2009; Simpson, Power & Samson, 2007). Priežastys, kylančios iš įmonės vidaus, pavyzdžiui, ankstesnė patirtis, nurodymai iš motininių kompanijų, vidinė aplinkosaugos politika taip pat gali būti svarbūs veiksniai, lemiantys savanoriškų aplinkosaugos standartų diegimąsi (Darnall, 2006;. Simpson et al, 2007). Taip pat yra atliktų tyrimų, analizuojančių aplinkosauginio sertifikavimo poveikį įmonių veiklai (Morris & Dunne, 2004; Pérez Ramírez, Lluch-Cota & Lasta, 2012; Potoski & Prakash, 2005), tačiau yra poreikis atlikti daugiau tyrimų sertifikavimo poveikiui nustatyti (Blackman & Rivera, 2011). Visi, išskyrus keletą tyrimų, paskelbtų tarptautinėje literatūroje, buvo atlikti Vakarų Europos šalyse, Šiaurės Amerikoje ar Australijoje. Pastaruoju metu pasirodė tyrimų atliktų ir kitose šalyse, pavyzdžiui, Argentinoje, Kinijoje, Ganoje ar Pietų Afrikoje (Carlsen, Hansen & Lund, 2012; Christmann & Taylor, 2005; Pérez-Ramírez et al., 2012; Urban & Govender, 2012). Tačiau Lietuvoje atliktų tokio pobūdžio tyrimų, kurie analizuotų nevyriausybinio aplinkosauginio sertifikavimo paplitimo veiksnius ar jo poveikį, ir paskelbtų tarptautinėje mokslinėje literatūroje, rasti nepavyko. Lietuvių autorių paskelbti straipsniai, analizuojantys aplinkosauginį sertifikavimą, yra daugiau analitinio pobūdžio ir susiję su aplinkosauginėmis vadybinėmis sistemomis (Kinderytė, Čiegis, ir Staniškis, 2010; Ruževičius, 2009). Taip pat yra atlikta keletas empirinių studijų, analizuojančių esamą aplinkosauginių vadybinių sistemų naudojimą Lietuvos įmonėse (Staniskis & Stasiskiene, 2006) ar Lietuvos ekologinio ženklo „Vandens lelija“ ir ES ekologinio ženklo „Europos gėlė“ naudojimo statistinė analizė Lietuvos įmonėse (Ruževičius

& Waginger, 2007; Staniskis & Stasiskiene, 2006). Kaip bebūtų, nepavyko rasti publikuotų tyrimų rezultatų, atskleidžiančių savireguliacijos, naudojant aplinkosauginį sertifikavimą, paplitimo veiksnius ar to poveikį įmonėms. Taigi akivaizdu, kad įmonių savireguliacija per nevyriausybinį aplinkosauginį sertifikavimą Lietuvoje iš esmės empiriškai netirta, o šio darbo tikslas ir yra prisidėti pildant šią spragą. Be to, naujos žinios ir pateiktos įžvalgos prisidės prie šiuo metu pasaulio mokslininkų analizuojamų klausimų savireguliacijos ar aplinkosaugos valdymo, kuriame nedalyvauja vyriausybės, tema.

Disertacijos planas

Žemiau pateiktame paveiksle atvaizduota kaip yra parengta disertacija ir kaip išdėstyti jos skyriai. Kairiajame stulpelyje pateikiamas skyriaus numeris, o dešiniame nurodoma kas tame skyriuje pateikiama. Taigi, šis darbas prasideda nuo nevyriausybinio aplinkosauginio sertifikavimo, kaip savireguliacijos priemonės, veikimo analizės ir toliau nuosekliai pateikiant analizę apie šio sertifikavimo pasirinkimo motyvus bei poveikį įmonėms ar už jų ribų.



Pirmoje darbo dalyje pateikiamas teorinis pagrindas (II skyrius). Iš pradžių pateikiama darbe naudojamų valdymo ir savireguliacijos sąvokų analizė. Teorinis pagrindas pateiktas naudojant literatūros analizę. Jame pristatomi skirtingi organizacinės teorijos požiūriai, kurie yra tinkami savireguliacijai analizuoti.

Antroje darbo dalyje pateikiama empirinio tyrimo metodologija (III skyrius). Trečioji dalis (IV skyrius) skirta pristatyti empirinių duomenų, surinktų iš sertifikuotų Lietuvos įmonių, rezultatus. Trijų transnacionalinių aplinkosaugos sertifikavimo programų dalyviai buvo pasirinkti empiriniam tyrimui. Pirminio tyrimo, kurio metu buvo atlikti interviu

su įvairiais suinteresuotais asmenimis, rezultatai taip pat pateikiami šioje darbo dalyje. Šiame skyriuje taip pat pateikiamas rezultatų aptarimas, interpretavimas ir jų palyginimas su kitų autorių paskelbtais atliktų tyrimų rezultatais. Paskutinėje šio darbo dalyje (V skyrius) pateikiamos išvados, praktinės rekomendacijos ir rekomendacijos ateities tyrimams.

Aplinkosauginis valdymas ir savireguliacija per nevyriausybinį sertifikavimą

Tiek globalioje, tiek ES aplinkosaugos politikoje galima pastebėti vis daugėjančias novatoriškas valdymo priemones, atsirandančius naujus veikėjus ir naujas valdymo formas. Dėl to keitėsi ir supratimas apie *aplinkosauginio valdymo* sąvoką, kuri yra platesnės sąvokos *valdymas* forma. Aplinkosauginis valdymas pasipildė naujais elementais, tokiais kaip naujos ir inovatyvios institucinės sąrangos, aktyvus nevyriausybinių veikėjų dalyvavimas ir dėmesys platesniam kontekstui, kuriame funkcionuoja aplinkosauginis valdymas. Taip pat atsirado naujos valdymo formos, išskiriant vis didėjančią privataus sektoriaus savireguliaciją. Dėl didėjančio nevalstybinių veikėjų dėmesio pasaulinėms aplinkosaugos problemoms – klimato kaitai, miškų naikinimui, mažėjantiems žuvų ištekliams, buvo sparčiai kuriami transnacionaliniai aplinkosaugos standartai ir sertifikavimo sistemos. Šis reiškinys mokslininkams iškėlė daugybė klausimų, kurių vienas yra „Kodėl įmonės pasirenka savanorišką reguliavimą ir dalyvauja tokiose sistemose bei kokį poveikį tai turi jų veiklai?“

Mokslininkai, analizuodami privačių aplinkosauginių savanoriškų standartų diegimo motyvus ir jų taisyklių laikymosi veiksnius, susiduria su dideliu iššūkiu. Kylantiems klausimams tirti egzistuoja didelis teorinių perspektyvų šaltinis. Šiame darbe remiamasi socialiniuose moksluose įsitvirtinusia organizacine teorija. Darbe analizuojamos pasirinktos keturios organizacinės teorijos, kurių pagalba galima tirti savireguliacija užsiimančių asmenų ir organizacijų veiklą.

