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Foreword

The sixth international scientific conference Changes in Social and Business Environment (CISABE' 2016) is organized in the Forum on Innovative Technologies and Management for Sustainability that was an umbrella event for two conferences, i.e., Changes in Social and Business Environment and 11th International Conference Intelligent Technologies in Logistics and Mechatronics Systems. The main idea of this joint event was to provide a worldwide forum and built bridges among international participants working in engineering and social fields and to find joint topics for future research as to better suit industry, business and society needs.

It is evident that a transition to a sustainable society poses a number of serious technological and socio-economic challenges. Sustainability involves more than just a technical issue of eco-efficiency. Progressive competition, increasing customer demand, growing production and consumption scale, as well as environment degradation cause a lot of social, environmental, and economic problems. These different issues of sustainability require joint efforts of scientists, industry, business, and political leaders and our choice will depend on our values and vision of the future.

Conferences topics included:

- Business and Management Trends in Changing Environment;
- Contemporary Marketing Dynamics Capabilities;
- Challenges and opportunities of Finance and Economics from Regional and Global Context;
- Sustainable Development: Social, Political, Economical/Business Setting;
- Knowledge Management and Organizational Learning;
- New approaches to Human Resource Management;
- Innovations and New Technologies in Business and Management;
- Identification and Interpretation of Social Phenomena;
- Changing Models of Economic Development;

The conference is the result of a collective effort and we take the opportunity through this written welcome to express our recognition of the effort and work put in by all those people who have made it possible to organise CISABE' 16: we pay tribute to the Scientific Committee who have assured the quality of the accepted papers, to the members of the organising committee for their keen motivation and to all the people who have directly or indirectly influenced the smooth progress towards the conference. Finally, we would like to express much gratitude to all of the authors for contributing their papers.

Prof. Daiva Žostautienė
Assoc. prof. Dalia Susnienė
Prof. Liudvika Leišytė

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Forum on Innovative Technologies and Management for Sustainability (ITMS'2016)

The 6th International Scientific Conference Changes in Social and Business Environment (CISABE'2016), 28-29 April 2016, Panevėžys, Lithuania

Reconstruction and Development of Date for Modelling Integrated Waste Management Systems

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Abstract

Recently, an increasing number of researchers have been focusing on working out realistic solutions to sustainability problems. As sustainability issues gain higher importance for organisations, the management of such decisions becomes critical. Knowledge representation is a fundamental issue of complex knowledge based systems. A fuzzy cognitive map (FCM) can successfully represent knowledge and human experience, introducing concepts to represent the essential elements and the cause and effect relationships among the concepts to model the behaviour of any system. Integrated waste management systems (IWMS) are complex systems that can be decomposed to non-related and related subsystems and elements, where many factors have to be taken into consideration that may be complementary, contradictory, and competitive; these factors influence each other and determine the overall decision process of the system. The goal of the present paper is to construct an efficient IWMS and its related time series which considers various factors.

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Keywords: FCM; integrated waste management system; group decision; content analysis; time series.

1. Introduction

Decision problems are usually characterized by numerous issues or concepts interrelated in a complex way. Formulating a quantitative mathematical model for such system may be difficult or impossible due to lack of numerical data and dependence on imprecise verbal expressions. An FCM is able to represent unstructured knowledge through causalities expressed in imprecise terms [1]. FCM offers many advantages for sustainability modelling including the ability to include abstract and aggregate variables in models, the ability to model relationships which are not known with certainty, the ability to model complex relationships which are full of feedback loops, and the ease and speed of obtaining and combining different knowledge sources. In case of integrated waste management (IWMS), problems are complex, involve many parties, and have no easy solutions or right answers. However, decision must be made. A useful modelling tool for analyzing such problems would bring together the knowledge of many different experts from different disciplines, be able to compare their perceptions and to simulate different policy options, allowing for discussion and insight into the advantages and disadvantages of possible decision [2].

Experts, as a mean of direct interactions with the real world, are invited to filter and disseminate their knowledge in order for the inferences to be realistic. The graphical representation of a problem facilitates the analysis of the parameters, and reveals its simplicity and effectiveness especially in the case of complex systems [3]. Due to the complexity and uncertainty occurring in sustainable waste management systems, we intend to use the Fuzzy Cognitive Map (FCM) method to support the planning and decision making process of integrated systems. Since the FCM is formed for a selected system by determining the concepts and their relationships, it is

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possible to quantitatively simulate the system considering its parameters. We used several techniques in order to produce the input data of the simulation process.

The process of development of IWMSs involves significant degree of social analysis, utilization of pure technical features (collection, transport, equipment, etc.), legal and institutional issues based on personal experiences, expert judgment, synthesis of conflicting opinions, etc. Although personal experiences and expert judgment tend to be subjective, their contribution is vital to the completeness of waste management system design [4].

The methodology of FCM simulation starts with an expert workshop and a content analysis procedure as these are the input data to the simulation of the system in question. This paper now focuses on presenting both methodology tools.

2. Literature review

On the basic of a thorough and comprehensive literature review, we can conclude that there is a wide consensus among the experts of the field under investigation that a typical IWMS includes at least the following six key factors: environmental, economic, social, institutional, legal and technical. These factors are the 'key drivers' of a sustainable IWMS that determine why the system operates as it does [8-26].

In Table 1 the main factors and some examples of their respective subsystems are introduced.

Table 1. 'Key Drivers' of IWMS and Their Respective Subsystems.

Factors	Subsystem elements
Environmental factors	Emissions; Climate change; Land use; Recovery and recycling targets; Depletion of natural resources; Human toxicity
Economic factors	Efficiency at subsystem level; Efficiency at system level; Available funding/subsidies; Equity; System costs and revenues; Pricing system for waste services, Secondary materials market
Social factors	Public opinion; Public participation in the decision making process; Risk perception; Employment; Local demographics – population density, household size and household income; Public resistance (NIMBY – Not In My BackYard, LULU – Locally Unacceptable Land Use)
Institutional factors	Local and regional politics and planning; Managerial conditions and future directions; Institutional and administrative structure of waste management
Legal factors	Relevant legislation (international, national, regional and municipal)
Technical factors	Collection and transfer system; Treatment technologies; Waste stream composition and change

3. Methods Applied

3.1. Expert Workshop Design Principles

Stakeholder participation is a major aspect in many integrated projects. Stakeholders are often asked to participate in the system development. The reason for participation and the quality of the results of workshop are related [27]. Integrated approaches to environmental planning with proper stakeholder involvement offer a possible way forward. Such an approach needs to facilitate communication within multidisciplinary research teams. Furthermore, it must encompass participatory management schemes which promise a substantive change in the exploitation of local knowledge. By enhancing stakeholder involvement, participatory management strengthens policy relevance, diminishes uncertainties, improves monitoring and raises enforcement rates. Participatory (or deliberative) approaches to sustainable waste management are usually grouped under the general term of stakeholder analysis. Stakeholder analysis in turn can be divided into what we opt to call macro-stakeholder and micro-stakeholder analysis. The former category includes all those qualitative approaches that refer to the interaction of social groups and their dynamics: social networks analysis, analysis of conflicts, and actor analysis. The latter category refers to qualitative or semi-quantitative approaches, which explore individual perceptions, values and attitudes. These include: FCM of social perceptions and values [28].

The construction of a FCM requires the input of human experience and knowledge on the system under consideration. Thus, FCMs integrate the accumulated experience and knowledge concerning the underlying causal relationships amongst factors, characteristics, and components that constitute the system [29-33]. The design of a fuzzy cognitive map is a process that heavily relies on the input from experts and/or stakeholders. This methodology extracts the knowledge from the stakeholders and exploits their experience of the system's model and behaviour. FCM is fairly simple and easy to understand for the participants, which opens up the possibility for involving lay people as well as planners, managers and experts [34].

At the beginning of the methodology, the group of experts determines the number and kind of concepts that comprise the FCM. An expert from his/her experience knows the main factors that describe the behaviour of the

system; each of these factors is represented by one concept of the FCM. Experts know which factors of the system influence other elements; for the corresponding concepts they determine the negative or positive effect of one concept on the others, with a fuzzy degree of causation. In this way, an expert decodes his/her own knowledge on the behavioural model of the system and transforms his/her knowledge in a dynamic weighted graph, the FCM. With this method experts are forced to think about and describe the existing relationship between the concepts and so they justify their suggestion [31-33].

3.2. Workshop Techniques

In this application we were interested in investigating how the experts perceive the future prospects and risks of the IWMS with regard to the environmental, social, legal, technical, etc. issues; creating and analyzing an FCMs this can be achieved.

As with many other workshop techniques, it is helpful to produce systematic guidelines describing the single steps of FCM before starting with the moderation of the workshop. These workshop guidelines [34] should function as guidance for how to moderate the workshop, and how to create FCMs over the case study areas. In this section the author summarize the practical steps needed to design and conduct a FCM design workshop.

At first, how to draw a FCM must be explained to the participants using a cognitive map and its related FCM as an example. Once the stakeholders understood the process of constructing FCM, then they are able to draw collectively the map of the issue. The process involved four steps in the present case: (1) literature surveys to identify the major components of the IWMS; (2) description of specific concepts in the system format using expert knowledge and perception; (3) linking variables and drivers in the map attaching weights; and (4) develop the connection matrix as an input data for FCM simulation of IWMS [35].

3.3. Content Analysis to Develop Time Series

The FCM model consists of two different input data. One is the expert system database which is based on human expert experience and knowledge and consists of 33 factors. We set up this database through gathering information from experts of integrated municipal waste management systems. Using this methodology, we extracted the knowledge on the system from the experts and exploited their experience on the system's model and behaviour.

The other input data set was the range of historical data consisting of a sequence of state vectors. The trend of the studied 33 factors was assessed between the values 0 and 1 from the 1970s till the 2010s.

Given the nature of the problem, computational methods were mixed with human judgment which is a standard approach in natural language processing when it is hard to define the problem in an exact, formal way for machines. Our goal was to determine how each subsystem contributes to the policy making process. Subsystems were identified by experts using their tacit knowledge accumulated over years of professional practice. From a linguistic point of view, these subsystems can be regarded as high level concepts of a field specific knowledge base [36]. Each high level concept is a collection of related words, synonyms, homonyms, antonyms etc. Knowledge bases tries to capture the relationship between concepts of specific field and can be seen as a formal representation of the practitioners tacit knowledge by listing all the relevant entity and predicates which can be applied to entities (such as properties of entities, how we can form groups from these entities and how we can talk about these groups and etc). Hence knowledge bases contain mainly concepts and words describing relations.

Although knowledge bases are usually structured as mentioned above, here we are not interested in the systematic relation between words under high level concepts, but we can rely on this feature of conceptual structure. We operationalized the contribution of a subsystem to the policy making process as the frequency of the words under a high level concept in the text. So, the systematic relationships between items of high level concepts were abandoned and terms were simply listed under each subsystem.

Why content analysis? The author intended to eliminate the subjectivity of expert workshop [37], to validate the results with another method and to make a more objective approach to analyze and model the changes of importance. Content analysis is a research method for rigorously and systematically analyzing the contents of written documents. The approach is used in interdisciplinary research to analyze political, strategic and legal documents to facilitate as objective and consistent analysis of written policies.

The authors' process entitled the following steps: (a) setting inclusion criteria for documents; (b) collecting documents; (c) articulating key areas of analysis; (d) document coding; and (f) analysis. An overview of what each steps entailed is provided below. In selecting documents for the analysis, the team had to consider: which types of documents would be included and reviewed, and the publication and release of those documents. Types of documents reviewed for the content analysis included policy, strategic document, laws and directives and guidelines of the European Union. Publication and date of release was considered to be able to use the exercise as a baseline so as to track changes and progress in policy and practice over time. Therefore, the authors determined for the duration of the study the last 30 years (1970'-2010').

Documents were collected mainly from the intranet. When the authors were not able to find the appropriate documents online, the university library and support of experts proved to be good solution.

The policy documents were originally reviewed and analyzed to be important and relevant also validated by experts for ensuring sustainable waste management. Each document was analyzed to determine the extent to which the policy or strategy is described, addressed or considered of the identified terms and expressions for IWMS. Words relevant for one of the predetermined concepts were highlighted and coded. Based on the analysis of the words of the text, their meaning, relevance and context, each word was classified into one predetermined concept. To ensure consistency and reliability of the coding and assessment process, the analysis of every word was verified by a second person. This data was then analyzed to determine trends and to compare policy vs. practice.

4. Result

4.1. Connection Matrix as a Result of the Expert Workshop

As the six main factors had been determined on the basis of the relevant literature, these were the starting point of the FCM design during the workshop. The participants were asked to form groups according to the six areas they represented. Then, they were requested to identify 5-7 sub-factors in their field of speciality which come to their mind when they are asked about the sustainability of IWMS. Describing the properties of the sub-factors is very important as they have to fulfil certain criteria. When creating a FCM, it is important to consider that the concepts must be quantifiable in order to be able to be affected by other concept. It is important for the understanding of the map that the concepts are clearly described in a manner which makes the FCM work [35].

During the workshop participants defined altogether 33 sub-factors as critical variables of the IWMS (see Table 2).

Table 2. The Identified Sub-factors of the Main Factors and the Concept IDs (CID) of them.

Main factor	Sub-factor	CID	Main factor	Sub-factor	CID
Technology (C1)	Engineering knowledge	C1.1	Society (C4)	Public opinion	C4.1
	Technological system and its coherence	C1.2		Public health	C4.2
	Local geographical and infrastructural conditions	C1.3		Political and power factors	C4.3
	Technical requirements in the EU and national policy	C1.4		Education	C4.4
	Technical level of equipment	C1.5		Culture	C4.5
Environment (C2)	Impact on environmental elements	C2.1		Social environment	C4.6
	Waste recovery	C2.2		Employment	C4.7
	Geographical factor	C2.3	Law (C5)	Monitoring and sanctioning	C5.1
	Resource use	C2.4		Internal and external legal coherence (domestic law)	C5.2
	Wildlife (social acceptance)	C2.5		General waste management regulation in the EU	C5.3
	Environmental feedback	C2.6		Policy strategy and method of implementation	C5.4
Economy (C3)	Composition and income level of the population	C3.1	Institution (C6)	Publicity, transparency (data management)	C6.1
	Changes in public service fees	C3.2		Elimination of duplicate authority	C6.2
	Depreciation and resource development	C3.3		Fast and flexible administration	C6.3
	Economic interest of operators	C3.4		Cooperation among institutions	C6.4
	Financing	C3.5		Improvement of professional standards	C6.5
	Structure of industry	C3.6			

After determining the sub-factors, all the stakeholders cooperatively assessed the existence and type of the causal relationships among the 33 sub-factors, furthermore evaluated the strength of these using a predetermined simple scale, capable to describe any kind of relationship between a pair of factors, both positive and negative ones. This phase was implemented 11 grades scale, numbering from -5 to +5, capable to describe any kind of relationship between two factors, positive and negative After explaining to the participant the fundamental features of FCM, they understood the underlying basic information and were able to assess the value of the connections. Table 3 and 4 illustrate the produced connection matrix of the FCM for further assessment.

Table 3. Connection Matrix Created by Experts as a Result of the Workshop, Part 1

CID	C1.1	C1.2	C1.3	C1.4	C1.5	C2.1	C2.2	C2.3	C2.4	C2.5	C2.6	C3.1	C3.2	C3.3	C3.4	C3.5	C3.6
C1.1	0	0.2	0	0.6	0.4	0.6	0.2	0	0.8	0.2	0.6	0.4	0.8	0.4	0.8	0.4	0.4
C1.2	0.4	0	0.4	0.4	0.6	0.2	0.2	0	0.4	0.2	0.4	0.6	0.8	0.6	0.6	0.6	0.6
C1.3	0	0.2	0	0.2	0	0	0	0	0.2	0	0.4	0.6	0.6	0.6	0.6	0.4	0.4
C1.5	0.8	0.2	0	0.8	0	0.4	0.2	0	0.4	0.4	0.6	0.6	0.8	0.6	0.6	0.6	0.6
C2.1	0	0	0.6	0.2	0	0	0	0	0.2	0.4	-0.6	0	0.2	0	0	0	0
C2.2	0	0.2	0	0	0.2	0.4	0	0.6	-1	0	-0.6	0	-0.4	0.4	0.8	0.6	1
C2.3	0	0	0.6	0	0	0.4	0.4	0	0.4	0	0	0	0.2	0	0	0	0.6
C2.4	0	0.2	0.4	0	0.6	-0.6	-0.8	-0.6	0	-0.4	-0.6	0	-0.2	0	0	-0.2	0.2
C2.5	0	0	0	0.6	0	0.4	0	0.4	0	0	0.4	0	0	0	0.2	0	0
C2.6	0	0.6	-0.8	0.6	0.6	-0.8	0.6	0	0.6	-0.8	0	-0.6	0.2	0	0	0	0.2
C3.1	0	0.2	0	0	0.2	-0.8	0.4	0	0	0.2	0.2	0	0.8	0.8	0.6	0.6	0
C3.2	0	0.6	0	0	0.6	-0.6	0.4	0	0.6	0	0.4	0	0	0.6	0.8	0.8	1
C3.3	0	0.6	0	0.2	0.4	0.4	0.4	0	0.2	0.2	0.2	0	0.6	0	0.4	0.8	0.8
C3.4	0.8	0.8	0	0.2	0.8	-0.6	0.8	0	-0.2	0.2	0.2	0	1	0.6	0	0.6	0.4
C3.5	0	0.4	0	0	0.6	0.4	0.8	0	0.6	0	0	0	0.6	0.6	0.6	0	0.8
C3.6	0	0.6	0	0	0.8	0.6	1	0.8	-0.8	0.4	0.4	0	0.4	0.2	0.6	0.4	0
C4.1	0.2	0.2	0	0.6	0.6	0.8	0.6	0.4	0.8	1	0.6	0.2	0.6	0.4	0.6	0.4	0.4
C4.2	0.4	0.2	0.2	0.6	0.6	0.6	-0.2	0.2	0.8	0.8	1	0.6	0.4	0.4	0.4	0.4	0.4
C4.3	0	0.8	0	0.4	0	0	0	0	-0.2	0.4	-0.2	0.6	1	0.8	0.6	0.8	0.4
C4.4	0.2	0	0	0.2	0.2	0.4	0.2	0	0.6	0.6	0.6	0.8	0.2	0.2	0.2	0.2	0.2
C4.5	0.2	0	0.4	0.6	0.8	-0.2	0.6	0.2	0.4	0.8	0.6	0.2	0.2	0.2	0.2	0.2	0.2
C4.6	0	0	0.4	0.6	0.4	0.2	0.6	0.2	0.4	0.6	0.4	0.2	0.2	0.2	0.2	0.2	0.2
C4.7	0	0	0	0.2	0	0	0.4	0	0.6	0.4	0.4	0.6	0.2	0.6	0.4	0.2	0.4
C5.1	0	0.4	0	0	0.4	0.2	0.2	0	0.2	0.2	0.2	0	0	0.6	0.2	0	-0.4
C5.2	0.4	0.6	0	0	0.4	0.8	0.8	0.6	0.6	0.6	0.8	0	1	0.6	0.6	1	0.6
C5.3	0.2	0.4	0	0.4	0.4	0.8	0.8	0.6	0.8	0.6	0.8	0	0.4	0	0.2	0.8	0.6
C5.4	0.2	0.6	0	0	0.8	0.8	0.6	0	0.6	0.6	0.6	0	0.8	0.2	0.2	0.2	0.4
C6.1	0	0.6	0	0.4	0	0.2	0	0	0.4	0.2	0.4	0.4	0.6	0.6	0.6	0.8	0.2
C6.2	0	0.4	0	0	0	0	0	0	-0.4	0	-0.2	0.4	0.6	0.8	0.8	0.6	0.4
C6.3	0	0.4	0	0	0	0	0	0	0	0	0.4	0.8	0.8	0.6	0.8	0.6	0.6
C6.4	0	0.4	0	0.4	0	0.2	0	0.2	0.2	0	0.6	0.6	0.8	0.4	0.4	0.4	0.8
C6.5	0.4	0.2	0	0.6	0.2	0.2	-0.2	0	0.6	0.4	0.8	0.6	0.6	0.8	1	1	1

Table 4. Refined Connection Matrix Created by Experts as a Result of the Workshop, Part 2

CID	C4.1	C4.2	C4.3	C4.4	C4.5	C4.6	C4.7	C5.1	C5.2	C5.3	C5.4	C6.1	C6.2	C6.3	C6.4	C6.5
C1.1	0	0	0	0.4	0	0	-0.6	0	0.4	0.4	0.4	0	0	0	0	0.2
C1.2	0	0.2	0.2	0	0	0.2	-0.2	-0.6	0.6	0.2	0.6	0.8	0.4	0	0.6	0.4
C1.3	0	0.2	0	0	0.4	0.2	0	0	0	0.2	0	0.2	0	0	0	0.2
C1.4	0.2	0.6	0.4	0.2	0.2	0	0	0.2	0.2	0.6	0	0.4	0	0.2	0	0.6
C1.5	0	0.2	0	0	0.4	0.2	-0.2	0.6	0	0.2	0.4	0	0	0	0.2	0.8
C2.1	0.4	0.8	0	0.2	0	0	0	0.6	0.4	0.4	0.2	0	0	0	0.2	0
C2.2	-0.6	0.4	0	0.2	0	-0.2	0.4	0	0	1	0	0	0	0	0.4	0.4
C2.3	-0.6	-0.6	0	0	0	0.2	0.4	0	0	0	0	0	0	0	0	0
C2.4	0.2	-0.6	0	0.2	0.2	0.4	0.4	0	0	0	0.4	0	0	0	0	0.2
C2.5	0.6	0.4	0	0.4	0.2	0	0	0	0	0	0	0	0	0	0	0
C2.6	0.8	0.4	0	0.2	0	0.4	0	0.6	0.2	0.8	0.8	0	0	0	0.2	0
C3.1	1	0.4	0	0.6	0.6	0.8	0	0	0	0.2	0	0.2	0	0.6	0	0
C3.2	1	0	0	0.2	0	-0.4	-0.4	0	0	0	0	0	0	0	0	0
C3.3	0	0	0	0.6	0	0	0.4	0	0	0	0	0	0	0	0	0.2
C3.4	0.4	0	0	0.2	0	0	-0.4	0	0	0	0	0.2	0	0	0.6	0
C3.5	0	0	0	0.2	0	0	0.4	0	0	0	0	0.2	0	0	0	0.2
C3.6	-0.4	0	0	0.4	0	0	-0.6	0	0.6	0.6	0.6	0	0	0	0	0.8
C4.1	0	0.8	0.4	0.6	0.8	0.8	0	0	0.8	0.4	0.4	0.6	0	0.2	0.4	0.2
C4.2	0.8	0	0.2	0.4	0.8	0.8	0	0.6	0.8	0.6	0.4	0.4	0	0	0	0
C4.3	0	0	0	0	0	0	0	0	0.2	0	0.6	0.6	0.8	0.2	0.8	0
C4.4	0.4	1	0.2	0	0.6	0.6	0	0.2	0.4	0.4	0.4	0	0	0	0	0
C4.5	0.6	0.4	0.2	0.8	0	0.6	0	0.4	0.4	0.4	0.4	0.2	0	0	0	0
C4.6	0.8	0.4	0.2	0.8	1	0	0	0.2	0.2	0.2	0.2	0.2	0	0	0	0
C4.7	0	0	0.4	0	0.2	0	0	0.2	0	0.2	0.2	0.4	0.4	0.6	0.4	0
C5.1	0	0.4	0	0	0	0	0	0	0.2	0.2	0.2	0	0	0	0	0
C5.2	0.6	1	0	0.6	0.4	0	0.2	0.8	0	0	0.6	0.8	0	0	0	0
C5.3	0.4	0	0	0.4	0.2	0	0	0.4	1	0	0.4	0.2	0	0	0	0
C5.4	0	0.4	0	0.4	0	0	0.2	0.8	0.8	0	0	0	0	0	0	0.4
C6.1	0.2	0.8	0.4	0.2	0	0.6	0	-0.4	0.4	0	0.8	0	0.8	0.4	0.6	0
C6.2	0	0	0.2	0	0	0	0	-0.2	0.4	0	0.8	1	0	0	0.4	0

CID	C4.1	C4.2	C4.3	C4.4	C4.5	C4.6	C4.7	C5.1	C5.2	C5.3	C5.4	C6.1	C6.2	C6.3	C6.4	C6.5
C6.3	0	0	0.2	0	0	0.4	0	-0.6	0.4	0	0.8	0.8	1	0	0.4	0

Thus, the connection matrix for the collective FCM was established presenting the main factors and the sub-factors and the relationships among them illustrating the common perceptions about the future prospects and the risks about the IWMS. The generated connection matrix contains 1056 (33*32) connection. Since the representation and interpretation of such a complex model is rather difficult, only the most important connections are represented in Fig. 1 with the help alpha-cuts.

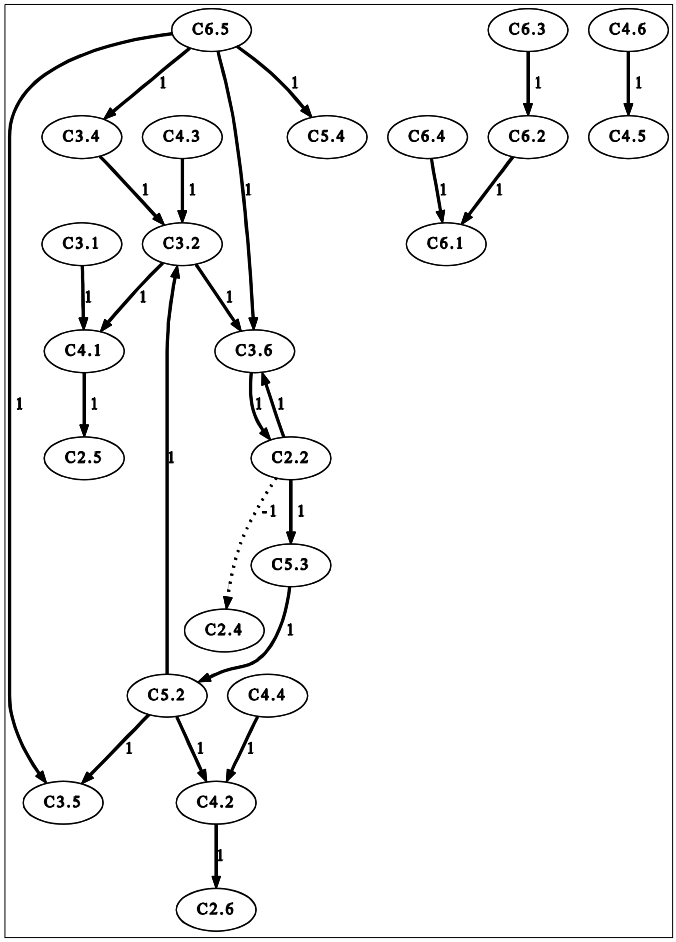

Fig. 1. The Most Important Connection (-1 and 1) of the Factors are Represented with the Help of Alpha-cuts

Results show that the tool provides a structured, semi-quantitative understanding of the system perceptions of a group of stakeholders. Experts perceived the method as easy to understand and easy to use in a short period of time.

4.2. Time Series as a Result of the Content Analysis

For the gathered document, at first, linguist experts compiled a list of keywords for each subsystem and the frequency of these words was measured. As a matter of fact, legal texts represent a special register of language [38] and the above-mentioned method yielded very poor results, i.e. no, or extremely low frequency for each keyword. This negative results shows that legal texts operates with a slightly different vocabulary and use concept which are lower ranked on the conceptual hierarchy in the experts knowledge base.
At the second stage, word frequency tables were generated from the texts, and human experts classified items on those lists as members of a subsystem. This method ensures that keywords are represents real usage patterns in the texts under investigations. The collection of laws and decrees were stored in portable document file format, and it was grouped according to decades. Plain text was extracted from the files using the open source Apache Tika library [39]. The extracted text went through standard pre-processing i.e.