Pirmiausia buvo analizuojama informacinė teorija (angl. *Information theory*). Joje svarstoma tokia situacija, kai būtina priimti sprendimą dėl sandorio, o viena šalis turi daugiau arba tikslesnę informaciją, nei kita. Ši nevienoda informacinė padėtis reiškia, kad viena šalis gali priimti geresnį sprendimą, nei kita. Informacinei spragai panaikinti daugiau informacijos turinti šalis kitai šaliai gali nusiųsti signalą. Ši teorija gali būti naudinga, aiškinant įmonių motyvus sertifikuotis. Jei įmonė yra įsipareigojusi aplinkosauginiu atžvilgiu, ji, naudodamasi aplinkosauginiu sertifikavimu, gali pasiųsti signalą, kuriuo suinteresuotoms šalims praneštų apie savo aplinkosauginį sąmoningumą.

Čia taip pat analizuojamas izomorfinio pokyčio institucinis modelis (angl. *Institutional model of isomorphic change*), tinkamas sertifikavimui tirti kaip teorinė perspektyva. Juo paaiškinama, kaip įvairūs spaudimai įtakoja organizacijų, veikiančių toje pačioje srityje, pokyčius. Šia teorija galima paaiškinti spaudimą, dėl kurio įmonės sertifikuojasi. Tai gali būti ir priverstinis spaudimas (angl. *coercive pressures*) iš įvairių suinteresuotų asmenų, įskaitant vyriausybę, norminis spaudimas (angl. *normative pressures*) iš klientų arba atsirandančių pramonės tendencijų, mimetinis spaudimas (angl. *mimetic pressures*), kurį paskatina netikrumas arba siekis eiti paskui sėkmingus konkurentus. Galiausiai, vienas iš paaiškinimų, kodėl įmonės sertifikuojasi, būtų kitų organizacijų praktikos kopijavimas, siekiant padidinti savo veiklos legitimumą.

Dar vienas naudingas teorinis požiūris bendroms prielaidoms apie sertifikavimą kurti – tai socialinio tinklo teorija (angl. *Social network theory*-). Joje svarstomi socialiniai

santykiai tarp organizacijų arba tarp asmenų toje pačioje organizacijoje. Šie santykiai turi įtakos organizacijų elgesiui, taip pat ir jų vadybinėms praktikoms. Vienos organizacijos tvarūs sprendimai, pavyzdžiui, sprendimas sertifikuotis, gali paplisti ir paveikti kitų, tam pačiam tinklui priklausančių organizacijų elgesį.

Paskutinė analizuojama organizacinė teorija – suinteresuotų asmenų teorija (angl. *Stakeholder theory*), kurioje teigiama, kad įmonėms įtakos gali turėti įvairūs asmenys, vadinami suinteresuotais, kurie gali būti tiek išoriniai, tiek vidiniai įmonės suinteresuoti asmenys. Įvairios suinteresuotų asmenų grupės gali kelti tam tikrus reikalavimus įmonei ir taip didinti spaudimą, verčiantį jas keistis. Dažnai šie suinteresuotieji asmenys gali paveikti ir įmonių vadybinę praktiką. Suinteresuoti asmenys gali pateikti konkrečius reikalavimus ir daryti įtaką įmonių veiklai aplinkosaugos atžvilgiu. Ypatingai aplinkosauginės grupės, tokios kaip nevyriausybinės organizacijos arba ekologiškai sąmoningi klientai, gali reikalauti, kad bendrovės įrodytų savo aplinkosauginius įsipareigojimus ir sertifikuotųsi pagal aplinkosaugos standartus.

Nors šiomis perspektyvomis galima naudotis, siekiant išnagrinėti įvairius reiškinius, vis tik jos yra suderinamos pagal savo ontologines ir epistemologines prielaidas. O kadangi „nėra vienos teorinės perspektyvos, kuri mums leistų viską paaiškinti apie organizacinę sąveiką“ (Cook, 1977, p. 77), verta atsižvelgti į kiekvienos teorijos panaudojimo galimybes ir skirtingas perspektyvas integruoti į vieną tyrimą. Pavyzdžiui, vienu metu taikant informacinę teoriją ir suinteresuotų asmenų teoriją, galima atrasti įdomų derinį. Informacinė teorija nurodo, kad aplinkosauginio sertifikavimo atveju vadovai bandys sumažinti informacinę spragą. Žvelgdami iš šios perspektyvos, mokslininkai gali praleisti tikrąją tokio mėginimo priežastį. Tačiau, vadovaujantis suinteresuotų asmenų teorija, akivaizdu, kad informacinę spragą turėtų siekti sumažinti įvairūs suinteresuoti asmenys, o ne patys vadovai. Todėl kita aplinkosauginio sertifikavimo teorinė priežastis – suinteresuotų asmenų reikalavimas. Kartu taikomos šios dvi teorijos gali tiksliau paaiškinti sprendimo diegtis aplinkosaugos standartus priežastis.

Kita vertus, suinteresuotų asmenų teorijoje pabrėžiamas skirtingų šalių spaudimas, kartais reikalaujant ir konkrečių veiksmų dėl įmonės aplinkosauginio veiksmingumo. Socialinio tinklo teorija analizuoja santykius tarp tokių organizacijų ir jų viduje. Šie santykiai gali būti tikroji spaudimo priežastis, bet taip pat jie įmonei gali suteikti pridėtinę vertę. Pavyzdžiui, vadovas gali būti susijęs su kitos įmonės vadovu, kuri yra ekologiškai sąmoninga, todėl pirmasis dėl turimų ryšių gali sužinot apie žaliąsias technologijas ir imti jas įdiegti savo įmonėje. Todėl kelių teorinių perspektyvų sujungimas į vieną tyrimą gali būti puiki galimybė, padedanti atskleisti sėkmingą, nors ir sudėtingą, organizacinės praktikos aplinkosauginio sertifikavimo atžvilgu aiškinimo būdą.

Nors sprendimų priėmimo analizė yra labai svarbi poveikiams įvertinti (Auld & Gulbrandsen, 2010), tai, kas priešinga, taip pat svarbu. Sprendimo sertifikuotis priežastis taip pat galima paaiškinti tuo, ką įmonėms suteikia toks sertifikavimas. Savanoriškiems aplinkosaugos standartams galima priskirti įvairius jų poveikio mechanizmus, priklausomai nuo to, ką iš sertifikavimo gauna įmonės. Todėl atsižvelgiant į literatūros analizę, tiriančios aplinkosauginio sertifikavimo poveikį, galima daryti apibendrinimą, kad sertifikavimas veikia trimis būdais: kaip rinkos mechanizmas (angl. *market-based*), kuris padeda internalizuoti aplinkosauginius eksternalitetus per kainą; signalo siuntimo mechanizmas (angl. *signalling*), kuomet suinteresuoti asmenys yra informuojami apie

nematomą aplinkosauginę įmonės veiklą; žinių ar technologijų perdavimo mechanizmas (angl. *learning and technology transfer*), kuomet per sertifikavimą įmonė gauna naujų žinių. Norint sužinoti sertifikavimo sukeliamą poveikį, o tiksliau, koks mechanizmas geriausiai atspindi sertifikavimą, būtina išanalizuoti įmonių lūkesčius ir tų lūkesčių pasiteisinimą (arba ne) sertifikavimo atžvilgiu.

Empirinio tyrimo metodika

Empiriniam tyrimui atlikti buvo pasitelkta tiek kiekybinio, tiek kokybinio tyrimo strategija. Empirinių duomenų rinkimas vyko keliais etapais:

Pirminis duomenų rinkimas vyko per pusiau struktūruotus interviu su sertifikavimo proceso dalyviais. Nuo 1 iki 3 val. trukmės interviu vyko prieš kiekybinį tyrimą 2012 m. birželio – rugsėjo mėn. 10 interviu atlikta su skirtingais suinteresuotais asmenimis: auditoriais, nevyriausybinio ir viešojo sektoriaus atstovais, įmonių atstovais. Pirminis tyrimas atliktas, siekiant sužinoti esamą situaciją Lietuvoje ir geriau pasiruošti kokybiniam tyrimui.

Pagrindinis duomenų rinkimas vykdytas apklausos būdu – klausimynas, sudarytas pagal Laikerto skalę su 64 kintamaisiais. Analizei pasirinktos įmonės, kurios turi įsidiegę vieną nevyriausybinį savanorišką aplinkosaugos standartą: medienos pramonės įmonės – FSC standartą; žuvies perdirbimo įmonės – MSC standartą; tekstilės pramonės įmonės – OEKO-TEX 100 standartą.

Pirminių duomenų kokybinis tyrimas atskleidė, kad produktų sertifikavimas pagal nevyriausybinį standartą iš esmės vyksta tik gamybos grandyje (CoC). Veiklos sertifikavimo atvejai yra tik nacionaliniuose miškuose ir pavieniais atvejais tekstilės pramonėje. Žuvininkystės ūkių sertifikuotų pagal pasirinktą analizei standartą nėra sertifikuota. Taigi, tolimesniam empiriniam tyrimui buvo pasirinkta analizuoti tik sertifikuotas įmones, bet ne ūkius. Šios žinios leido atitinkamai pakoreguoti klausimyną.

Lietuvoje sertifikuotų įmonių pagal pasirinktus tyrimui standartus yra 160. Tyrime sutiko dalyvauti 90 įmonių, t. y. 56 proc. respondentų. Atsakymų procentas yra lygus ar net geresnis lyginant su kitomis studijomis, analizuojančiomis įmonių savireguliaciją užsienio šalyse.

Duomenų analizė taip pat vyko dviem etapais. Statistinė analizė atlikta, naudojant SPSS programą: deskriptyvinė, ANOVA, Tukey's test bei pateikiamas IPA grafikas (pagal Martilla & James, 1977). Kokybinė duomenų analizė, gauta interviu metu apdorota indukciniu metodu, pateikta naratyvo forma.

Išvados

Galbūt aplinkosauginė savireguliacija per savanoriškus aplinkosauginius standartus negali būti aplinkosaugos problemų sprendimo panacėja. Tačiau šio valdymo modelio ignoravimas gali reikšti, kad praleidžiama puiki galimybė sustiprinti aplinkosaugos valdymą.

Pastaruosius kelis dešimtmečius pasaulinės ir ES aplinkosaugos politikos procesus lydėjo valdymo, kaip tradicinės hierarchinės valstybinės kontrolės, pokyčiai. Šie pokyčiai pasireiškė kaip nauji ir novatoriški instituciniai susitarimai, aktyvus nevalstybinių veikėjų dalyvavimas, atidumas platesniam kontekstui, kuriame funkcionuoja aplinkosauginis

valdymas. Iš pilietinės visuomenės ir privataus sektoriaus daugėja iniciatyvų, kuriomis prisidedama prie aplinkosaugos. Kartu su šiomis iniciatyvomis atsirado ir naujos valdymo formos, ypatingai didėjantis privataus sektoriaus savireguliavimas. Savireguliacija nuo tradicinio valstybinio reguliavimo skiriasi ir ją galima indikuoti pagal besiformuojančius veikėjų tinklus, skirtus aplinkosaugos problemoms spręsti. Nors visada išlieka poreikis vyriausybėms įsikišti ir pritaikyti korekcines priemones, savireguliacija gali pasitarnauti kaip būdas sušvelninti pasipriešinimą valstybinei politikai. Be to, tai labai demokratinis valdymo modelis, kuris skatina dalyvavimą.

Vienas iš ryškiausių savireguliacijos pavyzdžių – aplinkosauginis sertifikavimas. Tai savanoriška aplinkosaugos priemonė, kurią pirmiausiai sukūrė valdžios institucijos. Skirtingai nuo tiesiog savideklaracijos, sertifikatą arba ekologinį ženklą suteikia trečioji šalis tik tiems gaminiams (t. y. prekėms ar paslaugoms), kurie atitinka nustatytus standartus. Šalia valstybinių sertifikavimo programų ėmė rastis privačių organizacijų sukurtų aplinkosauginio sertifikavimo programų. Taigi, sertifikavimo programą gali sukurti ir naudoti išskirtinai tik nevyriausybiniai veikėjai. Didėjantis tokių privačių standartų vaidmuo iškėlė daugybę klausimų, susijusių su jų sklaida ir poveikiu, patikimumu ar tokių standartų kūrimo teisėtumu. Nepaisant visų šių klausimų, aplinkosauginis nevyriausybinis sertifikavimas tarp įvairių įmonių ir toliau išlieka populiarus. Todėl šiuo tyrimu buvo siekta atsakyti į pagrindinį tyrimo klausimą – kodėl įmonės renkasi savireguliaciją ir savanoriškų aplinkosaugos standartų diegimą ir koks yra jų poveikis. Kai kurių mokslininkų nuomone, sprendimo motyvai diegtis standartus yra labai svarbūs vertinant poveikį, tačiau šio darbo autorė teigia, kad taip pat svarbu ir priešingai – sprendimo sertifikuotis priežastis galima paaiškinti poveikiu, kurį įmonėms suteikia sertifikavimas. Vietoje bendros teorinės struktūros sėkmingam sertifikavimo programų veikimui siūlymo, kuri tiktų kiekvienai aplinkosaugos problemai ir skirtingoje aplinkoje (kas, akivaizdu, yra neįmanoma), šis tyrimas atskleidė tai, kaip iš tikrųjų veikia sertifikavimas – jo paplitimas ir naudojimas. Žinios apie veiksnius, skatinančius standartų diegimą, taip pat supratimas apie tai, koks yra šių sertifikavimo programų poveikis, leidžia geriau suprasti šios savireguliacijos priemonės pajėgumą ir perspektyvas. Todėl šiame tyrime buvo nustatyti vidaus ir išorės veiksniai, skatinantys transnacionalinių aplinkosaugos standartų diegimą ir įmonių sertifikavimą Lietuvoje. Tyrimo metu taip pat buvo ištirtas sertifikavimo poveikis įmonėms, atskleista, ar pasiteisino sertifikuotų įmonių lūkesčiai. Be to, tyrimo metu buvo atskleistos kelios šalutinės sertifikavimo pasekmės, kurios labai svarbios analizuojant savireguliaciją ir privatų aplinkosaugos valdymą.