- every non-alphabetic character (e.g. numbers, punctuation marks and extra whitespace) was removed
- every character was transformed into its lower case equivalent

- stop words were filtered out based on our custom list of Hungarian stop words

each word went through stemming, an automatic process for determining the root or dictionary stem of a word, using the magyarlanc 2.0 package [40-41].

Following the standard methods of corpus linguistics, frequency tables were generated from the pre-processed plain text files that contain each unique word, its occurrences and its relative frequency (occurrences divided by the total number of words in the corpus) as shown in Table 5.

Table 5. Example for a Frequency Table.

Word	Occurrences	Relative frequency
Háztartási (communal)	247	0.070
Érdek (interest)	702	0.200
Felelősség (responsibility)	141	0.040
Gazdasági (economic)	467	0.133
Költség (cost)	326	0.093
Támogatás (subsidy)	472	0.134
Gyártó (Producer)	570	0.162
Környezet (environment)	458	0.130
Felhasználás (consumption)	455	0.129
Hasznosítás (recovery)	1020	0.290

In the frequency table, occurrences were divided by the total number of words in the corpus; it resulted in the relative frequency. On the basis of the frequency table, the time series were developed for each predetermined factors and sub-factor see examples in Table 6).

Table 6. Connection Matrix Created by Experts as a Result of the Workshop.

	Environment					
	Impact on environmental elements	Waste recovery	Geographical factors	Resource use	Wildlife (social acceptance)	Environmental feedback
1970'	0.77	0.80	0.04	0.09	0.05	0.16
1980'	0.75	0.12	0.12	0.05	0.06	0.37
1990'	1.00	0.13	0.03	0.03	0.23	0.15
2000'	0.57	0.33	0.01	0.09	0.18	0.23
2010'	0.82	0.45	0.00	0.37	0.08	0.13

Summary and conclusions

A cognition model, like FCM, represents a system in a form that corresponds closely to the way humans perceive it. The aim of this paper was to show a possible design for IWMS to bridge the gap between computer simulation and expert knowledge. In this paper, a workshop approach and time series reconstruction method were presented as tools to generate input data for FCM modelling.

The content analysis was undertaken as part of FCM simulation of IWMS. Overall, the authors found that the content analysis provided useful information about trends and gaps in the Hungarian waste management sector. The core of this research methodology was the time series design which was presented as a powerful approach to be used in research settings where human knowledge is too subjective.

The model can be easily altered to incorporate new phenomena, and if its behaviour is different than expected, it is usually easy to find which factor should be modified and how. FCM is not able to make predictions but work as a tool for gaining an understanding of the system. In this sense, a FCM is a dynamic modelling tool in which the resolution of the system representation can be increased by applying a further mapping.

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Design and implementation of university internal study quality management system

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Abstract

This paper is based on a general framework of theoretically well – grounded constructs that could provide researches and authorities of universities deeper understanding of the internal study quality management system improvement practices and presents the results of the EU funded project "The improvement of internal quality assurance system at Kaunas University of Technology". These results reveal how the university study quality management system integrates different requirements of the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), EFQM Excellence Model, process management practices, the SA 8000 standard for social responsibility and other quality management tools.

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Keywords: study quality; management system; university; intenal study quality; case study

1. Introduction

European study quality improvement process is encouraged by the aspiration of European countries to implement the Lisbon Strategy based on Bologna Declaration (1999) [1], the Copenhagen Declaration (2002) [2], the Berlin Communication (2003) [3] and other documents that generally require universities to take responsibility for quality of the studies and research. The objective of this paper is to characterize design and implementation of university internal study quality management system elements as well as to explore how these elements were constructed and used for a study quality improvement. The case study results led to development of proposed general framework of theoretically well – grounded constructs that could provide researches and authorities of universities deeper understanding of the internal study quality management system improvement practices. The methodology is based on a research conducted during design and implementation of the internal study quality management system at Kaunas University of Technology, Lithuania. The research methods applied in this study also include the analysis of research literature to reveal the challenges in development and implementation of university quality management system. For the case study, the analysis of the University documents and the reflection of faculty members have been used.

2. University internal quality management system: a part of culture

Quality has always been of great importance to universities. Over the course of the past few decades, quality has quickly become a 'buzzword' in the higher education community - a systematically pursued area of public significance with a multitude of strategies and approaches dedicated to its 'management' and 'assurance'. Many

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of these developments can be directly or indirectly attributed to the so called Bologna Process, but in fact the reasons for this change are manifold, including the massification and diversification of higher education, difficult resource situations, a consumerist view on universities or an increased public and political demand for 'accountability' [4; 5; 6].

When higher education became mass education increasingly dependable upon the state grants, the concept of the quality has expanded significantly. It has become related not only to the creation of the scientific knowledge, but also to the university management processes and accountability to the society [7; 8; 9]. A negative attitude is still a factor along with misunderstanding of the quality concept among university faculty members. Despite of deep values of academic society for excellence and professionalism [10], quality management by the same people is often understood as standardization, additional bureaucracy or autonomy loss. In discussion of quality issues in higher education, Harvey and Green [11] proposed five discrete but interrelated ways of thinking about quality: as exceptional, as perfection or consistency; as fitness for purpose; as value for money; or as transformation.

The meaning of quality changes depending on the goal of quality assurance efforts, the level and object of assessment. Three approaches to quality could be coherent at university: the quality as regulatory compliance; the quality as perfection; the quality as satisfaction of needs and expectations.

The approach to the quality as the regulatory compliance means first of all the level of the university curriculum compliance with external requirements. External requirements set forth in the legal acts govern the university operations. They also include various good practices of other higher education institutions that the university opts to apply at institutional or curriculum level. Secondly, this approach to quality assurance also involves the compliance to internal requirements. Insufficient quality is observed when activities of the university do not meet the mandatory and voluntarily assumed external and internal requirements.

The approach to the quality as excellence [12; 13] means the level of university activities, curriculum and research benchmarked to the best achievements of other higher education institutions. The quality of university curriculum, research and art activities as excellence is defined by different criteria. University's quality as excellence can be defined by its attractiveness to students and researchers, high rating, etc. The quality of a study programme as excellence can be defined by professional recognition, future career visions, etc. The quality of research and art activities as excellence can be defined as citing rates of publications, patents, commercialization of research outputs, etc.

The approach to the quality as satisfaction of needs and expectations is the extent to which the university's activities, curriculum and research meet the needs and expectations of the relevant stakeholders [11]. The main stakeholders of the university are students, employers, university's staff, partners, community of the city and the country. Stakeholder needs and expectations need to be continuously monitored to ensure that the university activities and study programmes meet these expectations. The university needs to respond to stakeholder proposals for improvement by modifying the criteria for performance excellence or their level. High quality in this approach is observed when stakeholders are satisfied with the university operation, curriculum, research and art activities.

The overview of development of internal quality assurance in higher education institutions in Europe following the adoption of European Standard and Guidelines [14] allows stating that so far there is no specific policy for implementing the ESG in most countries [15] for internal quality assurance in higher education institutions, except for recommendations to accreditation bodies and to external experts. But most of the contents of ESG is implicitly present in the institutional policies; part of institutions are working on inscribing ESG as such into their quality management or quality assurance systems.

Culture is the key factor underpinning success in terms of developing the necessary commitment to any form of change. Quality culture is the main ingredient in a successful quality management program [16]. The quality culture approach promoted by EUA [17; 18] differs clearly from more traditional quality management strategies, shifting attention to more development-oriented and value-based aspects. This approach demands the involvement of multiple internal and external stakeholders, underlining the fact that a quality culture cannot be implemented top-down, yet on the other hand ambivalently stating that strong leadership may be necessary for starting and promoting the process in the first place [19].

High quality culture can be described by the attitude to [17]:

1) The importance of the university community's identification with the university (versus individualistic attitude toward the career path);

2) The importance of student involvement in the university's community and different university processes (versus perceiving academic and administrative staff as a separate from student community);

3) Development of quality by means of horizontal communication, discussions and empowerment mechanisms (versus the development of quality culture only through the practices initiated by the highest level managers);

4) The consensus regarding the common quality assurance processes and the quality level targeted by the university (versus managerial quality assurance practices and achievement levels to be reached as instructed by the top managers);
5) The consensus regarding the systematically collected and analysed historical, comparative and other kind of university data and decision making based on the said information (versus non-systematic collection of information and decision making based on personal opinion);
6) Involvement of stakeholders into the university activities (versus highlighting only internal resources and professional knowledge);
7) Self-assessment as a collective practice of finding the possibilities for improvement (versus self-assessment as meeting the requirements of external and internal parties);
8) Using the information obtained through internal analysis (performance, curriculum, learning outcomes, student feedback, etc.) for specific actions of improvement (versus conducting analysis only to meet the internal and external requirements).

3. Quality management practice in Lithuanian HEIs

External quality evaluation and accreditation in Lithuania is performed by the Centre for Quality Assessment in Higher Education (hereinafter SKVC), which was established in 1995. SKVC performs the following main types of evaluation: evaluation of existing study programmes, evaluation of new study programmes, institutional review of Higher Education Institutions (HEIs), and evaluation of applications to establish new HEIs. External evaluation of study programmes on a regular basis started in 1999. The main aim of external evaluation is twofold: to help Higher Education Institutions to improve the quality of their activities and to inform the society about the quality of higher education in Lithuania. The accreditation of study programmes is based on external evaluation reports. Programmes can be accredited for 3 or 6 years or can be given a non-accreditation decision. New study programmes are accredited for a period of one year longer than the full duration of the study programme.

The Law on Higher Education and Research states that the Ministry of Education and Science initiates external evaluation of HEI activities every six years with involvement of foreign experts in the evaluation. The objective of external assessment is to determine the quality of activities of higher education institutions, to offer recommendations for improvement of their quality as well as to develop the culture of quality assurance in higher education and research. HEIs can be accredited for 6 or 3 years. HEIs have to develop internal quality management systems.

4. Quality assurance at Kaunas University of Technology

Since the focus of this research has been quality management system at the Kaunas University of Technology (hereinafter KTU or the University), the context needs to be explained. The University pursues its activities in accordance to the strategic documents governing Lithuanian higher education, regulations of European Higher Education Area and the European Research Area, and the best practice of Lithuanian and foreign universities. The University had undergone significant changes in the last three years. In 2012, the Kaunas University of Technology Strategy 2012–2020 has been approved. The Strategy defines 5 strategic actions and the main priority fields. The Kaunas University of Technology Renewal Programme and Implementation Plan 2013–2014 was developed and approved in 2013 to achieve the strategic goals. The Renewal Programme determines the essential principles for the reorganization of higher education and research management in such a manner that it would ensure a high level of scientific research and cross-disciplinary development, open and flexible study programmes based on research and involving problem-based learning, innovative learning methods, possibilities for students to use the University's research and educational potential, comfortable and supporting environment, attractiveness of the University to students, teachers, businesses and social partners.

The development of the University's internal quality management system has started in 1994 when the two-cycle higher education system was introduced. The internal quality management system was developed using the experience of the Netherlands and the United Kingdom, valuable advice from Lithuanian expatriates – professors of the USA universities well informed about ABET accreditation procedures. Gradually, when the Centre for Quality Assessment in Higher Education (hereinafter SKVC) gained expertise, the internal quality management system was adjusted in accordance to the self-assessment methodology developed by SKVC.

Taking into account that KTU has been conducting a very large number of operations under contracts with companies and other organisations, there was a necessity to implement quality management system for scientific and technological research activities. In 2000, quality management system in accordance to the international standard ISO 9001 has been developed and implemented at the University.

The first KTU internal quality assurance structure developed in accordance to the Standards and Guidelines for Quality Assurance in the European Higher Education Area was approved in 2004. The same year, study programme committees have been established in the faculties, faculty councils and the Higher Education Committee of the Senate started assessing the demand for new study programmes and the capacity to implement these programmes in a high quality manner. In 2010, the Senate approved the new Statement of the internal quality assurance system.

Despite of experience and best practices of the University, it was important to ensure that these good initiatives become common routines and systematic practices in the university quality management system. Therefore, the project was initiated for further development and implementation of study quality management system.

5. The improvement of internal quality management system: project results

In 2013, the University finished implementation of the EU funded project "*The improvement of internal quality management system at Kaunas University of Technology"*. The Project aimed to improve the internal study quality management system and special competencies of administration staff pertaining to the implementation, improvement and monitoring of internal quality assurance systems (project logic outlined in Figure 1).

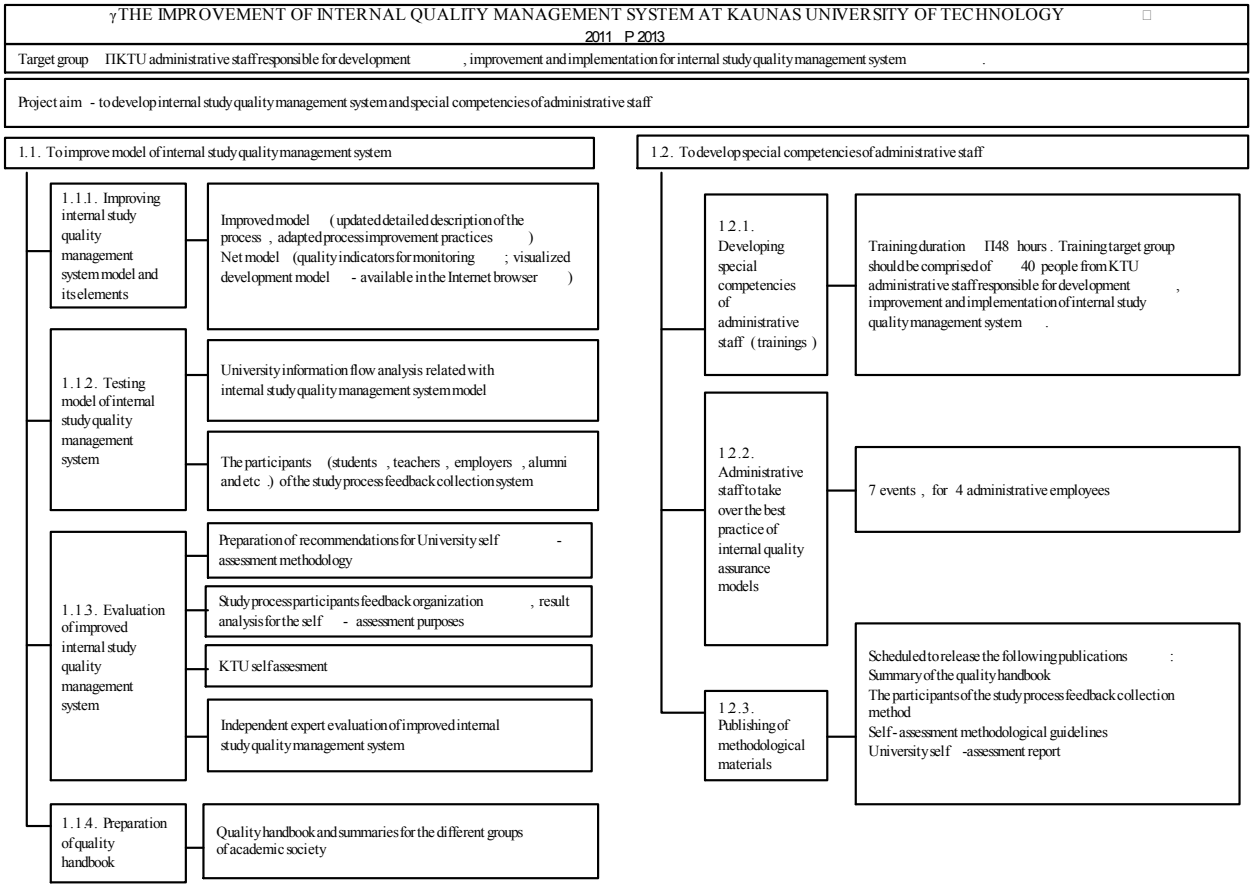

Fig. 1. A scheme of the project logic.

In 2014, according to project results, the Senate approved revised Statement of the internal quality assurance system and the KTU Quality Assurance Guide. The quality management system of the University is based on the Bologna process legislation. This process is designed to introduce a system of academic degrees that are easily recognisable and comparable, to promote the mobility of students, teachers and researchers, to ensure high quality teaching and to incorporate the European dimension into higher education. The Prague Communiqué (2001) [20], Berlin Communiqué (2003) [3], Bergen Communiqué (2005) [21], London Communiqué (2007) [22], Leuven-Louvain de Nueve (2009) [23], Budapest-Vienna declaration (2010) [24] are a part of quality assurance system of the University.

The quality assurance model of the University (Figure 2) is based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area and EFQM Excellence Model criteria that are important and applicable to the University.

Quality Management System of the University represents specific activities aimed to develop the quality culture of the University community (teaching and research staff, students, administration) and to initiate, maintain and coordinate the efforts of continuous quality improvement. These activities depend on the selected quality assurance model. University's quality policy and goals are reviewed on an annual basis. Performance improvement efforts of the University are concentrated in the areas identified by the Standards and Guidelines for Quality Assurance in the European Higher Education Area: approval, monitoring and regular assessment of study programmes and awarded qualifications; assessment of learning outcomes and achievements of students; quality of the teaching staff; learning resources and student support; publicly available information; results and their analysis. The model is based on the assumption that the selection of the areas for improvement does not guarantee the success of the improvement. Quality improvement requires leadership, strategic quality improvement guidelines for the University and its units, involvement of the University community (teachers, students, and administrative staff), and management of the University processes.

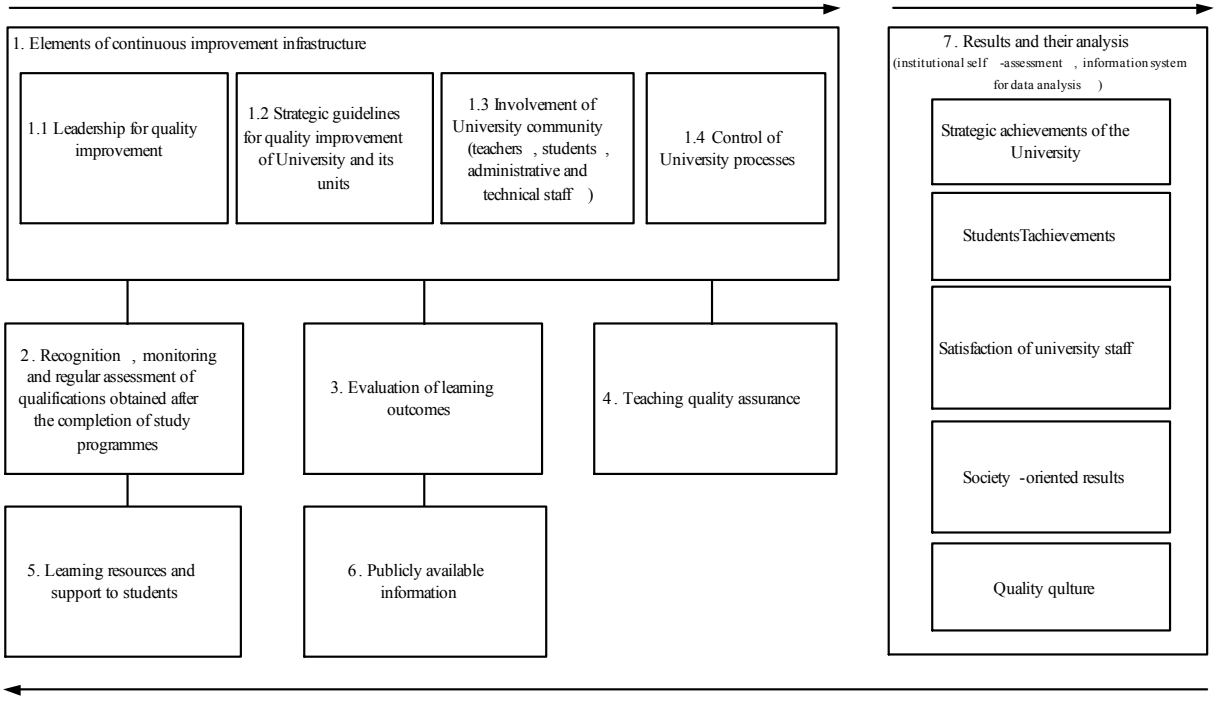

Fig. 2. Quality system model of the University.

Leadership for quality improvement. The responsibility for the University performance quality lies with the Rector; the deans are responsible for the performance quality of the first level units, heads of departments are in authority of the departments and heads of the units are accountable for the performance quality of non-academic units. Most importantly, the heads of the units at all levels shall set forth the improvement direction and guidelines, to initiate the recurrent processes supporting the improvement, to maintain direct communication with stakeholders, to strengthen the quality culture, and consistently highlight the importance of quality.

Strategic guidelines for quality improvement at the University and organizational units. University activities are planned in accordance to the Strategic planning methodology approved by the Government, University's annual performance planning, budgeting and reporting procedures. The strategic plan defines the University performance strategy, strategic goals and programmes also involving quality assurance goals.

Involvement of the University's Community. Departments analyse and evaluate the quality of studies and the quality of preparation of University graduates for the labour market, taking into account the remarks received from employers; propose professional development courses, design new and improve existing study programmes/ modules, develop methodological materials required for the studies; implement modern teaching modes and methods. Students assess the quality of study programme delivery, learning resources, delivery of study modules, final thesis writing and defence process, doctoral studies, placements, academic support, library

services, and administrative work of the faculty. They also participate in University image building and implementation of quality improvement initiatives.

Surveys are an important source of information for quality assurance system. The University stakeholder feedback involves the comments and evaluations of students, teachers and researchers, administrative staff, alumni, employers and social partners. To improve the feedback system the Statement of Feedback Collection Procedure has been approved. The procedure governs the collection of feedback about the University performance quality as well as the manner of data analysis and publication. The surveys for the coming year, the respondents and frequency of the surveys are approved every year.

Management of University's processes. There are three main groups of processes at the University: 1) self-governance processes, 2) main processes, and 3) administration and support processes. Self-governance processes entail functions of the highest self-governance level; they are related with strategic planning, the building of organizational culture. The main processes are the processes that create value for stakeholders. Administration and support processes are the processes initiated by the University's central administration with the aim to coordinate the activities of organizational units and to perform the functions that create added value for all units and would be inefficient for each separate unit to perform. Processes at the University are managed in accordance to ISO 9000 series standards and the best quality assurance practices of other higher education institutions. The management of University processes aims to enhance the knowledge of the academic community concerning the processes of studies, research and art activities.

Recognition, Monitoring and Regular Assessment of Qualifications obtained after the completion of Study Programmes. Approval, monitoring and regular internal and external review of study programmes and awarded qualifications is the inherent part of the quality assurance. They involve the evaluation of student achievements, teaching quality, provision of the necessary learning resources and support to students, the system of information about the studies and public information, research and innovations enabling the design, delivery and improvement of study programmes complying with applicable legislation, EHEA provisions and the University commitment.

Quality control and improvement of studies is achieved through the monitoring and periodic internal and external review of study programmes and awarded qualifications.

The University has established a good practice to discuss the conclusions and recommendations of external reviewers in the study programme committee with the programme director and faculty staff responsible for the delivery of the study programme after the external assessment of the study programmes. Study programme improvement plan is developed in response to external reviewers' recommendations.

Evaluation of learning outcomes. The objective of student assessment is to evaluate the level of learning outcomes achieved by each student and to provide timely feedback to ensure effective student work and the best possible results. Students are encouraged to achieve the best possible learning outcomes in different ways, such as scholarships, internships, public recognition and awards given to skilled and active students.

The University has been developing, implementing and improving information systems that help students and teachers to monitor the learning progress, analyse the results and take timely corrective actions.

Teaching Quality Assurance. The assurance of the teaching staff quality is extremely important to ensure the high level of education, to attract the best students and to satisfy the needs of the market. The quality of the teaching staff is perceived as the quality of their teaching and research activities. The quality of the University teacher activities is ensured through continuous qualification enhancement and professional development process. Professionalism is one of the University's strategic values developed through the promotion of continuous improvement of the University's teaching staff competency. Special attention is given to teacher and researcher qualification, which is the key quality assurance factor in higher education.

Learning Resources and Support to Students. All resources necessary to ensure effective and efficient education and research process are regularly maintained taking into account the needs of all stakeholders. Hardware and software used for the studies is maintained and upgraded by looking for new technological solutions, testing new software, developing, adapting and deploying information systems and applied software. The technical processes used to organize higher education are computerized.

Publicly available Information. The University disseminates qualitative and quantitative information about the studies, awarded qualifications, research (art) activities, self-assessment results, opinion of students, alumni and other stakeholders about the quality of studies, University performance reviews made by competent external institutions, career path of KTU graduates, other education-related data of interest to the public. The University makes publicly available statistical information about the admitted and graduated students, feedback of students and alumni, career path of study programme graduates, achievements and innovations.

Results and Their Analysis. University performance planning and review is conducted according to strategic actions defined in the strategy: the planning and analysis of organizational unit performance and participation in the University performance review. The Rector develops a strategic action plan covering the University's vision,

mission, strategic priorities, strategic actions and their goals. Once a year, the University's first-level academic units prepare annual plans. The annual plan of the unit identifies the measures necessary to achieve the University's strategic goals, persons responsible for the implementation of the measures, and timelines. At the end of a year, the unit draws a report assessing whether the measures have been implemented and whether they have been implemented in a timely manner. Annual reports of the units are used for the drawing of the University's annual performance report. University's strategic action plan and the annual performance report are publicly available in the University website.

Since 2012, the University has been holding an internal event - The Day of Quality. The goal of the event is to enhance the quality culture at the University, to discuss quality improvement issues, to disseminate and exchange good quality management practises. The target groups of the event are teachers, researchers, administration and employees of non-academic units, students and social partners, alumni, and other stakeholders.

Sustainable Development and Social Responsibility. Sustainable development is one of the University's strategic principles integrated into the University's long-term goals and actively applied in research, education, and infrastructure [25]. Social responsibility of the University is assured by the implementation of the SA 8000 requirements and Global Compact principles. Students are involved in the building of socially responsible community culture. The University participates in national and international research projects, conducts research in the field of sustainable development, and develops new technologies that help to solve regional and global environmental problems.

The University implements the mission of knowledge building/ transfer and seeks to teach students to appreciate the new achievements of science and technologies, to understand their long-term effect and potential risks. The study programmes of all areas are focused on the building of subject-specific knowledge, cognitive, practical and transferable skills in order to develop student competencies to develop and utilize sustainable technologies.

Institute of Environmental Engineering at KTU delivers postgraduate study programme in Environment Management and Cleaner Production and thus adds to the building of the society where sustainable development principles are appreciated and promoted [26]. This programme has received national and international awards as an exceptional environmental project and the most advanced study programme in environment engineering field in Lithuania.

The University also aims to become an officially recognized sustainable university and to assess performance areas according to universally recognized sustainability principles.

6. Conclusions

The proposed model describes a continuously improved internal quality assurance system of the University, based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area and EFQM Excellence Model criteria consistent with the University's strategy and provisions of the main legislation governing the higher education. The aforementioned standards, guidelines and principles are used to identify the areas where continuous improvement efforts have to be concentrated (i.e. quality assurance; compliance of awarded qualifications with the national and European qualifications frameworks; assessment of study programme quality and student performance; improvement of teacher competence; guarantees of support to students; organisation of data collection and information publicity). University areas where improvement efforts should be concentrated are identified on a yearly basis (e.g., study programme management, improvement of feedback system etc.). The results of case study could be useful for other universities.

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Intercultural Competence Development in the Context of Diversity

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Abstract

Cultural diversity in the working environment causes friction which, if not managed, determines a lower level of employees' involvement, ineffective performance, poor social interaction and communication among workers from different cultures. Therefore in the enterprise an inclusive environment should be created, in which all employees feel respected, related with each other, contributing to the setting of goals and their implementation, and integration of individual experience, knowledge and perspectives occurs. In that environment, the importance of intercultural competence development becomes obvious and crucial. The authors of the article aim at revealing the special characteristics of intercultural competence development in the context of diversity. The paper consists of the following parts: first, the concepts of competence, intercultural competence and intercultural competence development are analysed. Then the design and results of the survey, which was carried out in order to examine the expression of employees' intercultural competence and methods of its development in one of the biggest service companies that has five departments in culturally different cities in Lithuania, are presented.

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Keywords: intercultural competence; diversity; intercultural competence development; intercultural dimension.

1. Introduction

Globalisation and processes of internalisation change countries' economy, labour market, cultural and social life. The cultures of modern world lose their reticence, they become more open and the identification of the boundaries between them becomes increasingly more complicated. Therefore, representatives of different nationalities, cultures and communities during the communication interact under the influence of their national traits, behaviour, traditions and attitudes. Diversity in the working environment influences employees' involvement, results of their performance, social interaction between groups of employees and the overall effectiveness of an enterprise. In order to diminish the friction, which appears in the internal and external environment of the enterprise because of cultural differences, it is important to manage the cultural diversity by creating inclusive environment in which all employees feel respected, related with each other, contributing to the setting of goals and their implementation, and integration of individual experience, knowledge and perspectives occurs.

Continuous interaction with representatives of different cultures in various areas of life and work highlights the importance of intercultural competence. The intercultural competence can be described as an employee's ability to perceive the contrasts between different cultures, mediate in intercultural problem solving, evaluate

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critically their own and other cultures and understand the ways of thinking in intercultural situations, which are shaped by specific approaches, intercultural knowledge and skills.

The development of intercultural competence is a permanent goal of every employee, who seeks to communicate effectively with people from another culture. Moreover, intercultural competence is one of the most necessary competencies for a modern employee, because it increases their competitiveness in the labour market, leads to effective performance and provides with wider opportunities in the context of diversity.

Accelerating lifestyle, development of innovations, and performance in a diverse environment encourage the employees to develop "the ability to deal with cultural diversity", this is to say intercultural competence. The latter can be developed by applying strategies oriented to academic programmes, international scientific or project cooperation, internships, cultural exchanges, intercultural competence courses and seminars, and intercultural competence development projects inside the organisation. High intercultural competence and its constant development help the employees to perform effectively in a culturally diversified environment and to build and maintain good relationship with co-workers representing different cultures as well as assist them in getting to better know the company's customers and building long-term relationships with them. All this consequently increases the competitiveness of the enterprise, improves economic indicators and helps to capture a larger market.

In order to achieve performance effectiveness, every company, which functions in a culturally diverse environment, should seek to know their client's cultural features, uniqueness, and for this purpose, the intercultural competence has to be developed. Therefore, in this article the authors present the results of the survey, which was carried out in order to examine the expression of employees' intercultural competence and methods of its development in one of the biggest services company that has five departments in culturally different cities in Lithuania.

The object of the article: development of intercultural competence.

The goal of the article: to reveal intercultural competence development in the context of diversity.

Methods used in the article: scientific literature analysis, questionnaire, statistical analysis by SPSS Statistics 17.

2. The concept of competence

As Delamare Le Deist and Winterton [1] emphasise, there is such confusion and debate concerning the concept of "competence" that it is impossible to identify or impute a coherent theory or to arrive at a definition capable of accommodating and reconciling all the different ways that the term is used.

Competence is defined as an individual ability or effectiveness in the process of interaction, which can be with the environment or refers to interpersonal communication. Moreover, scholars argue that individual competence is the capacity to manipulate the interaction and can be acquired through learning [2].

Hartle argues that competency as a characteristic of an individual that has been shown to drive superior job performance includes both visible "competencies" of "knowledge and skills" and "underlying elements of competencies", like "traits and motives". For Spencer and Spencer competencies include motives, traits, self-concepts, attitudes or values, content knowledge, or cognitive or behavioural skills – any individual characteristic that can be measured or counted reliably and that can be shown to differentiate significantly between superior and average performers, or between effective and ineffective performers [1].

Postulating a relationship between cognitive competence and motivational action tendencies, White defined competence as an "effective interaction (of the individual) with the environment" and arguing there is a competence motivation in addition to competence as achieved capacity. Theory building in this area has argued that an individual's system of knowledge and beliefs, formed through experience with their own competence and achievement, influences subsequent performance through expectations, attitudes and interpretation [1].

Winterton et al. [3] emphasise that the competence commonly can be broken down into three analytically distinct components:

- Conceptual competence, rule-based, abstract knowledge about an entire domain;
- Procedural competence, procedures and skills needed to apply conceptual competence in concrete situations;
- Performance competencies, required to assess a problem and select a suitable strategy for its solution.

Summing up the analysis of scientific literature [1,4-8] we can state that different scholars point out different components of competence:

1) Knowledge and skills;
2) Ability to employ knowledge in various complex and unpredictable situations;

3) Motives;
4) Personal characteristics that include physical characteristics as well as person's reaction to the situations and information;
5) Self-awareness, approaches and values;
6) Talents that influence individual's values and personal features, ability to evaluate a new situation, to choose the methods of performance best-suited in a given situation, and continuously include in it professional knowledge.

Babić [9] relates the latter component with transferable and multifunctional functions. Transferability indicates the effective application of the competence in many situations and contexts. Multifunctionality shows the use of competence when seeking different goals and solving different problems and tasks.

Here it is important to mention that one more concept is used in the scientific literature. It is *meta-competence*, which according to Nelson and Narens is concerned with an individual's knowledge of their own intellectual strengths and weaknesses, how to apply skills and knowledge in various task situations and how to acquire missing competences [3]. These include skills in planning, initiating, monitoring and evaluating one's own cognitive processes; experience and knowledge about different task difficulties; knowledge about learning and problem solving; skills in using effective cognitive aids and tools, such as graphics and analogies [3].

Hence, individual's competence can be defined as the complex of individual's knowledge, abilities, skills, understanding, values, motives, and personal traits that determine the effective positive result of the individual's concrete activity. Talking in the frame of the context of contemporary activity, which very often is performed in the multicultural environment, the importance of understanding cultural interaction, ability to communicate with representatives from other communities effectively and without the sense of insecurity and threat, becomes obvious. Here interpersonal skills and transferable competencies such as communicating competence, team-working skills, identification and solving of problems, working with people and social competence, by which Thomasson [10] describes a person's ability to listen, to tolerate and to accept opposition, to yield and to resist, and the knowledge and understanding of how people function in groups, play crucial role.

In the process of intercultural clashes, the intercultural competence empowers employees to achieve mutual agreement, to maintain permanent liaison and to avoid conflicts that are caused by cultural differences.

3. The concept of intercultural competence and its development

Because of the involvement of culture, it becomes more complicated to deal with the concept of competence in the intercultural context. While analysing scientific literature one can notice that there are several concepts that are used in the discussions about cultural differences, cultural management, and working in multicultural environment: *cross – cultural competence, cultural competence, intercultural competence, multicultural competence.* Nevertheless in the discussions that are related with a person's competency to act effectively in the cross-cultural interaction the concept of *intercultural competence* is used most frequently.

How is the intercultural competence defined in the scientific literature?

Among the authors [11-17] there is a common agreement that intercultural competence is the individual's ability to communicate and interact effectively and appropriately with individuals of other culture/group/community in intercultural situations, and that it is supported by the set of specific attitudes, approaches and affective features, special behaviour, (inter) cultural knowledge, skills, and reflection.

Fantini [18] defines intercultural competence as complex skills that are necessary for effective and appropriate interaction with individuals, whose language and culture is different.

Deardorff [19] in his definition of intercultural competence emphasises the ability to act together in the intercultural situations effectively and appropriately; author claims that an individual's ability to work effectively in the context of interaction of different cultures is acquired on the basis of his/her certain knowledge, skills and attitudes [20].

Roberts [21] states that intercultural competence is the ability to evaluate one's own attitudes, values and acquire knowledge and skills, which empower to act effectively in the culturally diverse environment. According to Roberts, the main features that describe intercultural competence are the following:

- Appreciating the differences and similarities among all people;
- Understanding cultural differences and effective reaction in respect of them;
- Involvement in cultural self-evaluation on individual and organisational levels;
- Adaptation of services in respect of cultural differences.

According to Stier [22] intercultural competence is defined as the preservation of individual's cultural identity, by recognising and showing respect for and knowledge of other cultures, being able to reflect on the

problems, understand, learn, deal with difficulties emotionally and act effectively in the situations of intercultural communication.

Dai and Chen [2] state that the definition of intercultural competence includes person‘s ability to negotiate cultural meanings and to execute appropriately effective communication behaviours that recognise the interactants’ multiple identities in a specific environment. According to these authors, there are three perspectives of this concept:

- *Affective or intercultural sensitivity* – to acknowledge and respect cultural differences: Yunlong [23] suggested that the affective dimension refers to the motivation and the attitude of intercultural communication and the readiness to accommodate the intercultural challenges. Affective competence facilitates cross-cultural adaptation by providing an emotional and motivational capacity of dealing with the various challenges of cross-cultural exchanges. It has something to do with how the communicators regulate their feelings and emotions to make intercultural communication easier.
- *Cognitive or intercultural awareness* – self-awareness of one’s own personal cultural identity and understanding how cultures vary. The cognitive dimension, according to Yunlong [23], refers to the explanatory ability for the verbal and non-verbal behaviours.
- *Behavioural or intercultural adroitness* – message skills, knowledge of appropriate self-disclosure, behavioural flexibility, interaction management and social skills. Yunlong [23] states that the behavioural dimension refers to the action of intercultural communication, containing abilities to be flexible and resourceful in actually carrying out what an individual is capable of in the cognitive and affective dimensions. The behavioural competence is the communicators’ capacity of enacting or expressing their cognitive and affective experience outwardly, when communicating begins. Therefore, communicators’ behavioural competence is based on their cognitive and affective competence.

Ruben’s behavioural approach comprises seven dimensions of intercultural competence [16]:

- *Display of respect* (ability to show respect for others);
- *Interaction posture* (ability to respond to others without diminishing and criticising);
- *Orientation to knowledge* (ability to recognise that individuals see and understand the surrounding world differently; they have different viewpoints of what is ‘truth’ and what is not);
- *Empathy* (ability to identify with another person’s situation);
- *Self-oriented role behaviour* (ability to deal with the arising problems though adaptation);
- *Interaction management* (ability to initiate, direct and terminate communication);
- *Tolerance for ambiguity* (ability to act constructively and creatively in an ambiguous situation).

According to Dai and Chen (2014), four dimensions of intercultural competence (or, as they call it, intercultural communication) can be distinguished:

- Personal attributes (components of this dimension are the following: self-disclosure, self-awareness, self-concept, social relaxation);
- Communication skills (components of this dimension are the following: message skills, social skills, flexibility, interaction management);
- Psychological adaptation (components of this dimension are the following: frustration, stress, alienation, ambiguity);
- Cultural awareness (components of this dimension are the following: social values, social customs, social norms, social systems).

Bennett and Bennett [26] break down the intercultural competence into three dimensions:

- *Mind set* – it is one’s awareness of operating in a cultural context and refers to a person’s ability to understand *similarities* and *differences* of other’s cultures. Intercultural competence, according to Bolten [26], can be defined as a person‘s ability to perceive the differences between the requirements and habits of one’s own and foreign culture and to conduct oneself appropriately [16]. This dimension includes two components: cultural self-awareness (conscious knowledge of one’s own culture) and cultural awareness (some frameworks for creating useful cultural contrasts (e.g., communication styles, cultural values), and a clear understanding about how to use cultural generalisations without stereotyping). Awareness that creates a deeper knowledge, skills and attitudes that contribute to development and operational efficiency opportunities, becomes the main dimension of intercultural competence.

- *Heart set*. It is related with a person's will (motivation) to acknowledge, appreciate and accept the cultural differences between oneself and another person. The dimension includes six components: self-esteem, self-monitoring, empathy, open mindedness, reserved judgement, and social relaxation.
- *Skill set* is intercultural agility; this includes the ability to analyse interaction, predict misunderstanding, and fashion adaptive behaviour. Also it is the person's ability to reach communication goals while interacting with people from other cultures. The dimension contains four components: message skills, appropriate self-disclosure, behavioural flexibility, and interaction management.

Bennett and Bennett [25] emphasise that developing this kind of competence is usually a primary goal of diversity initiatives in organisations, where it is assumed to contribute to effective recruitment and retention of members of underrepresented groups, management of a diverse workforce, productivity of multicultural teams, marketing across cultures, and development of a climate of respect for diversity in the organisation. Development of intercultural competence becomes even more important nowadays, when business becomes global, and workforce mobility becomes more intensive.

The competence development is perceived as an exchange of personal knowing, activity experience and understandings while reflecting on them and discussing them. During this process, individuals compare their own knowing, activity, views with knowledge, approaches, and values of other people and the ways of acting they are using [27]. New information or knowledge expands the individual's understanding. Naturally, one of conditions must be fulfilled: an individual should be motivated to compare and reflect the knowledge, different approaches, values etc. and in this way to develop his/her competence. According to Ang et al. [11], motivational intelligence or, in other words, the will to learn and to gain new cultural knowledge is one of intercultural competence dimensions.

The result of competence development is the change of competence which previously was described as all forms of knowledge possessed by the individual, his/her skills and ability to put the skills and knowledge into action. If we take into consideration the statement that competence encompasses all forms of knowledge and skills that lead to individual's ability to do something, then we can state that competence development should be aimed at increasing this ability to do things better [28]. This approach to competence development allows us to state that the result of intercultural competence development is the change of knowledge, attitude and behaviour that is related with culture and cultural differences. Moreover, new competence allows managing certain knowledge and new information as well as increasing the ability to adapt to changing values and environment.

According to Williams and Bonita, there are three vital components of intercultural competence development: a) self-knowledge/awareness; b) experience and knowledge about a particular culture; c) positive change or action for successful interaction with the identified culture [23].

Deardorff [19] claims that acquiring of intercultural competence is dynamic process, which evolves gradually in a spiral way, and embraces holistically four dimensions:

- Motivation (attitudes and beliefs) – positive evaluation of cultural diversity, openness to other culture;
- Behaviour – rich intercultural knowledge, communication and conflict-solving skills;
- Internal reaction (reflection skills) – ability to adapt to new intercultural situation (reflection on one's own culture, empathy in respect of another culture);
- Outward-oriented activity (constructive interaction) – seeking/implementing one's goal in the intercultural contexts, avoiding to break the rules of another culture.

It is important to mention that all components of cultural competence – knowledge, attitude, and behaviour – must work together for the development to occur.

The idea of continuous and dynamic intercultural competence development is emphasised in The Developmental Model of Intercultural Sensitivity (DMIS) that was introduced by Bennett and Bennett [25]. This model consists of six stages: the first three DMIS stages (denial, defence and minimisation) are ethnocentric, meaning that one's own culture is experienced as central to reality in some way and they can be seen as ways of avoiding cultural difference, either by denying its existence, by raising defences against it, or by minimising its importance. The next three DMIS stages (acceptance, adaptation and integration) are ethno relative, meaning that one's own culture is experienced in the context of other cultures and they are ways of seeking cultural difference, either by accepting its importance, by adapting a perspective to consider it, or by integrating the whole concept into a definition of identity.

Following the underlying assumption of this model, we can state that one's competence in intercultural relations increases as one's experience of cultural difference becomes more sophisticated.

Summing up we can emphasise that a lot of features that describe intercultural competence and its development reveal the complexity of intercultural competence. We define intercultural competence as the set of abilities that allows understanding other (and one's own) culture, behaving properly and adequately, integrating with representatives and groups from different cultures in intercultural situations and diverse environment.

4. Research design

As it was mentioned above, in this article we understand the definition of an intercultural competence as the set of knowledge, abilities and attitudes that allows understanding cultures and acting properly and adequately in the intercultural situations, and integrating in the diverse environment. In order to evaluate the expression of dimensions of employees' intercultural competence and its development in one of the biggest services company in Lithuania, a quantitative research was carried out. Research instrument comprises three criteria: intercultural dimensions and their expression, intercultural competence development methods and respondents' sociodemographic data.

The research instrument for evaluation of intercultural competence dimensions' expression was based on Byram [13], Geistmann [29] and Fantini's [30] intercultural competence evaluation tools. It consists of four dimensions: knowledge, attitudes, skills and cultural awareness. Statements that reveal first dimension - *knowledge* – allow identifying the respondents' knowledge about their own and other culture, its history, traditions, values, peculiarities of behaviour and communication, processes of individual and society interaction, and ability to compare them with each other. Statements that reveal the second dimension – *attitudes* – allow identifying the respondent's openness, interest and willingness to communicate with other cultures. The third dimension – *skills* – embraces statements, which reveal the respondent's ability to find and perceive new knowledge about other cultures, cultural practices and his/her ability to accept them. Cultural *awareness* dimension shows the respondent's values, attitudes, approaches and rituals that are affected by other cultures and their influence on his/her interaction with individuals from another culture.

Employees can develop their intercultural competence both in formal and informal ways. It can be developed by applying strategies oriented to academic programmes, international cooperation, and internship abroad or by involvement in partnership projects. Informal learning (personal contacts, interactive communication, cultural exchanges, sightseeing tours, etc.), according to Foley [31], is used when an individual has a one-time learning need. This criterion helps identifying the formal and informal intercultural competence development methods used by the employees.

The questionnaire consists of three parts. The statements that indicate intercultural competence dimensions are presented in the first part. Each dimension embraces a different number of statements that encode a positive meaning: knowledge dimension embraces five statements, attitudes – four, skills – six, and cultural awareness – five statements. Evaluation of all statements was based on respondents' intercultural experience, knowledge and attitudes that are formed by their own culture. The Likert-type scale from 1 – "strongly disagree" to 5 – "strongly agree" was used in the questionnaire. This means the following: 1 indicates a very low level of intercultural competence and very negative approach to other cultures, and 5 indicates a very high level of intercultural competence and very positive approach to other cultures and cultural differences.

In the second part of the questionnaire, the respondents had to indicate what formal and informal learning methods they use for intercultural competence development. Likert-type scale was used, where 1 meant "strongly disagree" and 5 meant "strongly agree". The results were interpreted as follows: 1 indicates that a certain intercultural competence development method is not used by respondents or is not suitable for such application, and 5 indicates that it is used by respondents or is suitable for the application.

Questions, which allowed determining the nationality, working experience, foreign languages knowledge, age and education of respondents were presented in the third part of the questionnaire. These questions made it possible to evaluate the employees' intercultural competence in the context of cross-sections.

Employees of one of the biggest service companies that has departments in five main cities of Lithuania (Vilnius, Kaunas, Klaipeda, Siauliai and Panevezys) have participated in the survey. Stratified sampling was used for identification of research sample. The determination of the stratus size was based on Schwarze [32]. Sample comprised 504 respondents (from Vilnius – 131 employees, Kaunas - 114, Klaipeda – 102, Siauliai – 86 and Panevezys – 71 employees).

The questionnaire was sent by email, and the respondents were asked to fill it in the electronic version.

Statistical analysis methods and SPSS Statistics 17 were applied for the analysis of the research results. The method of descriptive statistics allowed calculating the following numerical characteristics: frequency of responses (%), Mean (M), and standard error of the mean (SE). When applying Chi - Square Test, the difference was considered statistically significant at $p < 0.5$. The internal consistency of the questionnaire scale was evaluated using Cronbach's alpha coefficient, the value of which in the questionnaire was higher than 0.7.

5. Results

5.1. Respondents' sociodemographic characteristics

In the research, 495 employees have participated, most of them (33 %) were 50 – 60 years old (69 % of them are older than 40 years and 31 % – younger than 40 years). Respondents above 60 make 7 %, younger than 30 years make 11 % of those surveyed.

The distribution of respondents according to the duration of their employment in this services company is the following: almost one third (31 %) of respondents have been working there from 10 to 20 years, 20 % – for more than 20 years, meanwhile 25 % of respondents have been working in the company for less than 5 years.

The distribution of respondents according to their education is the following: most of them have a higher education (56 %), one third of them have a Professional Bachelor's degree (28 %) and 16 % of respondents have secondary education. It was found that respondents younger than 40 years who have been working in this company for less than 10 years have a higher education.

Employees of the company's customer service department where the survey was carried out are exclusively men, therefore this element of cultural diversity (gender) was eliminated from the research.

It was found that more than a half of respondents (74 %) are Lithuanians. Polish and Russian nationalities make accordingly 11.5 % and 8.5 % of the sample. Other ethnic groups (Latvians, Estonians and Ukrainians) make the minority – 6 % of the sample.

A comparison of the ethnic composition of the company's departments revealed that more than 85 % of respondents working in Kaunas, Siauliai and Panevezys departments are Lithuanians, in Vilnius department Lithuanians make 45 % of respondents, respondents of Polish and Russian nationality make 26 % and 16 % respectively. In the latter department, there are also other ethnic groups, which make the minority in the sample: Latvian nationality – 7 %, Estonian – 4 %, and Ukrainian – 2 %. In Klaipeda department, employees of the Russian nationality represent 28 % and Polish nationality – 11 % of respondents.

According to 71 % of respondents, they have excellent English language skills. 62 % of respondents claim that they speak good Russian and German. The foreign language (English, Russian, and German) level of respondents from Siauliai and Panevezys departments is lower.

5.2. The expression of intercultural competence dimensions

Dimension – knowledge. It was found that participants of the research have knowledge about different cultures, know how to behave in a foreign country, recognise the behaviour of their own and of another cultures (M = 4.0 ± 0.65) (Table 1).

Considering the fact that respondents work in the cities which are different in respect of their ethnic composition (respondents from Vilnius and Klaipeda departments work in a culturally diverse environment), the mean of statements indicating their intercultural dimension – cultural *knowledge* – is higher (M = 4.4 ± 0.57 and M = 4.4 ± 0.54) compared to other departments. According to the research results, employees from Vilnius and Klaipeda departments who have high and higher education also have excellent knowledge about different religions, their features and are able to explain the behaviour of people from another culture.

Table 1. The expression of intercultural competence dimension – knowledge (p = 0.000, Cronbach α = 0.727).

Statements	Mean	Departments				
		Panevezys	Vilnius	Kaunas	Klaipeda	Siauliai
I can compare contrast the aspects of the other language and culture with my own	4.2±0.71	4.1±0.68	4.3±0.77	4.2±0.62	4.5±0.68	4.0±0.73
I am familiar with different religions; I can distinguish the main features	4.2±0.53	3.9±0.32	4.7±0.48	4.1±0.39	4.6±0.51	4.0±0.49
I can indicate the general history and some socio-political factors, which have shaped my own culture and the other culture	3.5±0.71	3.2±0.62	4.0±0.65	3.3±0.62	4.0±0.59	3.1±0.64
I have knowledge about different cultures and I am able to use them during live communication	4.1±0.70	3.6±0.48	4.7±0.46	4.0±0.63	4.8±0.48	3.6±0.58
I can describe and explain the behaviour that is specific to people from another culture	4.1±0.61	4.0±0.69	4.3±0.49	4.1±0.72	4.3±0.47	4.0±0.70
Total	4.0±0.65	3.8±0.57	4.4±0.57	3.9±0.59	4.4±0.54	3.7±0.63

High level of respondents' cultural knowledge is illustrated by high means of such statements as *I am familiar with different religions; I can distinguish the main features* and *I can compare aspects of the other language and culture with my own* (M = 4.2 ± 0.53 and M = 4.2 ± 0.71). The results reveal a high level of knowledge about

features of other cultures and behaviours as well (M = 4.1 ± 0.61). Such level of knowledge allows stating that employees seek to develop their intercultural communication skills: they employ their knowledge during real intercultural communication and collaboration with representatives from another culture, gender, religion and subculture. However, a low mean of the statement *I can indicate the general history and some socio-political factors, which have shaped my own culture and the other culture* (M = 3.5 ± 0.71) shows that employees lack knowledge about other nations, confessions and subcultures' historical and political origins, which influence the formation and existence of contemporary cultures and communities.

Dimension – attitudes. The analysis of statements that characterise cultural attitudes allows claiming that the respondents' attitudes towards other cultures and their representatives are positive (Table 2). Research participants seek to communicate and work with people from other cultures, subcultures and confessions (M = 4.2 ± 0.69). Thus, when acting in a culturally diverse environment, employees can demonstrate the flexibility of their beliefs and the absence of prejudice.

Table 2. The expression of intercultural competence dimension – attitudes (p = 0.000, Cronbach α = 0.713).

Statements	Mean	Departments				
		Panevezys	Vilnius	Kaunas	Klaipeda	Siauliai
I don't avoid the representatives of another culture even if their behaviour sometimes seems incomprehensible (unusual) to me	4.2±0.62	3.9±0.47	4.8±0.48	4.2±048	4.6±0.62	4.0±0.53
I try to communicate in the host language and to behave in ways judged "appropriate" by my hosts	3.6±0.63	3.6±0.50	3.8±0.66	3.6±0.66	3.9±0.68	3.1±0.61
I try to deal with the emotions and frustrations caused by my participation in the other culture	4.5±0.60	4.1±0.54	4.9±0.29	4.6±0.29	4.8±0.45	4.2±0.59
I demonstrate interest in particular aspects of the other culture (e.g., motivation to learn the language of another country, to understand the values, to learn the history and traditions)	4.1±0.90	3.6±0.98	4.8±0.41	4.3±0.80	4.7±0.49	3.3±0.99
Total	4.2±0.69	3.9±0.61	4.6±0.46	4.2±0.56	4.5±0.58	3.6±0.68

Research data allows stating that employees demonstrate openness and motivation to communicate with other cultures. Respondents agree with following statements: *I try to deal with the emotions and frustrations caused by my participation in the other culture* (M = 4.5 ± 0.60) and *I don't avoid the representatives of another culture even if their behaviour sometimes seem incomprehensible (unusual) to me* (M = 4.2 ± 0.62). However, not all employees seek to communicate with the individuals from another country in the language of the host country and treat them in the way which is acceptable in the host country (M = 3.6 ± 0.63). Thus, we can assume that employees accept and tolerate cultural differences, but during communication and interaction with people from other cultures, they follow the forms that are acceptable in their own culture. Taking into consideration the fact that employees from Vilnius and Kaunas departments work in the culturally diverse environment, the mean of statements indicating their attitudes (second intercultural competence dimension) is high (accordingly M = 4.6 ± 0.46 and M = 4.5 ± 0.58) compared to other departments. Employees of these departments strive to deal with negative emotions caused by communication with representatives of other cultures (Vilnius M = 4.9 ± 0.29 and Klaipeda M = 4.8 ± 0.45). This allows stating that respondents do not avoid communication with people from other countries, even if their behaviour is incomprehensible to respondents. The striving to deal with negative emotions was noticed also among respondents from Kaunas department (M = 4.6 ± 0.29).

While the level of cultural attitudes in Panevezys is higher compared to Siauliai department, the research data show that the employees avoid people from other countries if their behaviour is incomprehensible or unusual (M = 3.9 ± 0.47). According to Cross et al. [33], such people are "interculturally blind", they are not inclined to know other cultures and understand the thinking and behaviour differences of people from other cultures.

When analysing the attitudes of people from different age groups it was noticed that older employees (above 50 years) are not interested in foreign language learning, understanding the culture and traditions of another country (only 5.9 % of respondents from Panevezys department and 7.8 % from Siauliai department agree with given statements). As Deardoff [19] claims, such employees do not have the element of motivation – joy of discovery – that is fundamental and crucial for intercultural competence development.