Teorinis pagrindas pagrindiniam tyrimo klausimui atsakyti ir taip ištirti standartų diegimo priežastis buvo sudarytas panaudojant keturias organizacines teorijas. Šios teorijos suteikia priemones savireguliacija užsiimančių asmenų ir organizacijų veiklai tirti. Darbe analizuojama informacinė teorija, susijusi su situacija, kai reikia priimti sprendimą apie sandorį ir viena šalis turi daugiau arba tikslesnės informacijos, nei kita. Taip pat analizuotas izomorfinio pokyčio institucinis modelis kaip tinkama teorinė perspektyva savireguliacijai analizuoti. Jis paaiškina, kaip skirtingo pobūdžio spaudimas įtakoja organizacijų pokyčius toje pačioje srityje. Dar vienas naudingas teorinis požiūris bendroms prielaidoms apie savireguliaciją kurti – tai socialinio tinklo teorija. Joje svarstomi socialiniai santykiai tarp organizacijų arba tarp asmenų toje pačioje organizacijoje. Paskutinė aptarta organizacinė teorija – suinteresuotų asmenų teorija, kurioje teigiama,

kad įmonėms įtakos gali turėti įvairūs asmenys, vadinami suinteresuotais, kurie įmonės atžvilgiu gali būti tiek išoriniai, tiek vidiniai. Nors šios perspektyvos gali būti naudojamos skirtingiems reiškiniams tirti, jos yra suderinamos pagal jų ontologines ir epistemologines prielaidas. Šio tyrimo empirinė medžiaga patvirtina, kad verta apsvarstyti skirtingų perspektyvų integravimą į vieną tyrimą. Pavyzdžiui, tuo pačiu metu taikant informacijos teoriją ir suinteresuotų asmenų teoriją, galima atrasti įdomų derinį. Informacinė teorija nurodo, kad aplinkosauginio sertifikavimo atveju vadovai bandys sumažinti informacinę spragą. Žvelgdami iš šios perspektyvos, mokslininkai gali praleisti tikrąją tokio mėginimo priežastį. Tačiau, vadovaujantis suinteresuotų asmenų teorija, akivaizdu, kad informacinę spragą turėtų siekti sumažinti įvairūs suinteresuoti asmenys, o ne patys vadovai. Todėl kita aplinkosauginio sertifikavimo teorinė priežastis – suinteresuotų asmenų reikalavimas. Kartu taikomos šios dvi teorijos gali tiksliau paaiškinti sprendimo diegtis aplinkosaugos standartus priežastis. Tyrime pasiūlyta daugiau pavyzdžių, kaip galima naudoti kelias teorines perspektyvas. Taigi, galima daryti išvadą, kad įvairių teorinių perspektyvų panaudojimas viename tyrime suteikia galimybę pateikti sėkmingą, nors ir sudėtingą, organizacinės praktikos aplinkosauginio sertifikavimo atžvilgu aiškinimo būdą.

Sprendimo pasirinkti aplinkosauginį sertifikavimą kaip savireguliacijos priemonę priežastis galima paaiškinti ir tuo, kokį poveikį sertifikavimas daro įmonėms. Siekiant ištirti tiesioginius poveikius, buvo panaudota analitinė struktūra. Ją pasiūlė mokslininkai, tiriantys miškų sertifikavimą, tačiau šiame tyrime ji buvo adaptuota ir pritaikyta plačiau. Analitinė struktūra pateikta išskiriant tris skirtingus požiūrius, kurie dominuoja mokslinėje literatūroje. Ši struktūra rodo, kad sertifikavimo poveikis įmonėms gali būti susijęs su vienu iš trijų mechanizmų, kuriais gali veikti pats sertifikavimas: rinkos, mokymosi arba signalizavimo, o tai reiškia, kad sertifikavimas gali suteikti pranašumą rinkoje, pvz., per didesnes kainas, perduoti naujas žinias įmonei apie galimą tvaresnę jos veiklą arba informuoti kitus apie jau vykdomus aplinkosauginius įmonės įsipareigojimus.

Pirminio kokybinio empirinio tyrimo išvados

Kokybiniai duomenys, gauti interviu metu atskleidė kiek netikėtus rezultatus. Pirmiausia, šio pirminio tyrimo metu paaiškėjo, kad produktų sertifikavimas pagal nevyriausybinius standartus iš esmės vyksta tik gamybos grandyje (CoC), o veiklos sertifikavimo atvejai yra tik nacionaliniuose miškuose ir pavieniais atvejais tekstilės pramonėje. Žuvininkystės ūkių pagal MSC standartą apskritai nėra sertifikuotų. Ši informacija leido pakoreguoti klausimyną kiekybiniam tyrimui ir pritaikyti jį tik gamybos grandies sertifikatus turinčioms įmonėms. Tyrimas taip pat parodė, kad Lietuvoje yra tik keletas akredituotų auditorių sertifikavimui pagal analizuotus nevyriausybinius standartus. Akivaizdu, kad išlieka aktualus klausimas, ar yra užtikrinamas auditorių nešališkumas ir ar tai gali turėti pasekmių sertifikavimo proceso kokybei.

Pirminis tyrimas suteikė naujų žinių apie miškų ūkio sertifikavimą Lietuvoje. Rezultatai parodė, kad sertifikavimas sukėlė daug teigiamų pokyčių miškų ūkyje, kurių svarbiausi aplinkosaugos ir darbų saugos srityse. Tyrimo metu išryškėjo ir šalutinės teigiamos sertifikavimo pasekmės, kuomet miško darbininkai pagal standartą dirba ir nesertifikuotuose miškuose ar dėka standarto vykdo intensyvią informacijos sklaidą apie valstybiniuose miškuose vykdomas veiklas. Tačiau tyrimas atskleidė ir galimas neigiamas pasekmės, kuomet apsisprendus savireguliaciją vykdyti per sertifikavimą, standarto

naudojimas gali paskatinti priešingus veiksmus – ne aplinkos saugojimą, o jos naikinimą. To pavyzdys yra standarto leidimas atlikti plynus kirtimus tam tikrame plote, kuris yra gerokai didesnis už vidutinės lietuviškos miško valdos dydį. Norėdami susigrąžinti sertifikavimo išlaidas ar gauti papildomą užmokestį miškų savininkai gali imti masiškai vykdyti plynus kirtimus.

Svarstant netiesiogines sertifikavimo pasekmes, pradinis tyrimas taip pat atskleidė kiek netikėtą rezultatą. Kaip buvo minėta, miškų ūkio veiklos standartas yra naudojamas valstybiniuose miškuose, tad jo nuostatos gerai žinomos susijusiems valdžios atstovams. Galiausiai tam tikros standarto nuostatos buvo perkeltos į teisinius aktus. Čia svarbu yra tai, kad privačiai sukurtas savireguliacijos instrumentas turi potencialo įtakoti nacionalinių teisės aktų pakeitimus. Tai svarbus, tačiau plačiai neanalizuotas sertifikavimo poveikis aplinkosaugos valdymui. Taigi, kokybinis tyrimas atskleidė, kad savireguliacija per nevyriausybinį sertifikavimą gali turėti ne tik tiesioginį poveikį, tačiau ir platesnes pasekmes – tiek teigiamas, tiek neigiamas nenumatytas pasekmes. Be to, ne tik sertifikatų turėtojams, tačiau net ir teisiniam reguliavimui.

Kiekybinis empirinis tyrimas

Empirinis vidinių ir išorinių veiksnių, skatinančių savireguliaciją per savanoriškų standartų diegimą, tyrimas ir vertinimas Lietuvos įmonėse buvo atliktas vykdant įmonių, sertifikuotų pagal pasirinktus analizei standartus, apklausą. Tyrimo metu buvo atskleista, kad aplinkosauginė savireguliacija per nevyriausybinį sertifikavimą Lietuvoje yra naujas reiškinys, kadangi dauguma įmonių šia sertifikavimo rūšimi naudojasi dar tik kelerius metus. Daugumai analizuotų įmonių šis žingsnis buvo pirmasis link aplinkosauginės savireguliacijos.

Tyrimo metu buvo atskleistos priežastys, kodėl įmonės nusprendė pradėti savireguliaciją. Standartų diegimą daugiausiai įtakojo išorės spaudimas iš suinteresuotų asmenų, taip pat įmonių noras informuoti suinteresuotus asmenis apie savo aplinkosauginius įsipareigojimus. Taigi, įmonių savireguliaciją Lietuvoje paprastai skatina jų suinteresuoti asmenys. Kita vertus, aplinkosauginės savireguliacijos sertifikavimo būdu reiškiniui paaiškinti taip pat tinka ir informacinė teorija, kadangi tarp pagrindinių priežasčių buvo ir noras sumažinti informacijos asimetriją. Pirminio kokybinio tyrimo empirinė medžiaga taip pat parodo, kad pirmiausia sertifikavosi kelios stambios įmonės, lėmusios „sniego gniūžtės“ efektą – jų tiekėjai taip pat buvo priversti sertifikuotis. Taigi, kelių pramonės lyderių dalyvavimas sertifikavimo programose likusiems socialinio tinklo nariams nustatė kartelę. Todėl prielaida, kad aplinkosauginę savireguliaciją gali įtakoti socialiniai santykiai tarp organizacijų, yra ne mažiau svarbi. Ši tendencija aplinkosaugos požiūriu yra teigiama, atsižvelgiant į tai, kad jei dauguma įmonių atsisakytų sertifikavimo, netvarios praktikos plataus masto pokytis nebūtų įmanomas.

Siekiant geriau suprasti visą aplinkosauginio sertifikavimo procesą įmonėse, toje pačioje sertifikuotų įmonių apklausoje buvo ištirtos po sprendimo diegtis standartą iškylančios problemos ir veiksniai, kurie įtakoja standarto taisyklių laikymąsi po sertifikavimo. Tyrime buvo atskleista, kad įmonės buvo susirūpinusios tokiomis su vidine įmonės aplinka susijusiomis problemomis, kaip finansai (gebėjimas sumokėti už sertifikavimo procesą) ar kitais procesais, pvz., gebėjimu įdiegti visas reikiamas taisykles, tačiau ne problemomis, kylančiomis iš išorinės mikroaplinkos, pavyzdžiui, konkurentais,

kurie gali pakenkti sertifikavimo reputacijai arba potencialiais rinkos dalyviais, kurie taip pat gali naudotis tuo pačiu sertifikavimu ir užkirsti kelią įmonių buvimui išskirtinėmis.

Šio tyrimo tikslas nebuvo atskleisti, ar įmonės laikosi standarto taisyklių, greičiau atvirkščiai – tai, kad įmonės taisyklių laikosi, buvo laikoma savaime suprantamu dalyku. Buvo iškeltas klausimas apie atitikties standartui paskatas ir pagalbines priemones. Rezultatai atskleidė, kad nepaisant gerai išvystytų kontrolės mechanizmų visose pasirinktose sertifikavimo programose, beveik visos įmonės to nelaikė veiksniu, padedančiu užtikrinti atitiktį. Dauguma įmonių kliovėsi savo vidiniais pajėgumais ir asmeniu, paskirtu sertifikavimo taisyklėms įgyvendinti. Taigi, kaip parodė tyrimas, audito priemonės su galimomis sankcijomis nėra lemiamas veiksnys, kuris užtikrintų taisyklių laikymąsi, kai tokias taisykles organizacija savanoriškai priima savireguliacijai.

Taip pat buvo atliktas pokyčių ir poveikio, kurį standartai sukelia įmonės lygiu, empirinis tyrimas, naudojant interviu. Faktai rodo, kad pagrindiniai įmonėse įvykę pokyčiai nebuvo susiję su vidiniais vadybiniais pokyčiais. Žvelgiant į faktinių pokyčių pačiose įmonėse, atsiradusių dėl sertifikavimo, įrodymus, beveik dvejuose trečdaliuose sertifikuotų įmonių reikėjo įdiegti tam tikrus pokyčius darbo organizavimo srityje. Tačiau daugiausiai sertifikavimas sukėlė kitų pokyčių, tokių kaip išlaikoma rinkos dalis arba pagerintas įmonės įvaizdis. Taigi, tyrimo rezultatai atskleidė, kad gamybos grandinės sertifikavimas kaip savireguliacijos priemonė nesukelia didelių papildomų pokyčių, dėl kurių vadybinė praktika įmonėse taptų tvaresnė. Atsižvelgiant į turimus duomenis, sunku daryti išvadas apie faktinį poveikį aplinkosauginiam sertifikuotų įmonių veiksmingumui.