Dimension – skills. Research results showed that employees are able to interpret the events of another culture, to explain the causes and to relate them with their own culture. This allows stating that employees are able to adapt in the diverse cultural environment (M = 4.1 ± 0.67). However, the intercultural communication and cooperation skills of employees from Siauliai and Panevezys departments are only a little higher than average (Table 3).

Analysis of respondents' cultural skills revealed that during the communication employees carefully observe and assess the facial expressions and behavioural signs of people from different cultures (M = 4.6 ± 0.52), thus they show their interest in another culture and demonstrate their ability to interpret the signs of body language,

which foreigners are sending during the conversation. Analysis of the distribution of results in different age groups showed that only older respondents (over 50 years) do not tend to understand the signs of non-verbal communication with people from another culture.

However, the lack of knowledge about historical facts, social and political environment of other cultures becomes an obstacle for respondents when they seek to know and explain events, feasts and traditions of other cultures (M = 3.5 ± 0.67).

Table 3. The expression of intercultural competence dimension – skills (p = 0.000, Cronbach α = 0.718).

Statements	Mean	Departments				
		Panevezys	Vilnius	Kaunas	Klaipeda	Siauliai
I demonstrate flexibility when interacting with persons from another culture	4.0±0.86	3.4±0.62	4.6±0.59	4.4±0.57	4.5±0.71	3.3±0.83
I am able to interpret the signs of nonverbal communication of another culture	3.8±0.74	3.4±0.67	4.0±0.66	3.9±0.82	4.1±0.57	3.5±0.74
I notice when other people next to me feel uncomfortable	4.0±0.62	4.1±0.94	4.3±0.51	3.9±0.51	4.0±0.39	4.2±0.86
I can explain the events, feasts and traditions of another culture	3.5±0.67	3.2±0.47	4.0±0.53	3.6±0.48	4.0±0.58	3.0±0.58
I am able to relate events of another culture with events of my own culture	3.8±0.59	3.7±0.68	3.9±0.53	3.8±0.53	4.0±0.58	3.7±0.63
When I am talking with a person from a different culture, I carefully observe and assess his/her facial expressions and other behavioural signs	4.6±0.52	4.5±0.46	4.7±0.46	4.5±0.50	4.6±0.63	4.5±0.50
Total	4.1±0.67	3.8±0.64	4.3±0.55	4.0±0.57	4.2±0.58	3.6±0.69

Moreover, the research results allows stating that employees from Panevezys and Siauliai departments (unlike the employees from the remaining departments) must develop interpersonal communication skills because their ability to build social relationships with people and communities from other cultures is average (accordingly – Siauliai M = 3.3 ± 0.83 and Panevezys M = 3.4 ± 0.62). It was noticed that their ability to relate events of another culture with the events of their own culture is also evaluated as average (Siauliai M = 3.0 ± 0.58 and Panevezys M = 3.2 ± 0.47).

Dimension – cultural awareness. The research results allow stating that cultural awareness as the intercultural competence dimension is most developed (Table 4). Respondents realise perfectly the values, attitudes and rituals determined by culture and their impact on individual's interaction with other cultures. It was found that the level of cultural awareness of employees from Vilnius and Klaipeda departments is very high (accordingly M = 4.8 ± 0.34 and M = 4.8 ± 0.48).

Table 4. The expression of intercultural competence dimension – cultural awareness (p = 0.000, Cronbach α = 0.772).

Statements	Mean	Departments				
		Panevezys	Vilnius	Kaunas	Klaipeda	Siauliai
I realise that another environment (religious, racial, political situation) influences my relationship with other people	4.2±0.66	3.9±0.68	4.6±0.50	4.2±0.68	4.7±0.47	3.8±0.59
The differences between languages and different countries' cultures do not cause me negative emotions	4.3±0.73	4.2±0.54	4.7±0.54	4.3±0.67	4.9±0.39	3.7±0.90
I think that my culture has formed in me strong habits and values, which are expressed in certain cultural situations	4.9±0.42	4.7±0.46	5.0±0.00	4.8±0.42	4.9±0.28	4.4±0.67
I know how the representatives of culture with which I communicate evaluate my behaviour and way of thinking	3.8±0.80	3.2±0.70	4.3±0.68	3.8±0.65	4.5±0.60	3.1±0.76
I respect other people regardless of their gender, sexual orientation, disability, etc.	4.5±0.85	4.1±0.45	5.0±0.00	4.5±0.66	4.6±0.16	3.8±0.91
Total	4.4±0.69	4.0±0.57	4.8±0.34	4.3±0.62	4.8±0.48	3.8±0.77

We can claim that respondents realise that their own culture has formed their habits and values, which are expressed in certain cultural situations. This conclusion is based on the high mean of such statement as *The differences between languages and different countries' cultures do not cause me negative emotions* (M = 4.3 ± 0.73). However, not all employees know how their behaviour and way of thinking is evaluated by representatives from other cultures (M = 3.8 ± 0.80). The evaluation of the latter statement was similar in Siauliai and Panevezys departments, which perform in a culturally homogenic environment (M = 3.2 ±0.70, M = 3.1 ±0.76 respectively).

We found that all employees respect other people regardless of their gender, sexual orientation, disability etc (M = 4.5 ±0.85). However, a quarter of older respondents (above 50 years), working in the department in Panevezys, disagree with the statement *I respect other people regardless of their gender, sexual orientation,*

disability, etc. We can assume that such approach can be influenced by weak interest in knowing other cultures and average skills of building social relationships with people from different cultures as well as the work in a culturally homogenic environment. The research results confirm the statement of Stevens [27], Curle [28] and Gattengo [29], which highlights the importance of cultural awareness as an intercultural competence dimension, and its main feature – it is hard to change.

Summing up the results of expression of intercultural competence dimensions, we can conclude that the most developed dimension among the employees of the company is cultural awareness, and the least developed – cultural knowledge. The arithmetic means of other intercultural competence dimensions - attitudes and skills - show the constructive tendency of their expression. We found that the level of workers' intercultural competence in Vilnius and Klaipeda departments is higher compared to other departments. Such distribution of results can be caused by the work in a diverse environment or belonging to one of cultural groups. It was also determined that the expression of cultural attitudes and cultural awareness of respondents above 50, who work in Panevezys and Siauliai departments, is a little higher than average. This means that the approach in respect of other subcultures (according to gender, sexual orientation, disability etc.) of this group of respondents has negative aspects.

5.3. The development of intercultural competence

Informal development of intercultural competence. The research revealed that company's employees do not tend to use various informal learning methods for the development of their intercultural competence. The most useful intercultural competence development methods, according to respondents, are based on personal communication: during the interaction with people from other cultures in everyday environment ($M = 4.5 \pm 0.60$) and performing with them together ($M = 4.2 \pm 0.89$).

Employees watch information shows on TV, news and movies in order to develop their cultural awareness, knowledge about traditions and historical facts of other cultures as well as skills, which allow them to interpret the cultural events ($M = 4.2 \pm 0.69$). Older (over 50 years) employees use this learning method the most frequently. Although it is well-known that participation in international social and educational projects, competitions and community events, organised by non-governmental organisations, allows the participants to know cultural differences, peculiarities and norms of behaviour and communication better, it was found that less than a fifth of respondents participate in such kind of activities. Only respondents from Vilnius, Kaunas and Klaipeda departments, younger than 40 years, mentioned the benefit of such kind of activities.

Formal development of intercultural competence. The research results revealed that the development of intercultural competence occurs in international conferences and seminars ($M = 3.4 \pm 0.95$) and during the work with intercultural work groups ($M = 4.6 \pm 0.66$). Although the company fosters intercultural competence development, it is important to emphasise that only workers from Vilnius and Klaipeda departments participate in foreign language courses organised by the company. Moreover, employees of these departments agree that participation in international conferences and seminars allows them to achieve a high level of intercultural competence.

Summing up we can conclude that the employees' intercultural competence is being developed both in formal as well as informal (individual and organisational) learning. The most effective intercultural competence development methods are those which occur in informal everyday environment, and working together with representatives from other cultures in multicultural work groups, and implementing the company's goals and assignments. It is important to mention that employees of Vilnius, Kaunas and Klaipeda departments are more interested in their intercultural competence development compared to other departments.

6. Conclusions

Intercultural competence and its continuous development is very important to every employee and company, who seek to perform adequately, properly and effectively in a diverse environment. Taking into consideration the fact that the process of development of intercultural competence is not finite or elemental, it requires constant systematic and planned learning. For this process to occur it is not enough to have motivation or good will; inclusive environment has to be created in the company. In such an environment, all members of the company feel respected, related with each other, contributing to the setting of the goals and their implementation, and the integration of individual experience, knowledge and perspectives occurs.

We believe that in this context the most applicable and appropriate model for the intercultural competence development is based on integration of experiential learning and reflective learning. In this model the intercultural competence development occurs during the targeted discussions, teaching, concrete experience, reflective observation and long-term actual performance in the context of diversity.

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The Obstacles of Lithuanian Higher Education Students' Integration into Labour Market: quantitative and qualitative approach

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Abstract

The problem of higher education students' unemployment and their complicated transition from educational institutions to labour market has been discussed both in scientific and political debate. And the identification of obstacles that impede higher education students' integration into labour market becomes one of the preconditions for searching effective ways of youth's employability.
The qualitative and quantitative evaluation of the obstacles for Lithuanian higher education students' involvement into labour market indicated that the integration of into labour market of Lithuanian higher education students is impeded by inflexible studies' system, obstacles in labour market, the "passive drifting" behaviour of students along with their insufficient readiness for labour market and irrelevant career planning caused by the irrational profiling system in general education schools.

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Keywords: higher education students; labour market; obstacles for entering labour market.

1. Introduction

The vulnerable position of youth in labour market raises concern both at global and regional or national (e.g. European Union) levels with the comparison of before and after the crisis periods. The level of youth unemployment has been always higher in comparison to other labour market groups. For example, in 1998 the youth unemployment in countries members of Organisation for Economic Co-operation and Development (OECD) at the age of 15-24 made up 12.9 percent and was twice higher than the unemployment level of adults (5.7 percent). And this made about 10 millions of unemployed youth [1]. In 2005-2007 period the youth situation in labour market became better, the level of their unemployment decreased from 15.8 percent till 8.4 percent. However, the global financial and economic crisis in 2008 (and the economic recession that followed) had made a worst impact on youth situation in labour market. At the end of 2009 in OECD countries the unemployed youth made 15 million and this was 4 million more than at the end of 2007 [2]. In 2008-2011 period the level of youth unemployment in Central and South-Eastern Europe (non EU) and CIS countries increased by 4.7 percentage points, in developed countries and European Union (EU) it made 4.1 percent (ILO, 2012). In 2013 the youth unemployment in EU 28 countries made 23.5 percent and, in comparison to general level of unemployment in EU, has remained quite high [3]. Although, all groups of labour market experienced the changes under the period considered, the youth, however, was more sensitive to business cycles and this caused their growing

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unemployment. In 2013 youth unemployment was disproportionately (over 30 percent) high in Greece (58.3 percent), Spain (55.5 percent) and Croatia (50.0 percent). The youth unemployment was quite high in the majority of EU 28 and Euro zone countries; e.g. Poland (27.3 percent), Ireland (26.0 percent), France (24.0 percent), Belgium (23.7 precent), Latvia (23.2 percent) and Lithuania (21.9 percent) [4]. The economic crisis and recession in EU countries highlighted the problems of employability, especially the integration of youth into labour market and its distinct rule "Last-in First-Out".

O'Higgins [1] has investigated the reasons of youth unemployment and suggested to focus on two main aspects related to individual behaviour and personal traits for searching a job and to the characteristics of youth labour market: aggregate demand, youth wage and size of the youth labour force. Meanwhile, the skills and qualification of individuals are the factors that increase their perspectives for employability and these in turn determine the prestige of job and the pay size. Breen [5] analyzed the youth unemployment reasons in OECD countries and discerned market parameters that describe the state of the economy in different countries and two institutional factors: educational system and degree of labour market regulation. His analysis disclosed that market and institutional factors are strongly interrelated, and the level of youth unemployment is lower in the countries with the educational systems that inform employers on job seeker's potential productivity. As Scarpetta et al [2] claim, the main structural issues that influence the youth labour market in OECD coutries are related to education matters, i.e. the obtained educational background and the length and quality of the transition from school to work. The youth with higher education diploma is more often employed as compared to the youth group with upper secondary diploma. The latter makes bigger part of youth in general.

The European Commission report on employability in 2014 states that youth integration into labour market is impeded by great labour market segmentation. Youth employability is characterized by temporary employment, part-time employment or employment with a contract which are mainly chosen not deliberately, but as an alternative to unemployment [3].

Aiming to tackle the employment challenges for youth, The International Labour Organization in 2012 March-May held a number of national and regional events for encouraging discussions among politicians, officials, social partners and global youth community. The young people from different countries concluded with the main barriers that impede youth to get the decent job: slow job-growth economies, low-quality of jobs, skills mismatch, inadequate job matching, the work experience trap, lack of access to capital and business training, limited youth participation, and social discrimination [7].

However, there is no single way for solving youth employability crisis relevant for every country, because the individual factors (his/her qualifications, long-term or temporary unemployment) have to be taken into account. More than that, the national education system, financial aids for state employment agencies and the whole regional economic policy has to be evaluated [8].

Aiming to address the issues of high youth unemployment with the consequences of economic crisis and the complicated youth's integration into labour market, the authors of this paper discuss the results of the research carried out under the project "Research on Higher Education Students Mobility for Employment Purposes" financed by Lithuanian Science Council in the framework of national research programme "Social challenges for national security".

Research object: obstacles of higher education students' integration into labour market.

Research aim: to identify the obstacles of Lithuanian higher education students' integration into labour market.

Research methods: scientific literature analysis, questionnaire survey, interview, analysis of statistical data, content analysis of documents.

2. The obstacles of Lithuanian higher education students' involvement into labour market

The theoretical analysis of Lithuanian youth integration into labour market implies that this process has been limited by a number of factors. Research literature often lists the barriers of youth integration into labour market that are related to the lack of their professional background, insufficient qualification and education, general and social skills, work experience and low level of salary [9,10,11,12,13,14].

Although the quality *of professional background* is considered to be the guarantee for effective (that meets the social and economic needs of both society and individual) employment when each individual is able to find a place in labour market and to quickly adopt to its changes [15], the lack of it has been a frequent barrier for higher school students to be employed [16]. As Pocius, Oknunevičiūtė-Neverauskienė [17] claim, the leavers of different educational institutions have a sufficient amount of theoretical professional knowledge, but they lack practical skills. More than that, Gruzevskis et al. [10] assume that along the theoretical knowledge and practical experience, the successful integration into labour market is determined by the personal traits that are reflected in transferable competencies demonstrated in professional activity.

Qualification as the result of formal and non-formal education and the application of skills in practice has been one of the factors that determine the successful integration of young people into labour market [18]. However, a considerable number of them lack relevant level of qualification and because of this they are unable to enter labour market [12]. Qualification to be ideally suited should meet the needs of labour market, personal traits, skills and inclinations of a person.

The *education* occupies a high position in value system of young person and is directly related to the personal efficiency: the higher level of education, the bigger added value an employee may create, and the higher efficiency determines the demand for labour force with the relevant educational background [17,19,20]. Moreover, educational background influences the cultural and societal value of young person, career opportunities and recognition [18,21]. Unfortunately, as Pocius, Šileika et al [9] notices, the youth with poor education hardly integrates into labour market, has to be content with low paid jobs and goes round the vicious circle of poverty and social exclusion that increases the number of social problems on national level. This implies that the valuable personal and social life of young people becomes not possible without relevant profession and work, and poor educational background, as the reason of this, creates barriers for entering and staying in labour market.

The lack of transferable and social skills is proved to be one more obstacle for youth to enter labour market [22,23]. The development of the mentioned skills in general schools, vocational or higher education institutions determine the further process of youth integration into labour market: choice of profession, work attitudes, value formation, competence development and career skills [22,21]. According to Pocius, Okunevičiūtė-Neverauskienė [17], economic and social changes on national level modify the main skills and abilities necessary for labour market, but knowledge society calls for transferable skills in personal and professional fields of activity. Therefore, one of the main skills that secure success in labour market is ability for lifelong learning with the focus on critical thinking, creativity, initiative, problem solving.

Work experience often becomes a crucial requirement of employer in recruiting a new employee; therefore, young people encounter problems of employability since they usually lack work experience and are not able to obtain it without entering labour market [21]. As Sileika [9] points out, the employers prefer to choose a new employee with work experience instead of young persons who have just started their professional activities. Thus, the access to practical knowledge has to be improved by creating adequate conditions for higher school students to carry out training and working internship in different companies. Luobikienė [24] argues that the targeted selection of internship company influences youth's employability and entrenchment in labour market in future, since the internship enables students to improve knowledge gained at school and to acquire skills necessary for professional activity. So, although work experience is an important factor for taking successful position in labour market, the best results are achieved while having the combination of experience and professional background [13].

One of the most significant agents for employee decision to start working in one or another organization or to take certain position is work salary. The insufficient amount of remuneration, however, as Makštutis and Vijeikis [12] claims, becomes one of the main obstacles for youth to enter labour market. With the rapid increase of average salary and wage differentiation in the country, young people expect the salary which, in their opinion, would enable to satisfy more than their minimal needs. Consequently, the lack of well-paid workplaces and the increased needs of youth give them the incentive to search for job vacancies in other countries, despite the fact that well-paid work guarantees job satisfaction and self-actualization [17,9].

To sum all up, the integration of youth and higher school students into labour market is impeded by various factors. One group of them is related to shortages and irrational changes of labour market and education system; another group of factors is directly depending on youth/higher school students' educational background, profession, competencies, aspirations and needs for entering national labour market. Conditionally, the first group of obstacles could be named as internal (personal obstacles and obstacles of professional background), while the second group of obstacles that impede youth's entering into labour market could be named as external (labour market and education system related).

3. Research design

The empirical study on the obstacles for Lithuanian higher school students' integration into labour market is based *on holistic-systemic approach* emphasizing that the problem under investigation calls for both quantitative and qualitative methodologies of social research that complement one another in different research stages. *The quantitative social research methodology* with the application of *questionnaire survey method* enabled to identify the Lithuanian higher school students' employment experience and the obstacles they encountered when aiming to enter labour market. *The qualitative social research methodology* with the application of *interview method* helped to find out the opinions/attitudes of higher education and labour market representatives on the

problems of Lithuanian higher school students' integration into labour market and the obstacles that impede this process.

Aiming to disclose the obstacles for Lithuanian higher education students to enter labour market, the quantitative research was based on two diagnostic blocs: the obstacles for entering labour market and the socio-demographic characteristics of respondents. The first diagnostic block consists of 2 criteria reflecting internal and external reasons that impede higher education students to enter labour market and 20 indicators (13 of them with positive meaning and 7 of them with negative meanings). The evaluation of the latter was based on respondents' employment experience.

The second diagnostic block – socio-demographic characteristics – consists of 2 criteria: demographic (marital status, gender, age) and social (educational institution, study level and form, job status, personal income) characteristics of respondents.

The quantitative research on the obstacles for Lithuanian higher education students' integration into labour market applied the method of *probability sampling of random selection*, where each individual (or group) has equal opportunities to get to the sample, irrespective of individual properties or differences. The target group of the research are students of Lithuanian higher education institutions. According to AIKOS (Open Vocational Information, Counselling and Guidance System) in 2013 September 47 higher education schools (24 colleges and 23 universities) operated in Lithuania. *The research sample* consists of the undergraduates of 28 higher education schools (16 colleges and 12 universities) of Lithuania. And this proves the research sample to be representative to the general population under research. The research was carried out in March-May 2013.

The analysis of quantitative survey results was based on applying the following methods of statistical analysis: descriptive statistics and factor analysis. The initial processing of the quantitative data relies on descriptive statistics by calculating the percentage formatted values. Factor analysis allowed classifying the observed variables into groups, which are united by a factor that could not be observed directly. Based on the descriptive statistics, initial was performed while. A method of Principal Components and *Varimax* rotation involving *Kaiser* normalisation were invoked to single out the factors. The sampling adequacy for factor analysis was based on the (p) value of Bartlett's sphericity test, when $p = 0.000 < 0.05$, and *Kaiser-Meyer-Olkin* (KMO) measure, when $KMO > 0.6$ [25]. It was established that factor analysis could be applied for analyzing the empirical data. Statistical data analysis was carried out with IBM SPSS 19 data analysis software package.

Aiming to explore the problems and obstacles of Lithuanian higher education school students for entering labour market by defining the opinions of representatives of higher education institutions and labour market, the qualitative research was applied when the *dialogue* helped to reveal the experiences of these individuals [26,27]. The method of interview was employed which enabled to investigate the individual perceptions, meanings of the phenomenon and construction of reality [28,29,30]. The participants of research were surveyed by *semi-structured interview*, i.e. the open questions were submitted. The sample of interview participants was formed in accordance to research aim and the adequate criteria: *the target or criteria based selection* was used when the individuals are chosen deliberately with the aim to receive the specific important information that could not be retrieved in other ways [26,31]. Two target groups were formed from the persons who have direct interests in successful integration of higher education students into labour market: 19 members of higher education institutions (universities and colleges) [E stands for education] and 42 representatives of labour market [L stands for labour]. The research was carried out in September-November 2013.

In data processing stage each participant received a code with the identification of target group ([E] or [L], a numeral meaning of case and the page number of transcribed text where the meaning context, i.e. the example of statement, was presented.

The results of qualitative research were processed by applying *qualitative content analysis method.*

The meaningful units/statements were derived from the text data. They reflect the experience and the attitudes related to research issues. The units were coded into explicit categories; the frequency of their usage was calculated and the relationship among distinct elements of text and the whole information scope was evaluated.

4. The obstacles for Lithuanian higher education students to integrate into labour market: results of quantitative and qualitative surveys

The analysis of demographic characteristics of Lithuanian higher education students, who took part in the quantitative survey on the obstacles of entering labour market, revealed that the majority (66 percent) of respondents were university students and the rest (34 percent) represented colleges. The biggest number of survey participants (87,5 percent) were enrolled for bachelor level full time studies, 81,5 percent of respondents were 21-24 years old. Almost 74 percent of students were not married and only 12,1 percent of survey participants were involved in marital relationship. According to gender criterion, women made up 61,8 percent and men made up 38,2 percent. The data revealed that during survey 36,5 percent of higher education students

were employed in labour market, 63,6 percent of them started working while studying at higher school. 30,7 percent of respondents had worked before, but they left their jobs because of different reasons and were not employed at the moment of the survey. However, as research data indicated, one third of Lithuanian higher education students had never been employed in labour market.

The analysis of research data highlighted that 26,9 percent of Lithuanian university students and 13,3 percent of college students had encountered the obstacles for entering labour market. These problems were mostly attributed to bachelor level students (33 percent), while the PhD students (0,4 percent) did not indicated them.

The deeper exploration of obstacles for higher education students to be actively involved into labour market was based on factor analysis which discerned six groups of factors that characterize this variable: system obstacles in education (12,1 % of variance); lack of personal input (11,3 % of variance); lack of professional background (9,9 % of variance); health and family related problems (8,3 % of variance); subjective reasons (7,2 % of variance); lack of studies' flexibility (6,9 % of variance) (see table 1).

Kaiser-Meyer Olkin measure (KMO = 0,747) and Barlett's sphericity criterion (1150,480; df = 136, p = 0,000) prove that the variables are satisfactorily relevant for factor analysis. After the factors' rotation was made, six groups of factors account for 55,9 % of variance. The factors were formed from the variables the load (L) of which was bigger than 0,4. Cronbach α = 0,658 meaning indicates that internal consistency of factors is sufficient and the items of the factors are coherent.

The results of quantitative research revealed that the obstacles of Lithuanian higher education students for entering labour market are the consequences of complex and not distinct reasons. Therefore, these obstacles could be classified into two groups: external and internal obstacles. The group of external obstacles determine the unemployability of students and consists of system problems in education and lack of studies' flexibility. The research identified that one of the main obstacles in education system problem group is the skills not obtained in study process (L = 0,777) and during the internship period in company (L = 0,750) as well as the profession inadequate for labour market demand (L = 0,691). Students, however, perceive that the most significant obstacle for them to be successfully employed is the impossibility to match work and study activities (L = 0,805).

Table 1. The obstacles of Lithuanian higher education students for integration into labour market.

Structural units	Components					
	1	2	3	4	5	6
1. System problems in education						
Skills not obtained during studies in higher school	0,777					
Skills not obtained during internship in company	0,750					
Mismatch between the profession obtained in school and profession in demand in labour market	0,691					
Profession inadequate for labour market demand	0,462					
2. Lack of personal input (passiveness)						
Lack of decision what job to prefer		0,779				
Passive search for job		0,704				
Lack of self-confidence		0,606				
Lack of foreign language skills		0,405				
3. Lack of professional background						
Lack of work experience			0,690			
Competition with more experienced persons who search for job			0,613			
Unwillingness of employer to hire a student			0,525			
Insufficient educational background			0,510			
4. Health and family related problems						
Raising small children				0,754		
Health problems				0,660		
5. Subjective reasons						
Unsuccessful job search					0,802	
Workplace far from living place					0,422	
6. Lack of studies' flexibility						
Impossible to match work and studies						0,805
Note: Principal Axis Factoring, Varimax with Kaiser Normalization. N =1311; KMO = 0,747; Cronbach a = 0,685						

The group of internal reasons consists of personal obstacles that limit students' enrolment into labour market: the lack of personal features and professional background; and the obstacles related to health and family problems. The research results indicate that Lithuanian students' choice of profession (study programme) is mindless and irresponsible. For instance, even the last year students (the majority of them bachelor level), who participated in the survey, had no firm decision what job they would like to take (L = 0,779) and made no efforts for searching it (L = 0,704), despite the fact that their studies are over in less than three months. More than that, the dominant negative traits of students is the lack of self-confidence (L = 0,606) that limits their initiative for

job search. Therefore, due to the mentioned reasons, the lack of professional experience (L = 0,690) and aggressive competition with the experienced persons who look for the job (L = 0,613), the students' entering to labour market is often unsuccessful. This highlights one more contradiction with the prevailing Lithuanian public opinion: the insufficient educational background of students (L = 0,510) or unwillingness of employer to hire a student (L = 0,525) are not considered to be the main obstacles for Lithuanian higher education students to enter labour market.

In conclusion to the quantitative research results, the complicated transition of Lithuanian higher education students from education system to labour market is determined by the inadequate flexibility of study system that is not student-oriented; the unfocussed career planning by a student that is influenced by irrational profile system in general education schools.

The qualitative evaluation of the obstacles for Lithuanian higher education students to integrate into labour market is based on the analysis of opinions/approaches of representatives of higher education institutions (universities and colleges) and labour market. The method of interview statement categorization helps to discern three ***qualitative categories*** of the obstacles that limit higher education students' integration into labour market: ***educational obstacles, irrelevant preparation of students and labour market obstacles*** (see table 2). It is worth noticing that the students' integration into labour market obstacles mentioned by the representatives of educational and labour market institutions confirm the system problems in education and the lack of students' personal traits and professional background identified by student respondents.

Table 2. The categories of statements on the obstacles for Lithuanian higher education students to enter labour market.