Įmonių įsidiegtų standartų poveikis buvo matuojamas palyginant standartų diegimo veiksnius ir pokyčius, kuriuos įmonės gavo po sertifikavimo, t. y. lūkesčiai buvo lyginami su pasitenkinimu. Rezultatai rodo, kad bendri lūkesčiai visais atvejais buvo didesni, nei pasitenkinimas gautu rezultatu. Įmonės tikėjosi, kad sertifikavimas geriausiai veiks kaip rinkos mechanizmas, tačiau labiausiai patenkinamas veikimas buvo priskirtas signalizavimo mechanizmui. Mažiausi lūkesčiai ir pasitenkinimas buvo susiję su sertifikavimo, kaip žinių perteikimo mechanizmu. Reikėtų atkreipti dėmesį į santykinai aukštus bendro pasitenkinimo rodiklius, nepaisant to, kad rinkos ar kiti lūkesčiai nebuvo pateisinti. Šiuo tyrimu įrodoma, kad sertifikavimas įmonėms suteikia įvairią naudą, o problema gali būti perdėti lūkesčiai. Jei savireguliacija aplinkosaugos sertifikavimo būdu galiausiai taptų įprastu dalyku, nepatenkinti lūkesčiai nebebūtų jos dalimi, kadangi visi žinotų, ko tikėtis ir ką galima gauti.

Svarbu pažymėti, kad šiame tyrime buvo tirta, ar vienos aplinkosaugos priemonės savireguliacijai panaudojimas padidina bendrą įmonės aplinkosauginį sąmoningumą. Nors aplinkosauginis sertifikavimas yra savireguliacijos priemonė, tyrimas atskleidė, kad vieno standarto diegimas nepadidino įmonių suinteresuotumo tolesne aplinkosaugine savireguliacija, pavyzdžiui, naudojant papildomas priemones. Šis faktas iškelia klausimą dėl savanoriškos savireguliacijos aplinkosauginio sertifikavimo būdu prigimties, tad tolesniuose darbuose reikėtų išnagrinėti santykius tarp realių įmonės aplinkosaugos įsipareigojimų ir spaudimo iš suinteresuotų asmenų. Lieka neaišku, ar sertifikavimas – priemonė savireguliacijai, ar kitų reguliavimui.

Praktinės rekomendacijos

Šis tyrimas atskleidė priežastis, kodėl įmonės Lietuvoje imasi aplinkosauginės savireguliacijos ir sertifikuoja savo veiklą, taip pat – kokie pokyčiai įvyksta įmonėse įsidiegus aplinkosauginius standartus. Rezultatai rodo, kad daugiausia įmones imtis savireguliacijos skatina išoriniai faktoriai, kurių esminis – suinteresuoti asmenys. Tai svarbus signalas tiems, kurie yra suinteresuoti aplinkosauga Lietuvoje. Nevyriausybinės aplinkosauginės organizacijos, socialiai ir aplinkosaugiškai atsakingos įmonės bei kiti suinteresuoti asmenys gali ir turėtų daryti didesnį spaudimą Lietuvoje veikiančioms taršioms įmonėms. Tyrimas rodo, jog įmonės yra paslankios spaudimui ir gali imtis aplinkosauginės savireguliacijos, kuri savo ruožtu joms pačioms atneša naudos, nepamirštant ir svarbiausio – naudos visuomenei.

Tyrimas parodė, kad aplinkosauginis sertifikavimas sukelia daug pokyčių įmonių viduje, o kartu turi potencialo įtakoti ir išorinę aplinką, pvz., teisinę. Todėl būtinas didesnis ir viešojo administravimo atstovų dėmesys šiems savireguliacijos instrumentams: tiek jų poveikio supratimui, tiek galimybėms pasinaudoti šiais instrumentais, sutaupant viešojo sektoriaus visokeriopas išlaidas, rengiant valstybinio reguliavimo instrumentus.

Savo ruožtu įmonės galėtų labiau domėtis ir suvokti savo veiklos sukeliamą poveikį aplinkai bei dažniau taikyti aplinkosaugines priemones savo veikloje proaktyviai, o ne pareikalavus suinteresuotiems asmenims ar iškilus grėsmei prarasti rinką ir kt. Tai turėtų tapti vidine įmonių politika, ypač suvokiant besikeičiančias gamtinės aplinkos sąlygas ir laukiančius iššūkius ateityje, nuo kurių priklausys ir verslo sėkmė.

Tuo tarpu standartus kuriančios organizacijos turėtų įsigilinti į kontrolės mechanizmus, kurių sukūrimui yra sugaištama daug laiko, o auditavimo procedūros brangiai kainuoja įmonėms. Tyrimas atskleidė, kad kontrolė nebūtinai verčia įmones imtis savireguliacijos ir tiksliai laikytis standarte nurodytų taisyklių. Be to, auditorių nešališkumo užtikrinimas taip pat išlieka opus klausimas, kuris turi įtakos visam kontrolės mechanizmui.

Trūkumai ir rekomendacijos tolimesniems tyrimams

Šis tyrimas papildo dabartinę mokslinę vadybos ir valdymo literatūrą, nagrinėjančią savireguliacijos pasirinkimo veiksnius ir poveikį, pateikdamas naują įrodymų medžiagą. Nepaisant to, svarbu aptarti keletą šio tyrimo trūkumų. Pirmiausia, šioje studijoje panaudota empirinio tyrimo priemonė tam tikrais atvejais galėtų būti patobulinta. Tam tikri su standartų diegimo sprendimu susiję veiksniai galėjo būti praleisti dėl riboto klausimyno tipo duomenų rinkimo priemonės pajėgumo. Tyrėjas ne visada gali žinoti tinkamus ir visaapimančius atsakymus į pateiktus klausimus. Todėl visada išlieka galimybė, kad nepastebėti veiksniai, kurie turėjo įtakos tiek sprendimui dėl savireguliacijos, tiek jo poveikiui, buvo praleisti.

Dėl Lietuvos pasirinkimo, kaip empirinio tyrimo lauko, kuriame buvo vertinamas savanoriško aplinkosauginio sertifikavimo poveikis, gali būti nepakankamai įvertinamas tokio sertifikavimo poveikis kitose šalyse. Tačiau, be abejo, šiuo tyrimu nėra siekiama apibendrinti išvadų bei pateikti jų kaip universalių, todėl šio tyrimo rezultatai tik prisideda prie panašių mokslinių tyrimų literatūros.