Categories	Subcategories	The meaningful contexts – statements (n)
Obstacles in education	Lack of practical skills training	7
	Lack of studies' flexibility	10
	Knowledge obtained in educational institution does not meet employers' requirements	8
Irrelavent preparation of students	Lack of students' practical skills	17
	Lack of students' motivation	5
	Overestimated ambitions of students in searching job	12
	Lack of students' goals	6
Obstacles in labour market	Unreasonable requirements for students to be employed	8
	Unwillingness of employers to invest into a young professional	14
	Inadequate pay for work	5

The meanings of content of ***„Obstacles in education"*** category are revealed in three subcategories: *the lack of practical skills training; the lack of studies' flexibility and knowledge obtained in educational institution does not meet employers' requirements* (see table 2). The most significant (10 meaningful contexts) obstacle for labour market integration in this category, according to informants, is ***"Lack of studies' flexibility"***. The content of this subcategory reveals rather negative situation in studies and the whole educational system. According to interview participants, „<...> *it places too much emphasis on quantity and prepare students in mindless manner"* [L10, 16]; *"Our educational system is very conservative, educational society <...> believes they are irreplaceable, believes they possess absolute knowledge"* [L11, 40]. This reflects the weaknesses of educational institutions that, accordingly, influence the training of future professionals: *"Educational system has to be improved, the studies should be shorter in general, all the theory, they receive enough theory, often it is not applicable"* [L17, 16]. *„Often waste their academic hours while learning the things not necessary in real life"* [L26, 38]. The employers give several suggestions on how to change the existing situation and solve the problems for training higher education students and helping them to integrate into labour market: first, the emphasis should be placed on the students' freedom to choose among the elective subjects he/she considers would be relevant for their future professional activity; second, the general education courses do not have to be compulsory, but also suggested as electives.

The content of qualitative category ***"Irrelevant preparation of students"*** is described in four subcategories: *the lack of students' practical skills; the lack of students' motivation; the overestimated ambitions of students in searching job and the lack of students' goals* (see table 2). The qualitative subcategory ***"Lack of students' practical skills"*** was identified as the most significant obstacle in research participants' opinion (mentioned 17 times) that impedes Lithuanian higher education students' integration into labour market: *"One of the biggest obstacle, I could mention, is the lack of students' practical skills* [L40, 15], *"Young people lack practical abilities attractive for employers"* [E14, 3], *"Practical abilities are obligatory for a student. Is it possible for a student who is entering labour market not to have practical skills?* [L5, 51]. Another meaningful item has been

discerned in this subcategory: higher education students *„do not know many things and tend to overestimate themselves*“ [L41, 159]. It becomes clear that, on one hand, Lithuanian higher education students lack practical skills, on the other hand, they do not assess their skills in relevant and objective manner *(Today I observe a big inflation: what is that, what I will get, what I will earn and only then, maybe I will do something“* [L5, 9]). This posture forms the stereotypes of passive youth and the overestimated ambitions about the desirable work. The opinions of representatives of educational and labour market institutions let us assume that one of the possibilities for ensuring successful integration of higher education students into labour market is not the increase of the number of possible ways for developing practical skills, but their personal will and self-determination to improve these skills.

The content of qualitative subcategory ***“Obstacles of labour market”*** is reflected in three subcategories: *unreasonable requirements for students to be employed; unwillingness of employers to invest into a young professional; inadequate pay for work* (see table 2). The most detailed description is within the subcategory ***“Unwillingness of employers to invest into a young professional”*** (14 meaningful contexts) which reveals the position and attitudes of employers towards the higher education students as potential labour force. According to the opinions of education representatives, *“Employers look for the experienced employees, do not want to invest into young employees' training and perceive that higher schools have to prepare a specialist for a specific workplace”* [E3, 118]. Employers, accordingly, have the similar opinion: “*Employers <...> provide insufficient input to training process, i.e. we all wish to receive ready to use “product”, want him to come for work <...> and wish to put too little investment into that young person* [L2, 175]. This situation leads to a vicious circle: employers raise the requirements for young specialists who enter labour market; however, they do little initiative to influence the development and training of this labour force, because *“from employer's perspective, the introduction, training and preparation for work of higher education students consume time and cost money for enterprise”* [L1, 44]. It is positive to have different opinions of employers, even though there are only two of them from 42 interviewees: *Employers do not have to avoid this inevitable stage of preparing students for work, nobody come ready for work in 100 percent* [L6, 12], and if „*we do not receive professionals, we retrain them and prepare themselves“* [L9, 5]. This confirms that the majority of employers have to change their attitude to the preparation of Lithuanian higher education students for specific workplace by allocating some funds and time resources. This mutual help would enable solving the problems of transition of students from educational system to labour market and providing the latest theoretical knowledge and practical skills to businesses.

5. Conclusions

1. On theoretical level the obstacles of youth/higher education students' integration into labour market could be grouped into interrelated internal (personal obstacles and obstacles of professional background) and external (labour market and education system related) obstacles. The personal obstacles describe the passive or unsuccessful search for work, lack of self-confidence, lack of skills; the professional obstacles, accordingly, imply insufficient educational background of youth/higher school students and the lack of professional/work experience. The external obstacles are related to inconsistencies of labour market and educational system that predetermine uneven competition of youth/higher school students with more experienced persons in job searching as well as the unwillingness of employers to hire youth/higher school leavers without skills and work experience necessary for labour market.

2. The results of quantitative and qualitative surveys revealed that successful integration into labour market of Lithuanian higher education students is impeded by the system obstacles in education and labour market and the “passive drifting” behaviour of students along with their insufficient readiness for labour market. An increased level of youth unemployment and the mismatch between skills demands and supply in crisis period have become an obvious and growing problem that indicates the gaps of Lithuanian education and labour market policy. These problems have been identified in 2011-2015 European documents where European Council recommended Lithuania to take actions for solving youth unemployment and mismatch between skills demand and supply, to develop high-quality apprenticeship programmes and reinforce the partnership with private sector. And even though Lithuania takes certain measures, the number of mentioned programmes and their quality has been still insufficient, and the applied means of labour market policy lack efficiency. Therefore, the following issues have to be considered: how Lithuanian education system may empower for developing skills necessary for labour market and in what ways the labour market representatives (business) may contribute to the youth's preparation for labour market. The first step towards these aims is the integral system of Lithuanian education, science and business.

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Changes of economic dependency ratio in Lithuania: statistical perspective of 25 years

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Abstract

Since 1991 Lithuania meets the problem of continuous decrease of population. Economically the major risk of this phenomenon is related to the growth of the non-contributing population segment from the whole active population. The research aims to analyze the changes of population structure in Lithuania and statistically predict the economic dependency ratio in 25 years perspective. The results of this research highlight the forthcoming risk to the state's social insurance system if the current trend of high emigration and low birthrates remains the same. The developed statistical models allow predict the changes of State's Social Insurance Fund's income and expected old-age pensions having the significant decrease of economically active inhabitants. It was concluded that negative impact of this phenomenon on social insurance system can be compensated by the growth of personal income currently investing to the human capital, productivity and technological progress of the country.

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Keywords: economic dependency ratio; population; social insurance system; statistical analysis; workforce.

1. Introduction

Nowadays in many industrialized countries the age structure of population is changing where the decline of the proportion of young and working-age people in the society can be observed. Dlugosz & Razniak [8] highlighted the main factors of the age structure changes: demographic changes, economic transitions, migration, changes in the quality of life and the standard of living, new forms of the social awareness, advances in medicine, family planning policies. Simon, Belyakov & Feichtinger [22] analyzed the demographic trends of developed countries where the birthrates are below replacement level. Also these countries face a mortality decline at ages after retirement. One important indicator of population age structure is the dependency ratio, which is the ratio of persons of non-working age to persons of working age. A low dependency ratio is desirable because it indicates that there are proportionally more working age people who can support the young and the elderly of the population. This paper focuses not only on age but also on the economic dependency ratio which indicates the proportion of inactive and unemployed population to employed people. The lower values of economic dependency ratios are beneficial for the social care systems and pension schemes of countries. A downfall of working people proportion in a population also has negative impact on the whole economic development. Since the decline of birthrates very often has the dominating effect on population's aging, the rejuvenation of population in developed countries can be ensured promoting immigration if a country is attractive for immigrants.

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Population forecasts are in strong demand by both public and private institutions as important factor for long-range planning. Official national and international institutions have traditionally derived population projections in a deterministic way, specifying multiple scenarios based on combinations of assumptions on the future behavior of demographic components [3]. The prediction process includes social, economic and demographic aspects, and its implementation must be one of strategic trends of the state policy. Consequently, it needs a complex study to be accomplished by not only demographers, but also economists and statisticians, sociologists, psychologists and medical representatives to objectively assess the population changes and identify the future trends [11].

The aim of this research is to analyze the economic dependency ratio in Lithuania and to develop the statistical models predicting the economic dependency ratio and its components. The tasks of the research include the economic analysis of population structure changes, the analysis of current indicators of Lithuania and development of statistical prediction models. The methods of the research consist of scientific publications analysis, statistical analysis and statistical modeling.

2. Literature review

There are two main dependency ratios mentioned in scientific literature: demographic and economic. The demographic dependency ratio depends on the aging of population and indicates the proportion of age (-20 & +65) years people to the working age (20 – 64) population. The official statistics often includes the 15 – 65 years working age group, but in this case the significant demo-economic characteristic of every population is the number and proportion of the inhabitants of productive age, i.e. the number and proportion of potential labour force. Due to the fact that an increasing number of young people continue their studies after completing elementary school, the lower limit of the productive age is often set to 20 years [9]. The economic dependency ratio includes not only the age but also the economic activity of population:

$$\textit{Economic dependency ratio} = \textit{(Total inactive population + Unemployed) / Employed people} \quad (1)$$

The economically active population (or labour force) conforms to the definition depicting the overall labour supply i.e. both the employed and unemployed. This is a different category than the working age population assumed to be the overall number of people between 15 (or 20) and 64 years of age [2]. One of the main factors which affect the value of the economic dependency ratio is the decline of the total population, especially of persons under 15 years, and the aging of population increasing the proportion of 65 and more years people what leads to the increase of the total inactive population. Aging determines the age structure of the population, the size of the economically active population and of specific age groups, and the size and demand for major government-funded social services such as health care, pensions, education, etc. [24]. The changing economic conditions of countries affect the employment indicators: if unemployment rate grows the economic dependency ratio will grow too [25]. So, the economic dependency ratios of countries always are significantly higher than demographic and indicate the real pressure to the financial sustainability of social security systems [13]. Whereas the working people are contributors to the public budget and social security funds, when the number of them continuously declines, the state's pension system, as part of the social security system, becomes very vulnerable. For example, Panzaru [18] analyzed the dynamics of the social security system in Romania which is now deeply destabilized by the major asymmetry between the number of employees (contributors) and the number of pensioners. Therefore, new solutions are needed in this situation to consider a social security system, generally, and a pension system, particularly, to ensure an adequate balance with the current events: demographic aging, decline in employees and increase in pensioners.

The OECD predictions of constantly growing demographic dependency ratios in European Union are given in Table 1. The aging of EU population is inevitable due to the prolonged lifetime and decreasing birthrate what can cause the doubling of elderly people until 2050 [7]. The sharp fall in death rates in countries where life expectancy at birth was already high was not foreseen by many [1]. The median age in Europe will increase from 36 in 1993 to 41,9 years old by 2050 and the ratio of retirees to workers in Europe will double until 2050 [23]. Boenzi, Mossa, Mummolo & Romano [5] also maintain that nowadays, 11,7% of 7,2 billion persons in the world are aged 60 or over. One third of them reside in developed regions. By 2050, the global population aged 60 or over is expected to be more than double, reaching two billion persons or approximately 21% of the estimated world population.

Table 1. Predictions of demographic dependency ratio in EU (OECD, 2015).

Year	2015	2020	2025	2030	2035	2040
Age (-20 & +65) dependency ratio (20-64)	0,658	0,694	0,736	0,778	0,820	0,856

Growth of productivity in a country essentially depends on technological development and on the accumulation of two main production factors: physical capital (equipment) and human capital (levels of education and training). The aging of population significantly influences these two variables. On one hand, the aging population is less dynamic and receptive to technological progress. Others assert that the growing sparseness of the population and young labour will provide the means to increase the quantity and quality of its human capital, which will make it more receptive to progress [14]. Mazilescu [15] maintains that the acceleration of the pace of technological progress in developed countries resulted in raising the importance of human capital in the rapidly changing technological environment. But the rise in the demand for human capital collides with current reduction in birthrates and population growth what necessitates the further technological development to ensure the economic growth in the conditions of lesser labour force. This is related to family planning policy when parents have become more interested in the quality rather than the quantity, focusing more on supporting the human capital development of their children and less on giving birth to other children [15].

Here, immigration has been seen as a solution to aging in the developed countries to offset massive retirements and make the demographic profile more balanced towards the youths. Although immigration cannot entirely offset the effects of aging, it can alleviate its effects and prevent the demographic decline [24]. The effects of labour migration are extremely complex with economic, social, demographic, financial, occupational and cultural aspects [4]. Usually the local population moves to more attractive jobs while immigrants take their place. The non-qualified manufacturing and low-level service jobs become less attractive for local workforce in developed countries, while increased productivity in agriculture in developing countries lowers demand for labour and provides the labour force [17]. The highly skilled migration can significantly contribute to the stock of human capital and thus to the economic growth of a specific country. The phenomenon of highly skilled workers movement is influenced by rapid progress of science and technology that generates a steady growth for highly skilled labour force in the international labour market. Negative demographic changes with the aging population in the advanced economies are other significant reasons to pull immigrant labour [16]. The decision making to migrate is based on microeconomic logic as an individual cost-benefit, and a human capital accumulation decision. The net expected value of future income and the costs entailed by migration are considered [17].

Migration can rebalance the demographic age structure in the high-income nations. In many EU Member States immigration is not only increasing the total population but is also bringing a much younger population. More highly skilled migrants are probably large net contributors to the tax revenue because mostly the migrants are of working age and they are not dependent upon state support [21]. Across EU, the free movement of people creates the premises of more flexible and efficient European labour market for the benefit of workers, employers and Members States. Labour movement supports knowledge and modern technology diffusion enhancing the European thinking and reducing the imbalances on the labour market [4]. In the coming decades the migration in Europe will become increasingly important to compensate the aging population and provide the labour force needed, especially in the health and social care sector. If the migration policies are market-oriented and the economy grows strongly, the European immigration is expected to be very high, especially to major cities or urban agglomerations [20].

For the country of origin the financial benefit of emigration can be considered as remittances. Firstly, since the money largely goes to poor families, they are expected to reduce inequalities in income distribution. Secondly, remittances act as a source of capital and support higher employment and economic growth in the receiving economies. Thirdly, remittances contribute to covering the current account deficit [10]. As remittance inflows are a large and stable source of foreign currency, they behave very differently from foreign private capital flows, which often move pro-cyclically, thus raising incomes during booms and depressing them during downturns [6]. In the country of origin, labour migration leads to decreasing labour market imbalances and tensions by reducing unemployment and increasing wages. At the same time the migration influences the improved skills of returning migrants and new behaviour at work [4].

One of the most important negative effects of migration for the country of origin is the loss of an important proportion of highly skilled labor. The origin country cannot benefit anymore for the investment in human capital, so the emigration of specialists may result the reduction of technological development, economic growth, wages and employment in certain activity sectors [4]. The emigration of economically active population reduces the incomes to the state budget and especially the to the social security system. The high amount of inactive persons means the relatively rising amount of beneficiaries of the social security system. The burden falls on the pension system, especially due to its actual structure pattern, mainly based on the contributions principle, and intergenerational solidarity [19]. Lithuania is a leader of emigrants' number for country in the EU. The emigration rate is huge in Lithuania. It lost around 0,6 millions of population during period 1990 – 2010 [12]. So, the following empirical research aims to analyze the current trends of Lithuanian population changes and to model these changes in 25 years perspective.

3. Methodology

The empirical research structure is following. Firstly, the recent changes of Lithuanian population quantity and structure will be analyzed and the economic dependency ratio will be calculated. Secondly, the changes of Lithuanian population will be statistically predicted and the expected economic dependency ratio in 2040 will be calculated. Finally, the impact of Lithuanian population changes on the State's Social Insurance Fund in 25 years perspective will be estimated. The linear, exponential and logarithmic regression models will be developed for the prediction of population changes. The correlation coefficient, determination coefficient, mean squared error (*MSE*), mean absolute deviation (*MAD*), and mean absolute percentage error (*MAPE*) will be used to assess the validity of developed models. The data sources for the statistical analysis are the World Bank, OECD, Statistics Lithuania and Lithuanian Social Insurance Fund databases.

4. Changes of Lithuanian economic dependency ratio in perspective of 25 years

In the end of 2014 the population of Lithuania was 2 921 262 persons. The age structure of this population is given in Table 2. In the group of working age inhabitants 158 thousand persons were unemployed when the unemployment rate was 10,7%. The economic dependency ratio in 2014 was 0,763 which indicates that 1 000 working inhabitants had 763 dependants. Emphasizing the group of pensioners (65 and more years) the State Social Insurance Fund (SSIF) in 2014 paid 1 725,9 million EUR of old-age pensions when the average pension was 240,7 EUR (Table 2). In the following analysis the statistical model will be developed to predict the dependency ratio in 2040 if the 1991 – 2015 years' trend of Lithuanian population changes hypothetically remains the same.

Table 2. Dependency ratio and its related parameters in the end of 2014.

0 – 18 years (%)	19 – 64 years (%)	65 and more years (%)	Unemployment rate (%)	Dependency ratio	SSIF total old-age pensions (million EUR)	SSIF average old-age pension (EUR)
19,156	62,115	18,729	10,7	0,763	1 725,9	240,7

In 1960 – 1991 the population of Lithuania constantly grew in average 29 858 persons per year. The average annual growth rate in this period was 0,93%. The maximal number of inhabitants (3 704 134) in Lithuania was in 1991. Conversely, since 1991 the constant decrease of Lithuanian population was observed. In the middle of 2015 the number of inhabitants was 2 902 832 persons and this indicator reached the level of years 1963 – 1964 (Figure 1a). The average annual decrease rate of Lithuanian inhabitants in 1991 – 2015 was 1,02% or 33 687 persons per year. The distribution of Lithuanian inhabitants according to their age in 2015 is given in Figure 1b. The structure of Lithuanian population is following: 0 – 18 years – 19,16%; 19 – 64 years – 62,12%; 65 and more years – 18,72%.

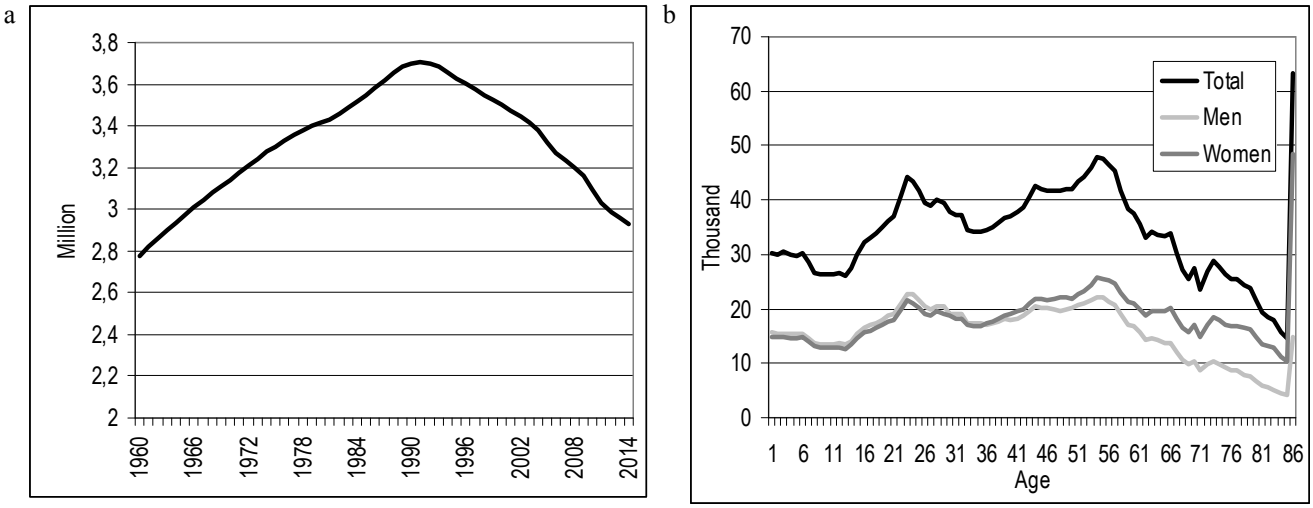

Fig. 1. (a) population in Lithuania, (b) age of Lithuanian population in 2015 (World bank, 2015; Statistics Lithuania, 2015).

The statistical modeling of Lithuanian population in 2040 is based on these prerequisites:

- The group of 0 – 25 years people is predicted according to the statistical trend of years 2001 – 2015.
- The group of currently 0 – 25 years people is shifted to the group of 26 – 50 years.
- The group of more than 50 years people is predicted according to the statistical expected lifetime of population in 2015 which is calculated by Statistics Lithuania and the proportion of older than 75 years persons to the group of 75 years and younger inhabitants.

The linear regression model was developed to estimate the general long-term trend of Lithuanian population (y_p) depending on year (x), herewith measuring the correlation coefficient (r), determination coefficient (R^2), mean squared error (*MSE*), mean absolute deviation (*MAD*), and mean absolute percentage error (*MAPE*). The period of 1991 – 2015 was used developing this model according to the visually linear decrease of population in Fig. 1a. Because the changes of young people group statistically has to be predicted, the exponential regression model was developed to predict the population of 0 – 15 years group ($y_{0\text{-}15}$) using the data of Statistics Lithuania (Figure 2a). In the graphical visualization the slight slowdown currently was observed of 0 – 15 years population, so the exponential regression extrapolates this slowing trend for further years. To estimate the quality of model the mentioned statistical indicators were calculated in Table 3.

The linear regression model is able to predict statistically the Lithuanian population with average error of 31,6 thousand inhabitants or 0,95%. The exponential regression model predicts the 0 – 15 years group population with average error of 21,47 thousand inhabitants or 3,71%. Both models have very high values of correlation and determination coefficients that point the very strong statistical dependence of Lithuanian population on time factor. That enables to extrapolate the current dynamics of Lithuanian population to the future periods predicting the possible changes under the assumption that the decrease of population will keep the current trend.

Table 3. Statistical characteristics of linear and exponential regression models.

Model	y_i measure	r	R^2	MSE	MAD	MAPE
$y_p = -0{,}0352 \cdot x + 73{,}872$	Million	0,9885	0,9771	0,0015	0,0316	0,0095
$y_{0\text{-}15} = 2 \cdot 10^{34} \cdot e^{-0{,}0362x}$	Thousand	0,9896	0,9794	637,4431	21,4675	0,0371

The predicted population of 0 – 15 years in 2040 by exponential regression model is 169,5 thousand persons while in 2015 this group consisted of 457,7 thousand persons, so the statistically predicted decrease is 63%. The group of 16 – 25 years inhabitants in 2015 consisted of 384,6 thousand persons. Assuming that the decrease rate in these groups will be the same, in 2040 there will be 142,3 thousand 16 – 25 years old inhabitants. Thereby the prediction of 0 – 25 years inhabitants in 2040 is 311,8 thousand.

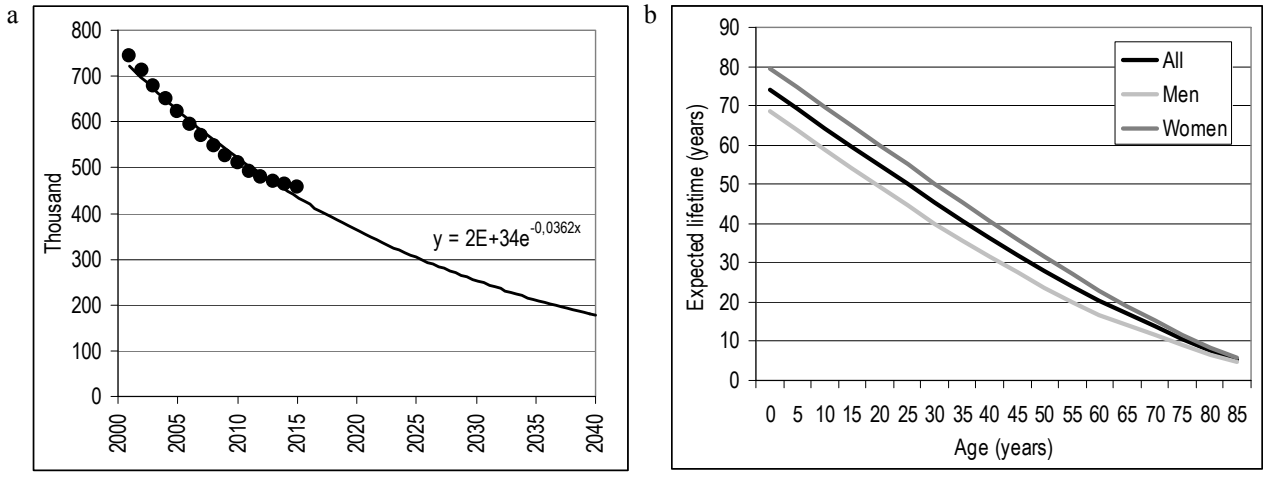

Fig. 2. (a) 0-15 years youth in Lithuania, (b) expected lifetime of Lithuanian inhabitants (Statistics Lithuania, 2015).

According to the expected lifetime of inhabitants (Figure 2b) the 25 or more living years are predicted to the persons up to 50 years. Shifting the group of currently 26 – 50 years old persons the number of 51 – 75 years old inhabitants was predicted in 2040. Because the official statistical average expected lifetime of Lithuanian inhabitants is 74,02 years (men and women) the prediction of inhabitants more than 75 years was implemented with assumption that the persons of n years (n > 75) in 2040 will have the same proportion in n – 10 years persons as in 2015. These proportions and the predicted number of inhabitants are calculated in Table 4..

Table 4. Prediction of population older than 75 years.

Age (n)	Proportion in population of n – 10 years (%)	Predicted population in 2040	Age (n)	Proportion in population of n – 10 years (%)	Predicted population in 2040
76	84,87	32 707	81	69,35	28 974
77	89,45	36 213	82	62,20	25 919
78	93,69	39 787	83	56,40	23 648
79	78,78	33 134	84	54,98	23 106
80	81,72	34 013	85 and more	247,36	107 613

The statistical expected lifetime does not involve the migration factor which also influences the population in the country. The migration statistics of Lithuanian inhabitants is given in Figure 3a. In 2002 – 2014 the average emigration was 39 935 persons in one year, immigration – 10 874 persons, so the average one year's net migration of Lithuania is negative (-29 061). The average net migration to population percentage of this period is -0,9146%. This rate was used to predict the net migration of extrapolated population in 2016 – 2040 applying the linear regression model y_p of Table 3. The total decrease of population due to the emigration in 2016 – 2040 is 419 956 persons. If the current net migration trend remains the same (-0,9146% of every year's population) in every one year the emigration will reduce the Lithuanian population in average by 16 798 persons in 2016 – 2040. This number was distributed equally in group of 26 – 64 years population. Using the linear regression model the lower and upper confidence levels of Lithuanian population with 95% probability were calculated (Table 5).

Table 5. Prediction of Lithuanian population in 2040 using the linear regression model.

Year	B-Weight	Intercept	Predicted population (million)	Lower level (million)	Upper level (million)
2040	-0,035204	73,8724	2,0554	1,9645	2,1463

According to these values two additional scenarios of lower (329 040 persons) and higher (510 840 persons) emigration were analyzed. The predicted structure of Lithuanian population in 2040 is given in Figure 3b.

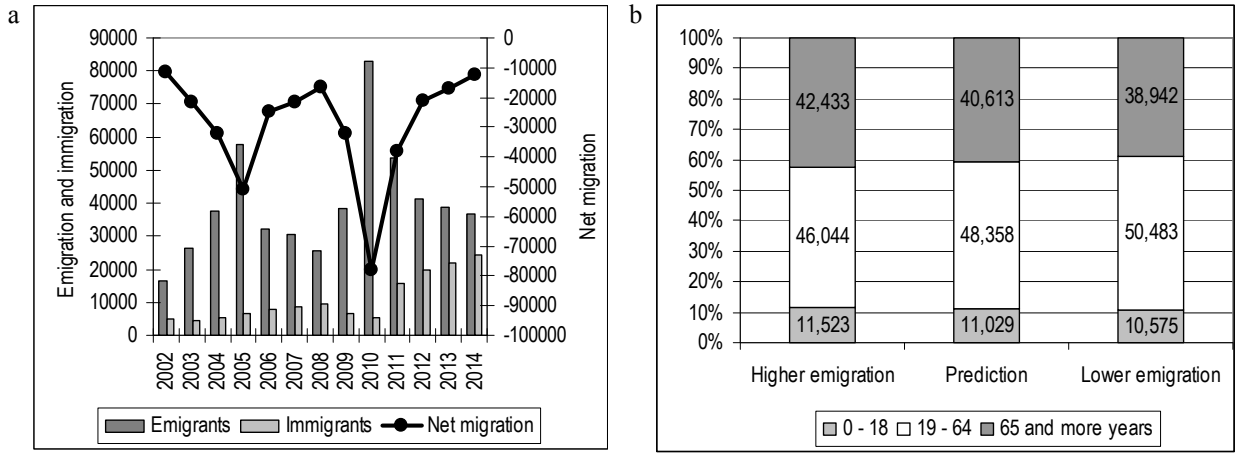

Fig. 3. (a) migration of inhabitants in Lithuania, (b) predicted structure of Lithuanian population in 2040 (Statistics Lithuania, 2015).

Calculating the dependency ratio in 2040 it was assumed that the unemployment rate is equal to the average indicator of years 1998 – 2014 which is 12,1%. The predicted economic dependency ratio is 1,353 which indicates that 1 000 of working population will have 1 353 dependants. This number is higher by 590 dependants (77,3%) compared to year 2014. The dependency ratio confidence interval (95% probability) is 1,254 – 1,471 (Table 6).

Table 6. Predicted dependency ratio (DR) in 2040.

Predicted DR	DR interval (95% probability)	Predicted SSIF total old-age pensions (million EUR)	Predicted SSIF average old-age pension (EUR)	SSIF total old-age pensions interval (million EUR)	SSIF average old-age pension interval (EUR)
1,353	1,254 – 1,471	935,3	92,9	852,4 – 1 018,3	84,66 – 101,14

Hypothetically the current situation of SSIF old-age pensions was modeled considering that the structure of Lithuanian population in 2015 is equal to the predicted in 2040. The average contribution of 1 working person to the State old-age pensions fund in 2014 was 1 065,11 EUR. In case of 878 141 working persons as predicted in 2040, the State old-age pensions fund is only 935,3 million EUR (lesser by 45,8%). If the number of 65 and more years inhabitants is 839 024 (higher by 53,4% than in 2014) hypothetically the average old-age pension is only 92,9 EUR (lesser by 61,4%). The confidence interval with 95% probability of working inhabitants is 800 255 – 956 062, State old-age pensions fund is 852,4 – 1 018,3 million EUR, the average old-age pension is 84,66 – 101,14 EUR (Table 6). This hypothetical statistical model highlights the unfavourable 25 years future projection of current 1991 – 2015 years' depopulation of Lithuania and its possible negative impact on social insurance system.

However the growth of Lithuanian SSIF pensions fund income (PFI) in 2012 – 2015 was observed under the circumstances of country's depopulation (Table 7). PFI to 1 inhabitant (PFI_1) grew from 715,27 to 934,43 EUR. The logarithmic regression model was developed to predict the PFI_1 indicator dependently on time factor (y_i). The determination coefficient of model is 0,9449. The predicted PFI to 1 inhabitant in 2040 is 1211,39 EUR which is higher by 29,6% than 2015 year's indicator. According to statistically predicted population in Table 3 (2,0554 million persons) the prediction of SSIF pensions fund income in 2040 is 2 489,9 million EUR. Having 839 024 pensioners in this year the average pension could be 247,30 EUR.

Table 7. Statistical prediction of SSIF pensions fund income to 1 inhabitant in 2040.

Indicator	2012 (y_1)	2013 (y_2)	2014 (y_3)	2015 (y_4)	Logarithmic regression model	R^2
SSIF pensions fund income (PFI), million EUR	2 136,9	2 318,9	2 497,3	2 712,5	-	-
Population (in July, 1)	2 987 523	2 955 968	2 930 860	2 902 832	-	-
PFI to 1 inhabitant (PFI_1), EUR	715,27	784,48	852,07	934,43	$PFI_1 = 151{,}52 \cdot \ln(y_i) + 701{,}18$	0,9449

The observed long-term linear trend of the average annual 1,02% population decrease rate had no signs to stop until 2015. The aging of inhabitants and decline of workforce will cause the significant growth of burden for economically active persons to finance the state's expenditures on inactive inhabitants. The growth of personal income of inhabitants and higher transfers to SSIF can equipoise the depopulation problem of the country. Also it is very probable that the Lithuanian social insurance system will need the substantial decisions related to income and expenditures of SSIF to ensure the implementation of government's social function after 25 years.

Conclusions

The current demographic dynamics of Lithuania is characterized by the diminishing of birthrate and high emigration that together generate the population decrease. Also the enhancing life expectancy generates the population aging. These factors cooperate in creating of a general misbalance between the active and inactive population of the country. The statistical trends of demographic indicators allow maintain that in future 25 years the working age population can decrease by 13,8%, the youth can decrease by 8,1% and the number of elderly people can increase by 21,9% in the whole Lithuanian population structure. The economic dependency ratio in these circumstances will grow to 1,353 what means the possible significant pressure to the state's social insurance system.

The statistical modeling has shown that currently having the predicted population structure of 2040 the old-age pensions should be lower by 61,4%. This statistical simulation warns about the possible serious problems for government ensuring the sufficient social care for the inhabitants in case of the continuous depopulation of the country. The theoretical compensation of Lithuanian depopulation by immigration is poorly expected according to the observable migration flows. The more optimistic is the statistics of growing State's Social Insurance Fund's income which is related to the growth of personal income of Lithuanian working age inhabitants. The extrapolation of this income by the developed logarithmic regression model allows expect the average old-age pensions stabilized in current amount. In this inevitable challenge the strategic priorities of the country must be focused on the investments into the human capital, productivity and technological progress in order to reduce the negative consequences of population loss.

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Social Responsibility as a transversal competence of graduates

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Abstract

Paper purpose:
The aim of the present communication is to propose a procedure to assess the level of competence achieved by graduates.
Design/methodology/ theoretical approach:
We propose to use a quality assurance procedure to assess and improve the level of competence achieved by graduates.
Findings:
Graduate students should exhibit hard competences –specific knowledge- in their field of study and, also soft or transversal competences that provide complementary abilities to use the former in any specific environment. Social responsibility is among the list of transversal competences. We found that transversal competences are difficult to assess. The method we propose provides a clear idea of the level of competence acquired.
Practical implications:
Social responsibility provides graduates a guidance to develop their activities as professionals within a framework of sustainable development, in such a way that projects include considerations concerning environmental, social and economic dimensions.
The originality and value of the paper is based on the application of a well-established methodology to assess competences of graduates.

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Keywords: social responsibility of graduates; quality assurance; transversal competences; improvement of social responsibility.

1. Introduction

Social responsibility provides an ethical framework to act with a breadth and depth of vision needed to understand the strongly interwoven environmental, economic and social consequences of specific decisions acting for the benefit of society at large. It provides individuals the ability to articulate similarities and contrasts among cultures, times and environments, demonstrating understanding of cultural pluralism and knowledge of global issues. Lack for social responsibility competence by leaders in technology, government, business and industry may result in choices made that do not take into consideration broader perspectives, neglecting the unsustainable consequences for present and future generations.

Accordingly, the effective progress of humankind requires policymakers and leaders to be competent for social responsibility, guaranteeing to act with long-term strategies. Thus, it is necessary that both, Institutions of higher education and Professional associations build up a sense of social responsibility through their study programs and professional codes of ethics.

Social responsibility is a transversal competence to be acquired along a study program that needs to be consequently designed to assure knowledge, skills and attitudes. Knowledge includes ideas on sustainable development, skills involves the use of tools for assessing the impact of decisions, taken into account the

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environmental, social and economic components and attitudes involves a commitment to take decisions taking into account long-term strategies. However, social responsibility is a special competence that not only requires greening study programs, but requires a holistic approach and consequently, an involvement of higher education Institutions in greening the campus [2].

This work aims to review diverse aspects to be considered for an effective acquirement of social responsibility of their graduates and describes a quality assurance system to assess the degree of implementation of a holistic approach on education for sustainable development in Higher Education Institutions. It is assumed implicitly that a higher degree of implementation will correlate with higher levels of competence for social responsibility by graduates.

2. Sustainable development

Until very recently, humankind progressed in terms of economic growth in a scenario of unlimited natural resources. Prospective studies on the future of humankind carried out about thirty-five years ago resulted very critical about the consequences of continuing in the same socio-economic model, suggesting a limit to growth [1]. Specifically, considering the population growth rate and the use of resources, the carrying capacity of Earth could be achieved in about hundred years [3]. These studies also suggested that the only way for humankind to have an effective progress, taking into account Earth limitations, was to change people's lifestyle, taking for granted that we shall dispose of an increasing technological efficiency. Accordingly, it is not enough to dispose of an increasingly sophisticated technology to cope with this limit, but it is necessary to change our attitude in regard to the utilization of resources, increasing our capacity of recycling and thinking in the impact caused by a product in terms of its lifecycle. This change of attitude will permit a future development that meets the needs of the present without compromising the ability of future generations to meet their own needs [4]. These conditions are met in a sustainable development model of progress. The term sustainable implies something that survives with time, something that is unsustainable does not. Sustainable development is a progress that moves move us from the present state towards a more nearly sustainable state in humankind's benefit. Sustainable development means to continuously improve the quality of life and wellbeing for present and future generations, by linking economic development, protection of the environment and social justice.

Sustainable development requires policymakers to think in the long-term consequences of the activities we carry out at present as well as a closer cooperation among states, but also needs awareness of the population as key ingredient. Responsible consumption habits and improved recycling attitudes are pivotal to take humankind into a sustainable development track. Fortunately, globalization helps in this direction, stressing the consequences of non-responsible attitudes.

One of the most dramatic consequences humankind is presently facing regards global warming produced by greenhouse gas emissions from fossil fuel use. Temperature rise affects worldwide weather patterns in such a way that heat waves are becoming more common and intense, precipitation patterns are changing and heavy precipitation events are becoming more frequent and there are changes in the frequency and severity of droughts. This has a local impact on crops and fresh water availability with economic and social consequences. Temperature rise will also increase ice decline with the consequent rise of sea level producing a global coast wetlands lost. Solution to this problem requires a coordinated action among states for a drastic emissions reduction and a determined support for designing gas capture technologies. It is urgent that policymakers agree in the implementation of a long-term strategy including environmental, economic and social aspects. A first step in this direction was the Kyoto Protocol to the United Nations Framework Convention on Climate Change for the reduction of greenhouse gas emissions. This agreement contemplated different degrees of commitment to developed economies than to developing countries. Unfortunately important greenhouse gas producers did not signed the agreement [5], giving us a new chance in the convection recently held in Paris [6]. However, there should also be in parallel an important commitment on the use of renewable energies and new methods for greenhouse gas capture.

3. Social responsibility

Choices made by leaders in technology, government, business and industry are sometimes taken without consideration broader perspectives that neglect the consequences for a sustainable development of our planet. Social responsibility is a transversal competence that helps professionals to take decisions in a framework of sustainable development. It requires full awareness of the need to preserve the quality of life and wellbeing for present and future generations, by linking economic development, protection of the environment and social justice, together with a personal commitment to act in these lines through a responsible consumption, enhance the use of circular economy and follow an ethical behavior.

The concept of social responsibility has also been picked up by enterprises in the form of social corporate responsibility. It is a voluntary management strategy where companies aim to create a positive impact on society while doing business. Social corporate responsibility can be defined as the continuing commitment by business to behave ethically and contribute to economic development while improving the quality of life of the workforce and their families as well as the local community and society at large [7]. Acting in a socially responsible manner requires not only respecting legal requirements, but also going beyond them through voluntary investments in human capital, in environmental management and in relationship with all stakeholders [8]. The ISO26000 norm is intended for use by organizations of all types to assist them in their efforts to operate in the socially responsible manner that society increasingly demands. It is based in seven principles: accountability; transparency; ethical behavior; respect to stakeholders' interests; respect for the rule of law; respect for the international norms of behavior and respect for human rights [9].

Social corporate responsibility although based in the same principles described previously regarding individuals, attracts corporates interested in a rational way by looking for profit opportunities. A social responsible code of conduct provides enterprises a competitive advantage: reputation; the ability to attract and retain workers or members, customers, clients and users; the maintenance of employee morale, commitment and productivity; the perception of investors, owners, donors, sponsors and the financial community; better relationships with companies, governments, the media, suppliers, peers, customers and the community in which it operates.

In view of the previous ideas, an ideal scenario for a real progress in sustainable development would be to dispose of professionals competent for social responsibility, working for corporations with a strong social corporate responsibility agenda. However, this goal can only be achieved thinking in the long-term and acting in small steps.

4. Social responsibility in the student's curricula

Competence for social responsibility requires building up capacities for sustainable development in a holistic manner in such a way that not only includes knowledge, but also reflects on the complexity and interrelations of behavior as well as decision-making in a future-oriented and global perspective. A profound understanding of sustainable development is a necessary condition to achieve competence for social responsibility, since learning for sustainable development aims to prepare graduates to be able to contribute to, stimulate and lead the debate on complex issues such as what constitutes global citizenship and good governance, sustainable resource use, and the determination of ecological limits.

Education for sustainable development can be defined as the process to provide the necessary tools to increase the knowledge and understanding, skills, and attributes needed to create a just and sustainable future. Education for sustainable development requires a multi-disciplinary approach that allows making connections, share knowledge, and work together on emergent areas [10]. It aims to develop students' ability to understand and evaluate connections between big issues, such as inequality, public health, global consumption, biodiversity loss and the limits of natural systems.

We live a very critical moment that requires substantial dedication to education for sustainable development, as stressed in the recent Aichi-Nagoya Declaration on Education for Sustainable Development: "Education for sustainable development is an opportunity and a responsibility that should engage both developed and developing countries in intensifying efforts for poverty eradication, reduction of inequalities, environmental protection and economic growth, with a view to promoting equitable, more sustainable economies and societies benefiting all countries, especially those most vulnerable such as Small Island Developing States and Least Developed Countries" [11].

Since the 1972 Stockholm UN Conference on the Human Environment [12], education has been recognized at the international level to play an important role in fostering environmental protection and conservation. This idea was further emphasized in the following its follow ups. Specifically, in the official document of the 1992 Rio de Janeiro Earth Summit (Agenda 21), it was recognized that education is one of the many paths to sustainability. Actually, education alone cannot achieve a more sustainable future; however, without education and learning for sustainable development, we will not be able to reach that goal [13]. In 2005 the United Nations adopted a Decade of Education for Sustainable Development (2005–2014) led by UNESCO and aimed at integrating the principles, values, and practices of sustainable development into all aspects of education and learning. The analysis of the results achieved, recently published in a final report [14] suggest that there is an increased recognition at the international policy level that education is essential to the advancement of sustainable development, with many countries committed to continuing to work to advance education for sustainable development at the national and local levels.

Although the Decade of Education for Sustainable Development covers all levels of formal and informal education, higher education institutions are considered as drivers of the education for sustainable development since they are involved in training most of the professionals who develop, lead, manage, teach, work in, and influence society institutions, including the training of educators who provide education at both primary and secondary levels. In this direction, higher education institutions have long been engaged in embedding environmental education and education for sustainable development into their functions including education, research and community outreach, but also in campus operations [15]. Since the Talloires Declaration in 1990 [16], an increasing number of institutions have been engaged in activities to embed the principles of sustainability into their systems. Today, many institutions are interested in embedding sustainable development in their operations and activities, as well as on the consequence of their implementation including training social responsible graduates and creating a social responsibility culture in their institutions [17]. However, not all the initiatives reported by diverse institutions are in line with a holistic implementation of programs, research, outreach activities and campus operations embedding environment, society and economy. They range from those institutions that have implemented initiatives for greening campus to those that have incorporated social corporate sustainability in their strategic planning; from those that have included courses on environmental science in their programs to those that offer a full integration of sustainability related topics into existing curricula or research [18].

5. Assessment of the competence for social responsibility

As mentioned above a necessary condition for graduates to be competent for social responsibility is that institutions are committed for developing their activities in a framework of sustainable development. Accordingly, let us describe diverse initiatives available to assess the degree of implementation for sustainable development in higher education institutions. Some initiatives focus on the assessment of institution activities covering the diverse university functions as well as campus operations from different perspectives [19-22], whereas others specifically focus on assessing curricula contents [23]. Among the former, the first initiative was proposed by the Dutch committee for sustainable higher education who implemented a model based on quality assurance methodology. The so-called Auditing Instrument for Sustainable Higher Education (AISHE) includes five fields: vision and policy, expertise, educational goals and methodology, education contents, and results assessment [19]. Another tool to assess the degree of development of universities in education for sustainable development is based on the Global Reporting Initiative sustainability guidelines, considered one of the best available tools to assess and report sustainability for corporations [24]. Its strengths lie in its multi-stakeholder approach and its number of indicators in the economic, environmental and social dimensions. The Graphical Assessment for Sustainability in Universities (GASU) is an extension of this tool to cover specific aspects of the activities carried out in the institutions of higher education including education, research, campus operations and community outreach [20]. The Sustainability Tracking, Assessment & Rating System (STARS) is a self-assessment tool designed for an institution to earn points based on the performance on diverse items related to sustainable development grouped in four categories: academic, engagement, operations and planning and administration. The final score permits to understand the degree of involvement of an institution in sustainable development [21]. Finally, the Quality System of Science and Technology Universities for Sustainable Industry (QUESTE-SI) is a quality assurance tool, which supports quality improvement of sustainable development education in higher engineering education institutions. It requires the elaboration of an internal assessment report that is followed by an auditor team external evaluation. QUESTE-SI assessment is based on the information gathered in four dimensions: Institution strategy, education and curriculum, students' involvement and research and innovation [22]. Similar to STARS, after the evaluation institutions get a score that informs of the present institutional status in regard sustainable development and helps to identify weaknesses for improvement in the future.

Although these are tools to assess the degree of implementation for sustainable development of higher education institutions, it is expected that stronger implication of institutions for sustainable development provide higher accomplishment of competent students for social responsibility, although this needs to be further studied.

Conclusion

Social responsibility is a competence that all our graduates should accomplish. It permits to act with a breadth and depth of vision needed to understand the strongly interwoven environmental, economic and social consequences of specific decisions acting for the benefit of society at large. A necessary condition for students to acquire such a competence is that institutions of higher education are committed for sustainable development in their strategic vision and provide a solid interconnected view of the environmental, social and economic

components in their functions: education, research and community outreach, as well as campus operations. There are different tools available to assess the degree of implementation for sustainable development of higher education institutions. It is expected that stronger implication of institutions for sustainable development provide higher accomplishment of competent students for social responsibility.

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Eco-labelling at restaurants: case of green generation restaurants program

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Abstract

Businesses in the tourism sector have started to give importance to environmental practices as a result of the increasing consumer awareness of environmental issues, high costs and state regulations. In this study, we studied the green certification sytems within the scope of restaurant businesses' environmental practices and examined the Green Generation Restaurant Program which is the only industry-specific certification in Turkey. Data are obtained through examining the website contents and various interviews in magazines related to the issue by document analysis. As a result, it was found that there is a significant development for such an initiative in the restaurant sector like other initiatives around the world. However, some deficiencies have been determined in the dissemination of program.

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Keywords: green certification; green restaurants; green generation restaurant; eco-labeling.

1. Introduction

Especially in the last 50 years, the world's future has been seen to be at risk because of climate change, global warming and biodiversity decline. Therefore, humankind needs to take measures to prevent this situation. The importance of environmental issues was stressed to draw attention of the public by organizing a large number of international summits. As a result, the concept of sustainability and sustainable development occurred with Bruntdland Report 1987. In this report, sustainable development is defined as "development which meets the needs of the present without compromising the ability of future generations to meet their own needs".

While sustainability does not mean stagnation or decline, it not only requires following a balanced policy throughout the development process but also paying attention to the social structure and physical environment. In this sense, the tourism sector should make the tourism sustainable through adopting long-term strategies whose existence depends on humans and the environment. The emergence of mass tourism has affected the development of sustainable tourism and aroused interest in concepts such as visitor management, green tourism and environmental issues. If it is considered that the environment constitutes a source for tourism and tourism creates serious effects on the environment, Demir and Çevirgen, [1] the relationship between tourism and the environment becomes even more important. Recognizing that the structure may be depleted of natural resources, it is necessary that all stakeholders should take responsibility for environment.

Service companies, according to Gil et al [2], are defined as "the silent destructive of the environment" and they are required to contribute to environmental protection as much as industrial enterprises and other enterprises. Food and beverage companies are some of the major stakeholders in the tourism sector. Large and institutional businesses have the resources and opportunities to develop their skills in environmental management. According to Emeksiz [3] small businesses do not have these resources. Therefore, it is advised that the studies related to environmental management should be carried out for SMEs. In this respect, it is clear

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that the majority of small and medium-sized enterprises in the tourism sector are restaurant businesses. Moreover, green certification systems contribute to the application and sustainability of these businesses.

2. Literature Review

Namkung and Jang [4] investigated the effects of green practices in restaurants on brand value for consumers and they have stated that green practices consist of two steps: food-focused and environment focused. In the study, it is mentioned that the food dimension is important for the top level restaurants but environment is important for casual restaurants. Furthermore, the study indicates that environmental and health-conscious consumers find green practices more positive. Schubert et al. [5] suggest that 85 % of customers are willing to pay more for green practices in restaurants and the majority of customers could pay 6-10 % more than the normal price. Hu, Parsa and Self [6] conclude that consumers' awareness of green practices and their environmental interest could be an important determining factor of consumers' preferences for these restaurants. Similarly, Jeong and Jang [7] claim that the consumers' perception of green practices affect the behavioral intention positively. Jang, Kim and Bonn [8] investigated the tendency of Generation Y consumers' preference for green restaurants. In this study, they emphasized that the health-conscious group, which is open to trying new flavors, may be potential customers of green restaurants.

These studies show that customers have become conscious. For this reason restaurant businesses have to change their strategies to enter the green consumer market and take competitive advantage to attract green consumers. As a result, green practices are gaining importance day by day.

2.1 Environment-Friendly Practices at Restaurants

Sustainable environmental practices of restaurants have been studied by various authors under headings such as green or sustainable practices in the relevant literature. Choi and Parsa [9] made their assessment in terms of sustainability and examined the practices in terms of health, environment and social perspective. In the health dimension, the author emphasizes sustainable agriculture and safe food practices. In the environment dimension, he mentions macro environmental factors, environmentally-friendly practices and environmental consciousness social dimension he points out society participation, fair human resource practices and socially responsible marketing. Schubert [10] and Hu et al [6] specified that it is necessary to evaluate energy efficiency and conservation, water efficiency and conservation, recycling and converting waste into fertilizer, sustainable food, biodegradable and organic products, chlorine-free paper products, toxic-free cleaners and chemicals, green energy, green construction and construction materials, and the environmental education issues within the scope of environmental friendly practices. Johnson [11] has noted the importance of food, plastic and paper, energy, and water management issues. Jeong and Jang, [7] have addressed the recycling, converting waste into fertilizer, energy and water efficient equipment, environmentally friendly cleaners, service products and packaging and menu sustainability issues. Freeman [12] has evaluated corporate social responsibility, waste, furniture and equipment, structural design, energy, water, plastic / paper and food topics. And Wang [13] mentioned recycling, converting waste into fertilizer, energy and water efficient supplies, environmentally friendly cleaners, packaging and menu sustainability factors.

It might be concluded that environmentally friendly practices in restaurants have been evaluated differently by many authors but the majority of their evaluations indicate the importance of environmentally friendly practices. Sünnetçioğlu and Yılmaz [14] have evaluated the common points of these studies and summarized practices under the following statements:

- Sustainable building design;
- Use of sustainable furniture and textile materials;
- Water, energy and waste management;
- Corporate social responsibility practices;
- Use of sustainable food and drink.

In order to understand the tangible results of the practices in restaurants and their contribution to sustainability we can examine the following examples in accordance with Bogazici University studies; foodinlife.com.tr [15]:

- It is stated that a daily food waste of restaurants in Istanbul is 2,250 tons (1 restaurant creates 75 kg of waste, the number of restaurants in Istanbul is 30,000).
- To haul daily food waste, 643 garbage trucks must travel 38 571 km; The equivalent of a trip around the World.

Minor changes to the restaurants might contribute to the reduction of waste; foodinlife.com.tr [15]:

- If a restaurant stops using disposable sugar, 250 thousand tons of paper and a thousand tons of sugar can be saved in Istanbul a year.
- If a restaurant serves water with glass carafes, it can save ten thousand glass and plastic bottles a year.
- If a restaurant change plates only when necessary, it can save 15 tons of water per year.
- If a restaurant enables customers to choose the size or garnish of meals, it can prevent 4 tons of food waste a year.

2.2 Eco Labels (Green Certification) in Restaurants

Eco-labelling is a document indicating that a product is environmentally sensitive and environmentally friendly. With this certificate, businesses are encouraged to implement green practices and facilitate necessary innovations. Eco-labeling system is a system involving successful businesses which attain good environmental standards [16]. Thanks to eco-labelling, monitoring and reporting of environmental performance can become more effective. It also reduces the use of resources and reduces the cost of business practices. Moreover, Alagöz states that it constitutes the link between socio-economic issues and environmental protection [17]. According to Çekülvakfı, in ecological certification, it is important to pay attention to the use of sustainable natural resources, ecological transport, food safety and quality, presentation and introduction of local food, local purchasing, and introduction of the area's natural beauty and cultural and historical heritage [18].

Eco-labeling in the tourism sector usually is done with certificate, award or logo applications. In the field of tourism, the first eco-labeling in the world started in Germany with "Blue Angel" and now has exceeded a hundred [16]. These certificates' application fields are generally hotels, natural areas and destinations such as Green Globe 21 and Greenkey at the international level and Green Star at the national level. As for the restaurant sector, a green hotel and restaurant environment award is given by IHRA (International Hotel & Restaurant Association) and there are also certificates which are given by GRA (Green Restaurant Association) and THESRA (The Sustainable Restaurant Association). The Sustainable Restaurant Association has evaluation criteria which consists of 3 dimensions and a total of 14 statements. The social dimension includes ensuring community participation, treating people fairly, healthy food production, responsible marketing. The environmental dimension includes water conservation, workplace resources, supply chain, waste management, energy efficiency. Finally, according to Thesra the resources dimension includes environmentally friendly farming, locality and seasonality, sustainable fishery, animal ethics and products, and fair trade [19]. The Green Restaurant Association has developed an evaluation criteria which consists of 7 fields. These areas are; energy, water, waste, disposables, chemical and pollution reduction, sustainable food, sustainable furniture and construction materials.

3. Methodology

The methodology of the research is qualitative study. The content of the program is aimed to give with descriptive analysis. In this context, we examined green practices of the restaurants and "Green Generation Restaurant Program" in Turkey by analyzing documents and web site of the program within content analysis. Data are obtained through examining the website contents and various interviews in magazines related to the issue by document analysis.

4. Findings

4.1. Eco-labeling in restaurants in turkey: the green generation restaurants movement

The Green Generation Restaurants Movement is a specific certification system of Turkey which aims to make the process more sustainable and lead the transformation in the restaurant industry under the leadership of Bogazici University and WWF-Turkey, in collaboration with Beşiktaş Municipality and TURYID (Tourism Restaurant Investors and Operators Association) and with the support of Unilever Food Solutions yesilnesilrestoran.org [20]. The movement started to provide a conscious understanding of consumption, reduce waste, and increase recycling while reducing and ensureing energy efficiency with the participation of pilot restaurants in Istanbul foodinlife.com.tr [15]. The evaluation is carried out through 95 criteria. Auditing and certification is made by WWF-Turkey. In addition, it is emphasized that due to the bearing WWF logo, the certificate is valid not only in Turkey but also worldwide [21].