Šio tyrimo metu įgytos žinios taip pat padėjo nustatyti ateities iššūkius. Akivaizdu, kad aplinkosaugos savireguliacija naudojantis nevyriausybinėmis ir vyriausybinėmis savanoriškomis programomis, transnacionaliniais standartais, kurie reglamentuoja

aplinkosaugos vadybą, plis ir toliau. Tad yra akivaizdus poreikis išsiaiškinti, kuriomis savireguliacijos priemonėmis galima pasitikėti, kurios iš jų gali patikimai savo dalyvius išskirti nuo kitų, įsipareigojusių vykdyti tvarią aplinkosaugos praktiką, ir kurios šių priemonių savybės yra itin reikšmingos, siekiant sukurti veiksmingą ir patikimą savireguliacijos instrumentą. Neturint tokių žinių, daugybė laiko ir pinigų gali būti iššvaistyta neefektyvių priemonių įgyvendinimui. Vis daugėjančių iniciatyvų, kuriomis siekiama prisidėti arba, tam tikrais atvejais, net pakeisti vyriausybinį reguliavimą, poveikis ir veiksmingumas išliks abejotinas tol, kol patikimais tyrimais bus įrodyta, kad jomis naudojantis įmanoma pasiekti reikiamą poveikį ir patobulinti organizacijų veikimą. Taip pat būtini tolimesni tyrimai, siekiant atskleisti platesnes savireguliacijos, taikant sertifikavimą, pasekmes, o ne tik pasekmes kylančias taisykles įgyvendinančiose ir jų besilaikančiose įmonėse. Svarbi ateities analizės sritis – teigiamos ir neigiamos nenumatytos savireguliacijos pasekmės. Tolesniuose tyrimuose reikėtų šiuos klausimus apsvarstyti, naudojant įvairius mokslinių tyrimų metodus ir priemones.

Savanoriškų aplinkosaugos programų, transnacionalinių standartų bei kitų elgesio kodeksų poveikio ir veiksmingumo mokslinis tyrinėjimas dažniausiai buvo skirtas vienai sertifikavimo programai šalies viduje. Nors šis tyrimas – žingsnis į priekį, siekiant suprasti socialinių įtakų poveikį diegiantis įvairių sertifikavimo programų taisykles vienoje šalyje, tačiau skirtingose veiklos sektoriuose, tarpvalstybinės ir tarpprograminės analizės vis dar labai retos. Tą taip pat reikėtų nagrinėti tolesniuose tyrimuose.

MOKSLINIŲ PUBLIKACIJŲ SĄRAŠAS

1. Misiūnė, I. (2012) Environmental non-governmental certification: adoption, compliance of voluntary standards and their effects for the enterprises. *Strategy and Practice of Sustainable Development: Scientific Publications*, 2012 No 1 (6). Mykolas Romeris University, p. 48-57.
2. Kapaciauskaite, I. (2011) Environmental governance in the Baltic Sea Region and the role of non-governmental actors. *Procedia - Social and Behavioural Sciences*. *Regional Environmental Governance: Interdisciplinary Perspectives, Theoretical Issues, Comparative Designs,* 2011 Vol. 14. Elsevier, p. 90-100. DOI: 10.1016/j.sbspro.2011.03.027
3. Kapačiauskaitė, I. Nevyriausybinių veikėjų vaidmuo globaliame aplinkos apsaugos valdyme: ar egzistuoja privatus valdymas? Darnaus vystymosi strategija ir praktika: mokslo darbai. Vilnius: Mykolo Romerio universiteto Leidybos centras. ISSN 2029-1558 2010, [t.] 1(4). p. 63-70.
4. Motiekaitytė, V., Kapačiauskaitė, I. Globalaus aplinkos valdymo pokyčių atspindžiai Europos Sąjungos politiniame procese. Darnaus vystymosi strategija ir praktika: mokslo darbai. Vilnius: Mykolo Romerio universiteto Leidybos centras. ISSN 2029-1558. 2009, [t.] 1(3), p. 4-11.

PRANEŠIMAI MOKSLINĖSE KONFERENCIJOSE

5. Misiūnė, I. (2012) "*Environmental non-governmental certification: adoption, compliance of voluntary standards and their effects for the enterprises*". SOCIN 2012 „Socialinės inovacijos: teorinės ir praktinės įžvalgos". Tarptautinė tarpdisciplininė konferencija, 2012 m. spalio 25 d., MRU, Vilnius.
6. Misiūnė, I. (2012) "*The necessity of organic production regulation: are public ecolabelling schemes better than private ones*?". Tarptautinė konferencija "*Earth System Governance: Towards Just and Legitimate Earth System Governance – Addressing Inequalities*". 2012 m. balandžio 18-20 d., Lundo universitetas, Lundas, Švedija.
7. Misiūnė, I. (2011) "*The necessity and effectiveness of organic production regulations that contribute to maintaining biodiversity*". SENSE doktorantų mokykla "*Earth system governance: the challenge of adaptive governance*". 2011 m. rugsėjo 26-29 d., Vrije universitetas, Amsterdamas, Nyderlandai.
8. Kapačiauskaitė, I. (2010) „*Environmental governance in the Baltic Sea Region and the role of non-governmental actors*". Tarptautinė konferencija "*Regional Environmental Governance*". 2010 m. birželio 16-18 d., Ženevos universitetas, Ženeva, Šveicarija.

GYVENIMO APRAŠYMAS

ASMENINĖ INFORMACIJA

Vardas	IEVA MISIŪNĖ
Gimimo data	1984 m. vasario mėn. 18 d.
El. paštas	ieva.misiune@gmail.com
Asmeninis puslapis	http://www.earthsystemgovernance.org/people/person/ieva-misiune

TYRIMŲ SRITYS

Aplinkosauginis valdymas:

- savireguliacija per aplinkosauginį sertifikavimą;
- privatūs aplinkosaugos standartai;
- globalus aplinkos valdymas ir skirtingi režimai.

Europos Sąjungos aplinkosaugos teisė

IŠSILAVINIMAS

2008 iki dabar	Socialinių mokslų srities doktorantė Aplinkos politikos katedra, Mykolo Romerio universitetas, Vilnius
2010 – 2011	Socialinių mokslų srities teisės magistro laipsnis Europos Sąjungos teisės programa Gento universitetas, Belgija
2006 – 2008	Socialinių mokslų srities viešojo administravimo magistro laipsnis Aplinkos apsaugos politikos ir administravimo programa Mykolo Romerio universitetas, Vilnius
2002 – 2006	Fizinių mokslų bakalauras, Geografijos programa *Vilniaus universitetas, Vilnius*

DARBO PATIRTIS

2011 rugsėjis iki dabar	Lektorė Aplinkos politikos katedra, Mykolo Romerio universitetas, Vilnius Atsakomybės: Erasmus kursų rengimas, mokslinių projektų vystymas, paskaitų dėstymas, seminarų vedimas.
2006 balandis – 2009 lapkritis	Aplinkosaugos konsultantė Aplinkos tyrimų skyrius, UAB "SWECO Lietuva", Vilnius Atsakomybės: planuojamos ūkinės veiklos poveikio aplinkai vertinimas, regioninių atliekų tvarkymo sistemų planavimas, specialiųjų planų ir galimybių studijų rengimas; vertinimo ataskaitų bei veiklos leidimų derinimas su valstybinėmis institucijomis. Konkursinių pasiūlymų ruošimas, komunikavimas su užsakovais, konsorciumų dalyviais ir valstybinėmis institucijomis.

KALBOS

- Lietuvių – gimtoji.
- Anglų – puikiai.