4.1.1. Purpose of the Program

The environmental problems which caused the emergence of the program were stated in the website. This movement aims to focus on these problems in order to lead to changes. The environmental problems stated are analyzed in the following topics [20]:

- According to the Living Planet Report published by the WWF,to demonstrate the state of the planet, biodiversity was reduced by 30 percent in the last 40 years on a global scale and our Ecological Footprint will increase further unless humans change their behaviors.
- Ecological Footprint is a method to measure how we depleted our renewable natural resources and it is defined in terms of the number of planets. Today, the world consumes more than 50 percent of resources. That is, we behave as if we had 1,.5 planets. If we do not change our behaviors, this rate will increase rapidly and even two planets will not be enough for us in 2030.
- According to 2011 data, while 1.5 billion of the world's population are obese, 1 billion are undernourished and another 1 billion are on the border of starvation,

- Not considering the environmental impact on consumption and excessive consumption not only prevents equal access to food but also consumes natural resources such as energy, water and air and leads to the emergence of garbage mountains.

Within the framework of all of these issues the Green Restaurant Generation Program highlights its purpose with the following statements: “With the coordination of Bogazici University and WWF-Turkey, the project's purpose is to lead the change focusing on the main issue" (yesilnesilrestoran.org). Apart from these objectives WWF-Turkey General Manager Tolga Başţak states that the other objective of the project is to change consumer behavior and consumption habits in the restaurants [21].

4.1.2. Activities and Criteria

In order to adopt the rating system used abroad the Green Generation Certificate Restaurants criteria were established including the following fields:

- Required energy consumption for food preparation, cooling and the ambience;
- Water consumption for cleaning food and surroundings;
- Food supply;
- Chemical use;
- Wastes which are produced while preparing food and after eating.

Practice areas of restaurants which are evaluated on a total of 95 different criteria are stated more specifically as follows:

- Energy consumption:

Heating, cooling and ventilation systems, Water heating, Lightening, Kitchen utensils, Office equipment, Renewable energy use, Other equipment;

- Water Consumption:

Garden / roof, In the kitchen, In toilets, Other areas;

- Waste management:

Reduce waste, Food, Disposable materials, Office, Recycling and composting, Dangerous waste;

- Reduce chemical use and pollution;
- Using sustainable food;
- Using sustainable furniture and construction materials;
- Communication and education.

4.1.3. Certification Process

Certification process consists of the following steps [20]: First, the restaurants which wants to take this label apply TURYİD. Secondly, WWF-TURKEY determines the situation, provides training and sets for conversion. Then, the end of the audit the certificate is awarded by Bogazici University and WWF-TURKEY. And converted spots will continue to be inspected without notice. Finally through the communication campaign consumers are trained and businesses are encouraged. It is seen that in Figure 1:

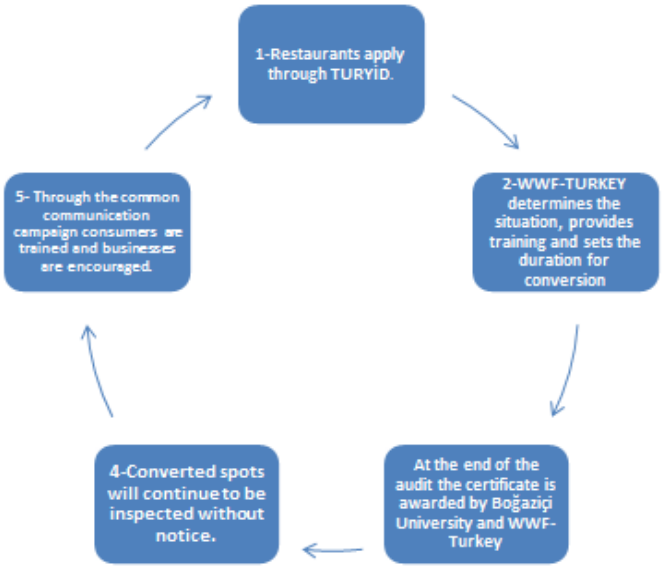

Fig. 1. certification process of Green Generation Restaurants

4.1.4. Members of the Program and Their Practices

A pilot project was initiated with the participation of six restaurants in Istanbul: La Mancha, Frankie, Sunset, Fenix, Tom's Kitchen and Kanyon Kitchenette. As of February 2016 the pilot project still continues with these six restaurants without further participation. The development processes and practices of some of these restaurants following their participation to the program are stated below.

Benefits of the Program

This rating system creates a win-win situation for all stakeholders who perform similar applications in the world. The first benefit of being a Green Generations Restaurant is saving. When restaurants limit the usage of electricity, water, fuel, equipment and supplies they reduce expenditure and save significantly. One Green Generation restaurant involved in the program closed its winter garden and cancelled its gas stoves which led to serious energy savings. [20].

Another benefit of the program is increased recognition and reliability of the restaurants which participate in the family of Green Generation Program. Restaurants which are registered as highly sensitive to the environment improve their reputation and are preferred by customers [20]:

To summarize, the benefits of these applications are:

- Reduction in energy consumption and lower operating costs
- Increasing awareness / reputation in public
- Sector leadership
- Increasing the employees' commitment to work

Frankie Restaurant

Frankie Restaurant owner Ayşem Saracoglu expressed in an interview with a magazine that they have to be responsible for the environmental conditions that they pass down to the next generations. In this respect, she emphasizes that individual sensitivities in our daily lives affect the conscious use of natural resources and showing this sensitivity in business processes can create larger benefits. Some practices in the restaurant: class A+ electronic equipment; the use of hand dryers, waterless urinals, waste grinding machine, bottle crushing machine; 100 % organic tablecloths and napkins; decoration accessories made from recycled materials; serving water in glass bottles; the use of organic local products in the kitchen and digital menu use in wine and bar menus. Apart from this, staff training programs and awareness raising activities were implemented.

La Mancha Restaurant

The restaurant is a member of Soul Group. Asli Pasinli who is the chairwoman of the executive board emphasized that they can change the luxury perception by supporting the project. She stated that a restaurant can be luxurious without a tablecloth and it is not shameful to take leftovers home. She stressed that through the project they became conscious and they were able to see things from different perspectives. Furthermore, she suggested that this process is an "awakening process" for her. Business practices are as follows: serving water with glass jugs, not using disposable sugar, collecting and composting waste separately, giving priority to seasonal products, using an electronic menu, choice of a half-sized portion food, optional garnish, using water-saving armatures, cutting wine bottles to use as glasses, using solar panels to generate electricity, and using glass grinders.

The business manager specified that they enable customers to be aware of the practices and they even cut the bottles in front of the customers and give them the resulting glasses as a present. She also mentioned the high participation level of the staff.

Sunset Restaurant

Restaurant owner Barış Tansever stated that he has learned restaurants can contribute a great deal to nature with environmental practices. Tansever stressed that staff pay more attention to every step and they also share this awareness with customers.

The following practices are carried out within the project framework: obtaining energy from renewable energy, using online fax and toner saving software, using efficient fixtures, giving the bread leftovers to animal shelters, collecting food leftovers separately for composting, using environmental friendly disinfectant for fruit and vegetables, offering optional garnish choice, offering the choice of packaging the leftover food.

Result and discussion

Because of the increasing importance of sustainability and environmental awareness nowadays, it seems that businesses in the tourism sector perform environmentally friendly practices in order to take cost advantage or competitive advantage. Non-governmental organizations and government agencies are also tend to encourage

environmentally friendly practices and businesses also request support from these institutions for their environmental practices. With the eco-certification systems, environmentally friendly green practices are becoming standardized and companies are supported for creating a positive image.

It is seen that NGOs such as Sustainable Restaurant Association (UK) and the Green Restaurant Association (USA) have been carrying out these practices for a long time. Sünnetçioğlu and Yılmaz [14] stated that there is a lack of such associations in Turkey, therefore, in the context of providing information and training for businesses and the certification of these practices, it is of vital importance to ensure and support the establishment of industry-specific associations.

Finally an association called Green Generation Restaurant Association was founded in Turkey. According to information provided by the owners of member restaurants, this program implements very important practices and business owners, staff, and consumers are also informed. There are around 450 registered members of this association in the USA (Green Restaurant Association) [22] and the UK-based THESRA (Sustainable Restaurant Association) has more than 4,000 members as of 2015 [23]. However, just 6 restaurants are members of the Green Restaurant Generation Program which aims to reach 100 restaurants in 2015. Although it has been a year since the beginning of the certification program there are no new members. While the number of green stars awarded by the Ministry of Culture and Tourism is rising day by day in the hotel business, the restaurant industry has not reached the expected figures yet. Various reasons might have led to this situation: Restaurants' not paying attention to certification, executives' failure to promote the program appropriately or lack of government involvement in the project can be counted among these reasons. It is planned to investigate these reasons to solve the problems and disseminate the program across Turkey as in the world. For this reason, it is of vital importance to provide support from the government and other organizations.

On the other hand this program has an educative function of both the business and for consumers. However, when the related restaurant websites are examined, there is no information regarding green practices. Whereas it is important to inform the consumers about the practices to create a positive image for businesses using a text like "This establishment is a member to the Green Generation Restaurant Program" or any logo about the certificate may contribute to the image of the restaurant. In this context, the reasons for the businesses' not using such practices require further study.

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Towards a better understanding of quality concepts and issues in higher education

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Abstract

In order to ensure effectiveness and efficiency of higher education for improving the performance and quality of individuals, organizations and societies, the quality topic should be approached seriously and professionally. Quality in higher education is a complex subject, with many ways of interpreting quality, and many theories, models and performance indicators used to try to quantify and evaluate the quality. One way of looking at the question of quality, especially of public institutions, is to ask whether they are 'fit for purpose'. That, however, simply moves the question somewhere else, rather than answering it. Does a large organization like a university have a single purpose? Is the purpose of a university constant over time? And whose purpose is important in assessing quality? The answers to all of these questions are contested, and it is possible, though probably fruitless, to spend a great deal of time defining the purpose of the higher education institutions and their quality. Therefore, the goal of the article is to show a theoretical approach regarding how quality can differently be treated and achieved in higher education institutions.

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Keywords: quality, higher education, stakeholder expectations, quality assurance, benchmarking.

1. Introduction

One of the key challenges of European higher education policy in recent decades has been to link university operations more firmly with society's expectations [1].

Quality is the main factor in all forms of education and learning so that education could be considered as the main driver for the development of people, organizations and societies [2]. Education should always be examined in connection with its main output, learning. However, in addition to the learners, educational organizations have many other interested parties that must be taken into account in the quality considerations. Education takes place in the formal, non-formal and informal ways [3], and learning is related to individuals, organizations, and societies as a whole [4]. While it is impossible to ignore the overall nature of the institution, and what the funders, politicians, academics and international observers think on the purpose(s) of universities, the success of educational institutions ultimately depends on the impact that they have on a diverse group of individual students. We might start to address the question of quality in higher education, therefore, by looking at the demand from students, which, worldwide, would appear to indicate that higher education is of high quality, and on a continuous upward trend. Benchmarking is used to cover at least three distinct practices. Two of those might be described as pursuing 'good practice' and pursuing 'best practice'.

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Globally recognized quality concepts, principles and methodologies have been developed during more than a hundred years by the quality professionals, and they also are internationally standardized [5] and practiced in the most countries and used in millions of different organizations. But it would probably not be hard to get a consensus around the proposition that higher education institutions should aim for high quality in both their teaching and their research. But it is much harder to identify what quality actually is, how it can be recognized and how it can be measured. This is illustrated by the fact that some of the key policy documents on quality assurance for higher education institutions go into great detail about the process by which quality should be assured without ever once saying what actually constitutes 'quality'. For example, the Standards and Guidelines for Quality Assurance in the European Higher Education Area issued by the European Association for Quality Assurance in Higher Education in 2005 makes no attempt to define, describe or identify quality criteria. On its website, the British Quality Assurance Agency (QAA) does purport to define 'quality', thus:

'Academic quality is a way of describing how well the learning opportunities available to students help them to achieve their award. It is about making sure that appropriate and effective teaching, support, assessment and learning opportunities are provided for them.'

But is that actually a definition of anything? Is quality a 'way of describing' anything? It seems strange that a whole industry dedicated to monitoring and improving quality seems to have no advice to offer as to what 'quality' actually is. The problem with this is that if your excellence is – publicly – going to be measured on the basis of how satisfied people are with your processes, then you had better have comprehensive processes and stringent monitoring. This implies the concept that quality assurance is about process, whereas it should be obvious that quality is about content and intellectual innovation. If we are serious about having a high quality of higher education system, then we have to start asking questions about content, avoiding the risk of suggesting that there is one standard way of measuring this. The goal of the article is to show a theoretical approach regarding how quality can differently be treated and achieved in higher education institutions. The research methods used: comparative and logical analysis and interpretation of literature, generalization method.

2. Functions of higher education

Today, higher education, have come to be seen as an integral part of the modern economy. In that process of moving from elite to a mass system of higher education, there has been an inevitable shift in the supposed purpose of higher education, and a change in the connection with society at large. These shifts in what we would today call the 'mission' of higher education have taken place at different times, to different extents and in different ways in different countries, but it is nevertheless possible to speak of universal trends.

Once, a major function of the higher education was to be the critic of society. Protected from the unfortunate consequences of 'speaking truth to power', the higher education could provide a necessary stimulus for reform and advancement. A second function was to be a source of practical knowledge. And a third function of the higher education was to provide a qualified workforce to staff the machinery of society and to meet the need for educated public servants. For example, lawyers should be well versed in the legal framework and help to resolve disputes in a way that is equitable and promotes the smooth running of society. In the modern state, however, even this process is complicated by the fact that higher education institution prepared graduates occupy key positions in the body politic and / or exercise considerable economic power. Such political power and economic power can in turn be exercised, hopefully benevolently, by alumni, possibly coordinated through alumni organizations, and this provides a further feedback loop (and source of pressure) on the university from external sources.

At different times and in different places higher education have had different purposes. And this is not simply a question of mission. New purposes have been added, laid down on top of existing purposes, interpreted through the lens of earlier purposes, and providing the foundation for later purposes.

3. Challenges of higher education policy and stakeholders' expectations

One of the key challenges of European higher education policy in recent decades has been to link university operations more firmly with society's expectations [6]. External evaluation of higher education is one of the mechanisms through which society's expectations are communicated to universities and by which the fulfillment thereof is assessed. At the same time, these are not uniform expectations; different actors with their own distinct positions can be distinguished. The research was built on Clark's [7] 'triangle of coordination,' modified by Burke who created a triangular model of state priorities, market forces and academic concerns and named it the 'accountability triangle' [8]. This model defines the main actors in higher education as follows:

- 'State' represents the government, including state governments, ministries as well as ministerial officers and local governments [9].

- 'Academia' or 'academic oligarchy' is defined as representatives of the academic community: professors, lecturers, deans, directors of institutes, as well as top managers of institutions.
- 'Market' is seen as students and their families, as well as potential employers of the graduates [9; 8; 10; 11].

Various scholars have started discussions on how higher education institutions as well as external quality assurance schemes should simultaneously meet the expectations of the state, professional communities (academia) and market forces [8; 11]. These discussions show that, as a rule, the interpretations and desires of different parties are not so explicit and at times they may even be contradictory. The vagueness of expectations of different stakeholder groups puts higher education quality assurance agencies in a difficult position. They need to base their activities on the principle that 'responding to state priorities, academic concerns and market forces offers a challenge, not a choice, for higher education. Colleges and universities, private and public, must serve all but submit to none of these imperatives' [12]. However, as state priorities, academic concerns and market forces are only vaguely defined and, as a rule, cannot be reduced to measurable parameters [9].

The analysis in this article is based on Blackmur's [13] idea that 'quality' is not a unidimensional concept and therefore it is more appropriate to talk about 'qualities' because 'quality' is a list rather than a continuum, having different meanings for different audiences. The quality characteristics can be roughly divided into following factors [10; 14]:

- inputs: for example, admission requirements, staff numbers and their qualifications, student selectivity rates, staff–student ratios, funding (per student), facilities (per student), number of study programs, planned student qualifications;
- processes: for example, a strategic mission, institutional purposes and educational objectives, correspondence of educational objectives/learning outcomes to qualification-level descriptors, curriculum and student learning assessment development, programmed and real study duration, study load, student support, the presence of effective internal feedback procedures, student feedback on course delivery, alumni feedback on strong and weak points of the study program from the point of view of their early career;
- outputs: for example, graduates' knowledge, skills and competences; graduation rates/drop-outs; time to degree; employment rates (in relevant job sectors).

In sum, input can be generalized as resources (both human and material) available at the beginning of a process. The process means (inter)action(s) during which inputs are transferred to outputs. Output can be considered as the result of the process.

4. The implementation of quality assurance and evaluation in higher education

The implementation of formal, externally focused, quality assurance mechanisms within higher education internationally is comparatively recent [15; 16; 17; 18; 19], for example having commenced in the United Kingdom in the early 1990s and spreading quickly elsewhere including within Commonwealth nations such as Australia [20; 21; 22; 23; 24]. Quality assurance involves the collection of data against 'defined criteria' enabling comparative reporting and judgement [25]. It was arguably designed by the state to address perceived risks associated with higher education by ensuring external accountability [26; 27; 28; 29] as a component of managerialism (also known as new public management), which aimed to improve the management and accountability of universities by exposing them to international markets and market forces [20; 22; 23; 24]. Quality assurance is therefore a primary strategy for government steering of higher education [22; 35; 38]. However, it has also been argued that quality assurance is a manifestation of the audit culture [30] and a régime of power [19; 28] because in specifying what is to be monitored, quality assurance processes define 'quality and performance' [29] and influence the allocation of scarce resources both to and within higher education institutions.

UNESCO's new global vision for education towards 2030 [31] declares: "Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all". This strong commitment to the quality of education and improving learning outputs also emphasizes the need for the consistent evaluation and mechanisms to measure progress. The prevailing evaluation practices are fragmented and inconsistent in the sector of education. Many organizations have developed their own different models for considering the quality of educational organizations and systems and the quality of learning, which are used at different educational levels nationally and internationally [4]. Many of these models also refer to quality and consider evaluation aspects:

- The American Baldrige excellence framework (Education) and the European EFQM excellence model [32];
- The Bologna process: Approach to ensure comparability in the standards and quality of higher education qualifications and university quality assurance;
- ISO standardization: ISO/PC 288 on the educational organizations management systems (ISO 21001) (will supercede ISO 29990:2010, ISO/IEC CD 36001, ISO/WD 18420)

• PHExcel: A European study on quality tools for higher education review and improvement [33];
• Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) [6];
• Various international and national assessments, classifications, and quality awards, related to universities, polytechnics, colleges, vocational schools, and educational programs.

In these approaches education, quality and evaluation are looked through a variety of lenses that causes confusions and raises critical questions:
• What is the purpose of the evaluations?
• What is the scope of the evaluations with regard to educational and quality aspects? The approaches range from very narrow and detailed to comprehensive, and some even are superficial.
• How is the quality concept understood?
• Who does perform the evaluation and whose interest is considered?
• How and for what are the evaluation results used?
• What are the effectiveness and efficiency of the evaluations?
• What are the consequences of wrong, insufficient or incorrectly directed evaluations?

Comparative research on the impact of quality assurance within higher education appears relatively scarce with much of the existing empirical data deriving from single-institution case studies analyzing the effect on teaching and learning and on academic staff [34]. Moreover, although it is argued that quality assurance is a form of governance [19], there is a dearth of research on the impact of quality assurance processes on academic governance within universities.

5. Benchmarking and performance indicators

One of the developments that follow from the ready availability of publicly accessible performance indicators is benchmarking. Originally a benchmark was a surveyors' mark that was used as a reference point in subsequent surveying exercises. So, for example, having established that a specific location was a certain height above sea level, the surveyors would carve a datum line into a convenient piece of rock, so that subsequent surveys need not go back and start again at the beginning, but could begin from the benchmark, confident that they knew how high above sea level that mark was. 'Benchmarking' has thus become a metaphor for a family of activities that are loosely connected with standards, comparisons and measurements [36]. Benchmarking is used to cover at least three distinct practices. Two of those might be described as pursuing 'good practice' and pursuing 'best practice'. Benchmarking against best practice is a process of establishing how our institution compares with the best in the field, to find out how our performance measures compare with those of others. Benchmarking against good practice involves a comparison with an institution that is in many ways similar to our own, with the intention of finding out, in some detail, how they do things, and whether we might learn anything from them.

Benchmarking against best practice involves a focus on outcomes: benchmarking against good practice involves a focus on process. To go back, for one last time to the surveying metaphor, the map-making surveyor is interested in the triangulation points on top of all the hilltops, the highest points, in order to be able to map the countryside better. The surveyor for a railway contractor has no interest in the highest ground, but is simply interested in the relative difference of height of two points, and the amount of earth that needs to be moved to create a smooth grade between them.

Needless to say, most people do not distinguish between 'good practice' approaches and 'best practice' approaches, but talk about them as though the terms were synonymous, or lump them together in an ill-defined bundle of measures. Thus, the UK government offers the following definition of benchmarking:

Benchmarking helps to improve process effectiveness, product quality and service delivery. It enables an organization to compare their existing performance and approach to others, and identify elements that can be adopted and adapted in their business context. Benchmarking enables organizations to compare and improve themselves and prompt innovation.

Although benchmarking is widely used, it not a precise science and there are many different approaches - ranging from models of quality measurement to basic comparison undertaken on a pragmatic basis. It is often necessary to tailor an approach that provides a sustainable method of benchmarking in view of the organizational goals and business needs [37].

Benchmarking against best practice is a perfectly legitimate process, but it should be the starting point of a discussion, not the end point. Benchmarking against good practice is about quality improvement rather than quality assurance. It involves looking at the processes which are being used by others who have similar purposes, and seeing whether, and how, improvements might be adopted and adapted in order to improve the processes that we are using. This is very much in line with the approach to quality advanced within ISO 9000 in relation to educational institutions [39], which emphasizes that a process orientation to quality is a basic principle:

Process approach: educational organizations should adopt a process approach when developing and implementing a quality management system. The organization should identify the degree to which each operational process creates learner value. For this reason it should include the processes related to the aim of the organization. Understanding interactions among processes is important for the educational organization to improve processes while balancing the system at large.

There remains a fairly strong, and unfortunate, use of language that stresses business values in the International Organization for Standardization (ISO) literature, even when there is a specific effort to transfer from a business context to an educational context. For example, the International Workshop Agreement on applying the ISO 9000 standard to educational institutions states: "Educational organizations typically provide a service that is intangible, not storable, and consumed during delivery [39]. The process orientation to quality management of the ISO can be contrasted with the widespread use of output performance measures in education. The applications of output measures include formula funding and quality assurance applications by governments and league table construction by publishers.

6. Conclusions

What has been shown through the discussion of various aspects of quality in higher education is that education as a whole, but perhaps higher education in particular, defies simple description as a 'product'. It is partly a private good, partly a public good, and partly a positional good. It is partly investment, in the sense that it develops the person to play an active economic role in society. At the same time it is partly consumption, providing pleasure and fulfilment, and in many cases serving as an end in itself. It makes people more productive, but at the same time it provides multiple ways of signaling to other people in society aspects of ourselves that are not directly affected by formal education.

In order to ensure effectiveness and efficiency of the education for improving the performance and quality of individuals, organizations and societies, the quality topic should be approached seriously and professionally, i.e. consider quality in education and learning evaluations in the professional way, especially recognizing the real genuine needs and expectations; understand the general metrological principles of measurements and evaluations; ensure the suitable evaluation methodology; make clear what to do with the evaluation results for improving quality of the individuals, organizations and the society; reveal the problems and risks with regard to the quality of education and learning.

Higher education cannot be managed and controlled as though it were a production process and attempts to do so can only distract people from the real quality issues. Since higher education is happening in the personal lives of individuals in lecture halls and seminar rooms, corridors and coffee bars all around the world, the only way to ensure that the process embodies a commitment to quality is to encourage a commitment to quality enhancement among all individuals involved, whether they are students or librarians, janitors or professors, and to acknowledge that each person needs to be given the scope to make their contribution in their own specific way. This is not a plea for an abstract principle, such as academic freedom, but a recognition that learning situations are complex self-regulating situations and need to be nurtured in ways that are not captured in metaphors of delivery and the application of external standards.

All of us who work in universities have a responsibility to understand the history and traditions of the institutions that we work in, not so that we should be bound by those traditions, but so that we can respond appropriately to shaping and changing them, and making sure that universities make the best contribution they can to the societies that support and maintain them. Ignorance of those traditions may not only lead to the discarding of aspects that are valuable, but may lead to the freezing or over-simplification of issues that need revision over time.

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Towards a Framework for Case Study Research: Methodology and Practical Implementation

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Abstract

The paper presents an in-depth scientific discussion on the topic related to improvement of effective academic research and obtaining of better research results. One of the basic methodological standpoints in the area of social phenomena - methodology of social sciences' research was analyzed. The Theoretical Framework of Qualitative Research Design and possible ways to enhance it using a Case Study Approach were discussed. The author also illustrates the methodology with practical examples, as well as presents a Case Study (based on a qualitative research methodology). Recommendations for research and business practices in the researched area are proposed. This article is the result of the evaluation of theoretical approaches to the enterprise performance measurement and it takes into account the empirical findings obtained on the basis of the primary research as well.

Paper relevance: In the paper, scientific summaries are based on theoretical and research results and invite to a further scientific discussion. The material of the research is intended for the audience, interested in management science and may also be used as a source of scientific knowledge for studies of Master and Doctor Degree. The paper presents a Design of Qualitative Research in the area of understanding a modern social phenomenon - Change Management. This point will be useful when discussing the Research Methodology for Business and Management Studies.

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Keywords: research and development; change management; qualitative research design, case study.

1. Introduction

The analysis of the social phenomenon provides the scientific problem, novelty and relevance of the research.

One of main areas of organizational change management research is the analysis of how it changes the environment and the organization itself, and finding the effect on the change outcomes.

The paper discusses a conceptual issue – manifestation of the Change Management in an organization for implementing the strategy and methodology of Qualitative research. The insights into this topic reveal that the change has been approached from various perspectives. Seeking to obtain a deeper overview of the change management discipline the author has focused on the main methodological construct and research design that help in understanding the main dimensions of this social phenomenon and drawing relationships between the changes alongside applying the case study method.

The author uses the comparative analysis (theoretical and practical) and descriptive methods of research to address the research questions posed on explaining the cases.

The methodology of the paper is based on systemic analysis of academic literature exploring relevant issues and linking them with practical context.

The main idea of this paper is to develop reflection on Organizational Change Management field guide in identifying the key elements for designing and implementing qualitative case study research projects.

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To sum up, Organizational Change is a complex phenomenon. In this respect, it is important to underline the need to provide a framework for case study research. Using this construct as the main instrument, the examples of qualitative research design were selected.

2. **Theoretical Framework of Qualitative Case Study Methodology: How to Explain the Understanding of Organizational Change Management?**

The main theoretical and practical evidence exists supporting the proposition of Qualitative Case Study methodology which provides the tools for researchers to study complex phenomena within their contexts [1]. Furthermore, "when the approach is applied correctly, it becomes a valuable method for science research for writing the research questions, developing propositions, determining the "case" under study, binding the case and a discussion of data sources and triangulation"[1].

A qualitative case study is an approach to research that facilitates exploration of a phenomenon within its context using a variety of data sources [2,1]. The qualitative research conceptualizes the research object, which is based by the research data obtained [3].