KOMPIUTERINIS RAŠTINGUMAS

MS Office, MS Project, EndNote X4, SPSS Statistics, ArcGIS (pagrindai), Corel (pagrindai), PhotoShop (pagrindai).

NARYSTĖS

2009 m. vasario mėn. iki dabar

- Tarptautinės COST veiklos IS0802 antros darbo grupės „Multi-level Governance of GEG“ narė: http://transformation-geg.org
- Tarptautinio mokslinio projekto „Earth System Governance“ tyrėja: http://earthsystemgovernance.org

MOKSLINĖ VEIKLA

2012 m. spalio 25 d.

Tarptautinės tarpdisciplininės konferencijos „Socialinės inovacijos: teorinės ir praktinės įžvalgos“ („SocIn 2012“) dalyvė, pranešėja. MRU, Vilnius.

2012 m. balandžio 18-20 d.

Tarptautinės mokslinės konferencijos „2012 Lund Conference on Earth System Governance“ dalyvė, pranešėja. Lundas, Švedija.

2012 m. kovo 22-23 d.

Tarptautinių mokslininių dirbtuvių „Governing Sustainability: Global Standards and Certification Schemes in the Natural Resources Sector” dalyvė. Miunchenas, Vokietija.

2011 m. rugsėjo 26-29 d.

Tarptautinės SENSE doktorantų mokyklos „Earth system governance: the challenge of adaptive governance“ dalyvė, pranešėja. Amsterdamas, Nyderlandai.

2010 m. biželio 16-18 d.

Tarptautinės konferencijos „Regional Environmental Governance“ dalyvė, pranešėja. Ženeva, Šveicarija.

2010 m. kovo 1-31 d.

Mokslinė stažuotė Aplinkos studijų institute. Vrije universitetas, Amsterdamas, Nyderlandai. Vadovas: Dr. Ph. Pattberg.

2009 m. gruodžio 2-4 d.

Tarptautinės mokslinės konferencijos „Human Dimensions of Global Environmental Change“ dalyvė. Amsterdamas, Nyderlandai.

2009 m. lapkričio 24 d. – gruodžio 2 d.

Tarptautinės Marie Curie doktorantų mokyklos „Earth system governance: the challenge of adaptive governance“ dalyvė. Amsterdamas, Nyderlandai.

2009 m. vasario–gegužės mėn.

Mokslinė stažuotė Gento universitete. Gentas, Belgija. Vadovas: Prof. Dr. Jan Orbie.

2009 m. lapkričio 14-18d.

Tarptautinės Baltic University Programme konferencijos „Klimato kaita ir žmogaus teisės“ dalyvė. Gniezno, Lenkija.

KITA MOKSLINĖ VEIKLA

2010 m. rugsėjo 27-30 d.

2010 COST veiklos IS0802 doktorantų mokyklos „Global Environmental Governance: The Multidisciplinary Approach“ organizatorė. Vilnius, Lietuva.

Misiūnė, Ieva

ENVIRONMENTAL SELF-REGULATION: CHANGES OF CERTIFIED COMPANIES IN LITHUANIA: Doctoral Dissertation. – Vilnius: Mykolas Romeris University, 2014. 166 p.
Bibliogr. 117–126 p.
ISBN 978-9955-19-673-0

This work examines the phenomenon of self-regulation as a new form of governance in Lithuania. The study is based on one of the most prominent examples of self-regulation in environment protection which is non-governmental certification. This study is designed to answer the question – why companies decide to self-regulate and to adopt voluntary environmental standards and what is their effect. Knowledge of the factors which encourage adoption as well as understanding the effect these schemes have, help to comprehend better the capacity and prospects of this self-regulatory instrument. Theoretical framework of this study is based on four organizational theories and the analytical model, which allows to investigate the effects of certification, was adapted to this research. The empirical study revealed that self-regulation through environmental non-governmental certification is a new phenomenon in Lithuania. Standards' adoption pattern was mostly influenced by the external pressures from the stakeholders and the company's wish to inform the outsiders about their environmental commitments. The study also revealed that certification may have not only direct impact, but broader effects as well – both positive and negative unintended consequences. Unintended side effects and the effectiveness of certification are important areas for future research in self-regulation and private environmental governance research.

Šis darbas analizuoja savireguliacijos, kaip naujos valdymo formos, paplitimo reiškinį Lietuvoje. Tyrimas remiasi vienu ryškiausių savireguliacijos pavyzdžių aplinkosaugoje – nevyriausybiniu sertifikavimu. Šiuo tyrimu buvo siekiama atsakyti į klausimą, kodėl įmonės renkasi savireguliaciją ir standartų diegimą bei koks yra jų poveikis. Žinios apie veiksnius, skatinančius standartų diegimą, taip pat supratimas apie tai, koks yra sertifikavimo programų poveikis, leidžia geriau suprasti šios savireguliacijos priemonės galimybes ir perspektyvas. Teorinis tyrimo pagrindas remiasi keturiomis organizacinėmis teorijomis ir tyrimui pritaikyta analitine struktūra, leidžiančia tirti sertifikavimo pasirinkimą ir sukeliamą poveikį. Empirinio tyrimo metu buvo atskleista, kad aplinkosauginė savireguliacija per nevyriausybinį sertifikavimą Lietuvoje yra naujas reiškinys. Pagrindiniai veiksniai, skatinantys standartų diegimą ir įmonių sertifikavimą, yra patiriamas spaudimas iš suinteresuotų asmenų arba pačių įmonių noras informuoti apie savo aplinkosauginius įsipareigojimus. Tyrimas taip pat atskleidė, kad sertifikavimas gali turėti ir netiesioginių pasekmių, t. y. ne tik standartus diegiančioms įmonėms. Pastarosios gali būti tiek teigiamos, tiek neigiamos neplanuotos pasekmės. Sertifikavimo veiksmingumas ir nenumatytos jo pasekmės yra svarbios sritys ateities tyrimams, analizuojantiems savireguliaciją ir privatų aplinkosaugos valdymą.

Ieva Misiūnė

APLINKOSAUGINĖ SAVIREGULIACIJA:
POKYČIAI SERTIFIKUOTOSE ĮMONĖSE LIETUVOJE

Daktaro disertacija

Maketavo *Daiva Šepetauskaitė*

SL 585. 2014 08 05. 12,4 leidyb. apsk. l.
Tiražas 20 egz. Užsakymas 23 433
Mykolo Romerio universitetas
Ateities g. 20, Vilnius
Puslapis internete www.mruni.eu
El. paštas leidyba@mruni.eu

Parengė spaudai UAB „Baltijos kopija"
Kareivių g. 13B, Vilnius
Puslapis internete www.kopija.lt
El. paštas info@kopija.lt
Spausdino UAB „Vitae Litera"
Savanorių pr. 137, Kaunas
Puslapis internete www.bpg.lt
El. paštas info@bpg.lt

ISBN 978-9955-19-673-0