Overview of academic literature and research suggests that systematization of qualitative analysis results from the researcher using a principal map to discuss on change management in an organization (understanding the experience of people when implementing and managing changes; the attention is therefore devoted to the interpretations and assessments of processes, to get outcomes). According to Walker [4] discussing on factors influencing organizational change success, changes may be spurred by external and internal factors. The basic qualitative analysis consists of the mapping, and integration of factors common to all change efforts, i.e. content, context, process and individual differences. Moreover, it elaborates on how these factors interact to influence the change success.

Jacobs [5] summed up the perspective on organizational change management at micro, meso and macro perspective and constructed a unified framework of organizational change (Fig. 1).

The insights into this social phenomenon reveal that the most viable methodological approach in the cognition of change management in an organization is to construct a qualitative strategy of the research.

The qualities of change management are made obvious by comprehending the interdependencies. Furthermore authors postulated that for the change management in an organization of the research, exploratory and descriptive research approaches of a qualitative nature are invoked [6-8].

Another case study invoked the research and has a specific methodological feature that the analysis comprises each individual – different case [9].

Yin in the book "Case Study Research Design and Methods" sought to encourage the formation of better case study research. As such, the book is thorough in explaining the "how" and "when" to use a case study as a research methodology. Yin in his book reaffirms that case study as research is established firmly as a methodology well within the parameters of modern qualitative social science methodologies [10].

Daughtery has a brief discussion about this book and proposes the main suggestion: "The attempt to include and use new techniques and guidance is to support the goal which is to (a) guide and encourage rigor in case study research, (b) provide ample access to published case studies, (c) demonstrate how case study research methodology is advancing, (d) define the case and the substance of a case, (e) address mixed methods research, and (f) note the importance of human subject protection" [11].

When should you use a case study approach?

A case study design should be considered when: a) the focus on the study is to answer "how?" and "why?" questions; b) you cannot manipulate the behavior of those involved in the study, c) you want to cover the contextual conditions because you believe they are relevant to the phenomenon under study; or d) the boundaries are not clear between the phenomenon and context. While you are considering what your research question will be, you must also consider what the case is [10].

Some authors categorize case studies as: explanatory, exploratory, descriptive, single, holistic and multiple-case studies [2]. Other authors expanded the Case Study structuring on new aspects as: intrinsic, instrumental, and collective (see Table 1) [1].

The authors concluded that there are two key approaches that guide case study methodology [1]; one proposed by Stake [12] and the second by Yin [2,10]. Baxter and Jack (2008) in their research have focused on the discussion about the case study methodology and asserted that different approaches that guide the case study methodology seek to ensure that the topic of interest is well explored, and that the essence of the phenomenon is revealed, but the methods that they each employ are quite different and are worthy of discussion. The researchers base their approach to case study on a constructivist paradigm [1].

While you are considering what your research question will be, you must also consider what the case is.

Asking yourself the following questions can help to determine what your case is; do I want to "analyze" the individual? Do I want to "analyze" a program? Do I want to "analyze" the process? Do I want to "analyze" the difference between organizations? Answering these questions along with talking with a colleague can be effective strategies to further delineate your case [1].

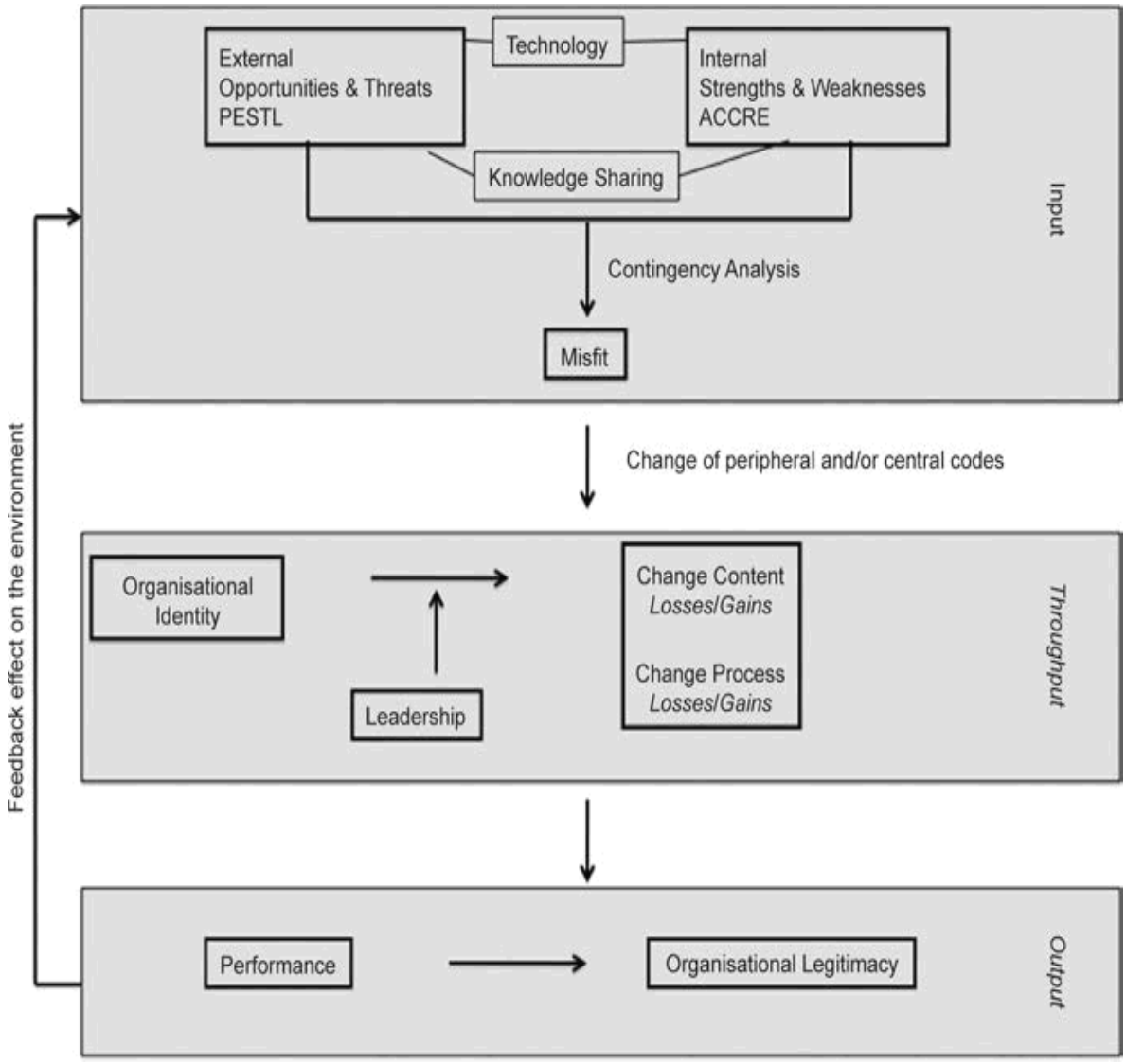

Fig. 1. A unified framework of organizational change [5].

Table 1. Definitions of Different Types of Case Studies (adopted from Baxter and Jack, 2008).

Explanatory	Would be used if you were seeking to answer a question that sought ***to explain the presumed causal links in real life***, which are too complex for the survey or experimental strategies.
Exploratory	Is used ***to explore those situations*** in which the intervention being evaluated has no clear, single set of outcomes.
Descriptive	Is ***used to describe an intervention or phenomenon*** and the real-life context in which it occurred
Multiple-case studies	***To explore differences within and between cases.*** The goal ***is to replicate findings across cases.*** Seeing that comparisons will be drawn, it is imperative that the cases are chosen carefully so that the researcher can predict similar results across cases, or predict contrasting results based on a theory.
Intrinsic	Researchers who have a genuine interest in the case should use this approach when the intent is ***to better understand the case.*** It is not undertaken primarily because the case represents other cases or because it illustrates a particular trait or problem, but because in all its particularity and ordinariness, the case itself is of interest.
Instrumental	**To accomplish something other than understanding a particular situation**. It provides insight into an issue or helps to refine a theory. The case is of secondary interest; it plays a supportive role, facilitating our understanding of something else. The case is often looked at in depth, its contexts scrutinized, its ordinary activities detailed, and because it helps the researcher pursue the external interest. The case may or may not be seen as typical of other cases.
Collective	Collective case studies ***are similar in nature and description to multiple case studies***.

Developing Case Study examples reflected to research question. In order to avoid this problem, suggestions on how to bind a case include: (a) by time and place [13]; (b) time and activity [12]; and (c) by definition and context [14]. Choosing the case will ensure that your study remains sensible in research scope.

3. **Research Findings Regarding Case Study: Some Experiences**

Researching and methodological choice has demonstrated the nature of mono, multi and mixed methods' application to the analysis of social phenomena. The importance of researcher's views on the nature of knowledge, meaningful data, and the overall purpose of research can help the novice researchers to construct more detail methodology of their own research [15]. Based on this methodological position, a case study is the unbeatable way allowing applying mixed (qualitative and quantitative) methods. Looking at the gap of scientific research (the analysis of various aspects) the methodology was constructed seeking to highlight the analysis of change management in an organization in order to show the applications and examples of different case studies.

Follow the example: in order to prepare the business assurance strategy identifying the business continuity process [20] and managing changes we have analyzed ***multiple-case studies*** (this type enables the researchers to explore differences within and between 3 cases and was applied to show the special characteristics of change implementation and seeking for business continuity assurance in different industrial companies. The goal is to replicate findings across cases. This attitude helps to construct the business continuity strategy in the area of organizational change management. Cases were selected applying availability sampling stages of the Lithuanian Business Map, considering the fact that these industrial companies have been implementing changes over the last 4 years particularly successfully and demonstrated the highest results in the international market. This type of case study method helps to draw comparisons and predict similar results across cases (seeking to describe different situations arising in industrial companies: when the situation management required initiating changes in the company in order to identify the strategic direction of changes, the companies make the decision concerning radical changes to ensure uninterrupted business processes and to minimize the losses sustained [10]. In the course of analysis of crises, primary sources of information were examined (internal documents, internal regulations, strategic plans of organizations) as well as secondary sources of information (articles in press and news, online dailies and information in the companies' websites). Data were analyzed employing deductive and inductive content analyses. Multiple - case studies allowed to verify the data/apply triangulation: 2+ independent data sources or collection methods to corroborate research findings within studies and observation; facilitation: 1 data collection method to aid research using collection methods within cases selection; generalizability: independent source of data to contextualize main study+ broader context of other studies.

Another example, leading the ***instrumental case study*** in the research was taken seeking to analyze the changing attitude towards the change communication of public sector organizations. The main attention has been paid to the subjective interpretation of events and circumstances by the informants and changes communication process. It provides knowledge for the analysis of a communication phenomenon, its conceptualization and the construction of research criteria. The substantive questions of research were presented: what strategic change directions are identified in the investigated public organization? How changes are being communicated in this organization? What are the channels, the audience of change communication?

Baxter [1], based on Stake [12], have stated that the instrumental case study is used to accomplish something other than understanding a particular situation. It provides insight into an issue or helps to refine a theory. It plays a supportive role, facilitating our understanding of something else. The case is often looked at in depth; its contexts scrutinized, its ordinary activities detailed, and because it helps the researchers pursue the external interest.

Consequently applying this type of case study in the research has examined how to strengthen the communication of changes externally as well as the public organizations' image and reputation. The external field analysis carried out is discussed with the public, getting feedback from the society.

Descriptive type of case study is used to describe an intervention or phenomenon and the real-life context in which it occurred [2]. This type of case study can be taken in the research seeking to investigate the scientific problem; it requires defining changes in the field of a single organization, identifying and verifying empirical dimensions, which reflect the changes and elements of the organization.

Descriptive case study has served to identify the organization's weaknesses with important to get implications for change outcomes and helps to prepare precautionary issues following changes in the process of change management in an organization.

Baxter [1], based on Stake [12], claimed that ***an intrinsic case study*** can be taken to have a genuine interest in the case and researchers should use this approach when the interest is to better understand the case.

Once you have to take a single holistic picture carrying out the change management in an organization, you can prefer an intrinsic case study. Following this methodological attitude, it is possible to analyze change management in an organization, in order to strengthen its social responsibility. This simply means that you have an intrinsic interest in the subject. Valackienė [16] illustrates a practical example, as well as presents an intrinsic case study (based on a qualitative research) how a certain enterprise follows the principles of social

responsibility, how CSR Strategy was constructed and eventually implemented. According to social responsibility standards [17; 19], it is possible to define the organization's social responsibility, and to assess the social responsibility of the practical significance of the selected organization, which implements the changes. In addition, when applying this type of case study, we do not seek to present generalized suggestions for all other organizations that encounter social responsibility in change implementation process.

In this way, using the intrinsic case study it is possible to answer the questions that have arisen from the analysis of and reflection on previous data and it helps to reveal an organization's social responsibility commitments implementing the changes outside and enables an organization to demonstrate the best practices to help organizations to develop guidelines for strengthening social responsibility [18]. Practical value under discussion: guidelines for social responsibility strengthening could be emulated by other organizations.

The main idea of the research carried out: institutionalization of changes in an organization and results of social responsibility are obtained.

Exploratory and ***Explanatory*** types of case study can be applied to the initial research stage. The choice depends on the research question and estimated area of analysis. This methodology evaluates the critical elements, which could influence the success of change realization of future investigations.

4. **Closing remarks and discussion**

Overview of academic literature and research experiences discussed highlighted the importance of interdisciplinary dialog on change management in an organization. It can help to create new scientific insights, disclose the concept of change management in a modern organization and formulate new methodological criteria of the various directions of research in the area of organizational change management (from the micro, meso and macro perspective).

Summing up the idea that organizational change is a complex phenomenon; the paper focuses on analysis of research methodology on organizational changes. In a more detail overview practical application of CASE STUDY is discussed as well as illustrations illustrate seeking to put the theoretical framework into the research practice. Using this construct as a main instrument, examples of qualitative research design and different types of case studies were selected.

It can be suggested that for systematization of qualitative analysis results the researcher should use a principal map to justify the change management in an organization: understand the experience of employee when implementing and managing changes; the attention is therefore devoted to the interpretations and assessments of processes, to get outcomes; to depict the peculiarities of organizational communication during changes; to construct the strategy of business continuity management; to strengthen its social responsibility; to integrate factors common to all change efforts, i.e. content, context, process and individual differences. It also depicted that findings of case study enabled recognize and determine a new direction of changes in an organization.

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Relative to Clusters Inter-organizational systems comparison: Case for Industrial sector performance

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Abstract

By drawing up the concept of Clusters approach, the Inter-organizational systems still are applied properly in Industrial sectors performance. Thus inspire to analyze Strategic Alliances, Networks and Partnerships and focus on improvement of working Cluster concept as well as to perform inter-organizational capabilities competitive scope. Paper also presents comparison analysis on main vital Inter-organizational systems concepts, and under draw main different characteristics and principles of acting areas along each.

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Keywords: cluster; strategic alliance; network; partnership; industry.

1. Introduction

The effect of global economic processes have become increasingly important for cross-organizational business systems communications - the relative period of the existing human capital, information, technology and other resource flows, networks and related business transactions between two or more companies and (or) organizations.

Structured cooperation opportunities identification aspirations and use as well as the development of enterprises can be attributed to companies that develop formal cooperation with other market participants, which could provide access to essential resources, expertise, knowledge and legitimacy [1], [2]. Strategic management specialists advise that the correct choice of partner is a key factor in the success of strategic cooperation [3], [4], [5]. Despite of many scientific studies relating to the partner selection criteria [6], [7], [8], there are still many gaps in the knowledge flow. Factors related to the partner selection process and expectations are insufficiently researched and evaluated.

There are various inter-organizational form compounds, met in Industrial sectors organizations performance practices. Some off these are the closest to the cluster concept and the content: strategic alliances, organizational networks and partnerships.

The purpose of this Paper – to define the main performance features and compare with Cluster concept other Inter-organizational cooperation systems: Strategic Alliances, Networks and Partnerships.

Methods of research. The following methods have been applied in order to achieve the purpose of the scientific research presented in this Paper: systemic and comparative analysis and synthesis of scientific literature as well as strategic documents and legislation.

Limitation of research: this Paper focuses on Clusters, Strategic Alliances, Networks and Partnerships analysis, but do not consider deeper insights of other Inter-organizational systems, such as Commercial

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Agreements, partnerships along Value chain, Associations, etc. Thus, the conclusions are made only provided analysis on chosen research objects.

2. Inter-organizational systems: main principles of acting

With increasing globalization of markets, Industrial sector's small and medium-sized enterprises cooperation between is increasingly intensifying. International industrial corporations are investing a lot of money into the supply chain and thus drastically reduce the manufacturing cost, so organizations have to focus more on cooperation strengthening processes and types they fit best.

Individual industrial companies may not be perfect in all areas. They must specialize and learn to combine their resources and skills with other companies and organizations. Cooperation consists of possible joint work points of identification, a suitable climate for the establishment and the start of commercial operations.

Most of cases there are various inter-organizational form compounds, met in Industrial sectors organizations performance practices. Some off these are the closest to cluster concept, which has been getting most of researchers' attention and subject for cost-effectiveness performance analysis. However strategic alliances, networks and partnerships as options for Inter-organizational systems choices also could be negotiated in accordance with them competence areas and competitive features as well.

2.1. Strategic Alliances: right partner and performance outcomes

If company decides to strengthen cooperation on the formal agreement, which is based on strategic intent and purposes, this is such an agreement may be referred to as Strategic Alliance. Thus, the Alliance is a close, cooperative relationship between two or more companies, intending to pursue mutually compatible goals that they would be difficult to achieve separately [9]. The most important element of the communication in the Strategic Alliance is that partners agree on joint activities and prospects of seeing them equally. Alliance organizations operating characteristic activities of splitting the activities of the Alliance of "inside" and "outside" and the following symptoms: usually it is a high-tech business in mergers, usually alliance communication occurs in the same or in related industries; alliances are more focused on performance outcomes rather than the process of collaboration. This type is characterized by mergers longer pre-negotiating phase of cooperation at the beginning, and the same coupling of the negotiation process is validated at the end of contracts. Alliances are often of limited duration organizations merging specific activities to achieve the objective.

Content (activity) in terms of alliances has many features in common with the cluster. However, on an organizational point of view, one of the main differences between the alliances and clusters is that the cluster of companies usually are not formalized (or much less formalized) as it is in the alliance.

Given the dynamic merging of strategic alliances prospects insights [10], [4], [8], it is necessary to analyze when and how the organization chooses Industrial alliance partner, according to the Industrial sector in the development cycle. Following the insights according to the resource-oriented enterprise approach to competence-based perspective, Geringer [11] selection criteria for the classification of the trust theory, shipping and shipbuilding, the cyclical nature of the theory, there are two surveys on topical issues:

- What are the criteria used by the Industrial organizations when choosing its partners to strategic alliance?
- How to Industrial organizations choose partners for cooperation with each other?
- Does the cyclicality of the industry's development have an impact on the partner selection criteria?

Many of the studies are focused on the process and criteria for the selection of a "right" partner [11], [12], [13], [14]. Partner selection studies are focused on the reasons that lead companies to seek membership in the Alliance [15] and the motives could be influenced by the selection criteria for partner evaluation stage. Specific selection criteria can be used to orient the qualitative evaluation and selection of potential partners. Dynamic alliance partner selection process, according to the following criteria may be as follows: (1) The need to align the company and their objectives; (2) Identification of the criteria for selecting the complex, which can be used to assess each potential partner; (3) Identification of potential, taking into account the potential industries and partners; (4) Tool to evaluate the use of a suitable partner selection [8]. For companies seeking to internationalize in partner selection aspects may be related to the selection of the market aspects [6]. Enterprises can systematically review the market and to identify the best potential partners [16]. Thus, the Alliance of the type of project may result in the partner selection process, the importance of trust, commitment, complementarity of resources, and a financial settlement may vary depending on the content of the Alliance of management changes [4].

Both, quantitative and qualitative methods are used to identify the right business partner entering to Strategic Alliance [17], [8], [15], [5]. These quantitative methods can be used to identify the partner: Analytical Networking Process [18], [19], [20], [5], The Analytic Hierarchy Process [21], Optimization Modeling [22] and The Objectives of the Programming Technique [23].

The Strategic Alliance related to the "challenges of cooperation between two or more companies, where

companies generally throws its resources while having the challenge to achieve mutually beneficial goals, which cannot easily be achieved separately" [16]. Child et al. [24] identified the following motives put forward by the company's strategic alliance formation: the transaction price of motives to the resource-oriented motives, strategic motivation related to the company's competitive position; motives related to risk reduction; learning motives; the entrance of new markets and market leader motives. For reasons to participate in a strategic alliance - cyclical industry representatives may find different from those that operate in a stable industry. The differences can be seen on the grounds of abuse (desire to adjust, refine, and reduce the cost of existing resources, and on the grounds of exploration (innovation, impact on new resources and skills utilization) enter into an alliance. Cyclical industry relevant to both exploitation and exploration motives [25].

Partner selection criteria are closely related to the better quality of the Alliance of operational requirement [26], [27], [28]. Medcof [29] identified the following partner selection criteria relating to cooperation between enterprises: a strategic partner harmony; partner have the capability to ensure reliability; operational activities of the partners concerned; each partner, use the appropriate control mechanisms. Identify operational compatibility [3], [12] and the geographic concentration [7] as demand are no less important partner selection criteria.

2.2. Interrelated concepts of Organizational Network and Cluster

Although the concepts of "network" and "cluster" are not identical, they are often used as interrelated. Organizational Networks, particularly for businesses that are interconnected value-added production chain, are the most important elements of any cluster [30]. Organizational Networks may be knitted both clusters inside and lead to the formation of a cluster network. Organizational Network can be defined as the industrial system, the business system or corporate entity, depending on how the network is defined [31]. Formation of Organizational Network communications (Networking) is recognized primarily as a way some small independent companies can take bigger niche in the global economy [32]. In general terms, the Organizational Network can be defined as a group of organizations that use each network participant's abilities and resources for cooperation common development projects and to achieve common economic objectives.

Organizational Network participants, complementing each other and specializing, gaining access to the collective efficiency and more effectively compete in the markets, that would not be reached individually [30]. In this respect the network concept is very close to the cluster concept.

Geringer [11], Solesvik et al. [27] identified the differences between the partners focused and goal-oriented selection criteria. The partners-oriented criteria more concerned with strategic partners compatibility, trust between top-management teams, appropriate image and financial stability of the partner, the partner's position in the industry, enthusiasm partners to cooperate in the common partnership. The targeted criteria related to partners with specific knowledge of the product, the local and international market knowledge, partner culture and international standards of knowledge, new product / service development competencies, relationships with the majority of customers, suppliers and distribution channels, increasing capital and access to funding opportunities for local regulatory knowledge, political influence and other criteria related to industrial purposes.

Effective type depends on the relationship between the movement of the cost of Organizational Networks (information flow or physical transportation) and transactions intersection points (production and network management). As Blum et al.[33] argue that communication costs and contracts establish the optimum type of network, three types have the following features:

- Centralized network benefits from agglomeration and economies of scale and low-cost fluctuations in the value chain for contracts and logistics activities.
- Decentralized networks to support spatial splitting of the labor force and low network organizational costs.
- Integrated networks caused by low economies of scale and areas of high economic networking.

In many cases, especially vertically integrated company uses external recruitment method. Their initial hierarchy then reflected in a centralized network. For example, interlocking is evident on one or two sources of information.

Contractual (virtual) network idea was later adapted to the physical network [34]. In this context, relations are bound up with the logistics, and general activity reflects storage and operation. In terms of regional structure and spatial distribution of the labor force, this structure is interesting as a technological revolution in transportation. One of the most important companies' activities - the "radial" architecture, which improves the decentralized and fragmented networks.

Such a system is characterized by inertia, because the information will not change the price changes in the structure of the network since the structure changes are separate. Completely new contacts can develop small units which appear spontaneously [35]. In addition, inertia, according to Karlsson et al. [36], is a network of virtual or physical binding consequences. Of course, as mentioned earlier, the physical interpretation of this network is not the only one. It can also be virtual or abstract interpretations.

If the transaction costs both internally and interacting with the outside are similar, then it is likely the three corporate networks concentration: a) the multiple companies of the integrated network, b) the company's

horizontal decentralized network, c) vertical company's centralized network. If relations between the companies is sufficiently sensitive to the distance (taking into account the geographical distance assessment), then these structures form a spatial cluster. They have different characteristics such as information flows in connection with the value chain, product depth and innovation trends [28]:

1. The first category, with the exception of virtual systems, rarely exists as a geographical cluster, because the interactions between the costs that affect the internal size reduction and external opportunities for many cases to increase the number of contacts, allows to judge distance on very low sensitivity. Companies related to information and communication - are typical examples, and only if specific contacts are particularly sensitive to the distance, it is possible to expect local research networking.

2. The second category relates to the so-called horizontal clusters. Certain common, distance-sensitive input creates a unique mixture of competition and cooperation between enterprises operating commensal environment. Historically, certain resources to such networks have given impetus to growth. Today they are the basis for what is called knowledge economy. This means that they are to encourage research. Information flows in the same direction as in the value chain. They are usually characterized by a certain technological base, which is exploited by production different types. Very often a General Purpose Technology [37] play a dominant role. It can be based on public standards as a basis for further adjustments. It is developing the system where companies compete and cooperate. Such evolutionary survival of the system and the generation of ideas is considerably lighter than the highly competitive environment. As a result, small businesses can develop and grow by filling in and support Industrial sector' certain niches. In many instances the clusters formed from the horizontal foundation of general knowledge, for example, some Italian industrial districts, or as competitive clusters, technology centers in East Germany. Key capabilities of the undertakings concerned are very often based on resources, which is formed by the above-mentioned aspect of tacit knowledge.

3. The third category is the spatial center which is attracting differentiated distance-sensitive input. The networking organizations dominated by innovation and cluster centers are correctly perceived as innovation multipliers. Key features mostly depend on the demand. Companies or consortia of products and standardization of the interface within the network are important and simplify the complexity of the contract. As a result, direct contacts are less significant. From a spatial perspective, these clusters can be quite fragile and so dependent on the goods transport communications. The dominant company, which controls vertical clusters, usually belongs to car manufacturers and shipyards.

This third category, vertical networking integration may be increased, thus affect the cascade plants and reduce the supply chain to the raw materials. Non-clustered industries are a consequence of this process. From a historical perspective, a lot of industries, such as machinery industry with a high level of internal economies of scale, began its activities in this way and has become a vertical cluster, on external recruitment activities caused by changes in the costs of transaction [28]. Historically, different industrial development can be easily traced econometric method, for example, compared to North America and Europe the distances and spatial relationships intensity difference.

2.3. Partnership focus on long-term competitiveness

Compared with the one-off market transactions, organizations close to the positioning and repeated economic exchanges result in better coordination and confidence. Partnerships and partner communications formation is influenced by the same economic factors as well as any kind of cooperative relations formation. For partner relations to form there are more opportunities for social development trends, new communication technologies, new business ideas and new industries and the development of technological convergence. There are many forms of partnership, such as: Takeover, Leveraging resources from the country (i.e. Outsourcing), a Joint venture, Mergers, Virtual organization, and others. Partnerships benefit in the fact that [38]: Partnership improves the quality of the products (the cooperating parties are more likely to engage in product development processes), increase productivity, increase cost-effectiveness, allows to share the risk of developing profitable "win - win" relations, ensure continuous improvement of quality and service, joint strategies development activities generate long-term competitive advantage.

These aspects indicate that the partnership - this is not any existing close relations between the companies and the partnership concept is not detached from the cluster concept, but the latter complements. Since the cluster companies can integrate over the value (cost) circuit elements both vertically and horizontally, thus each such constant communication interface can be considered a partner connection.

Attention is drawn to Gordon and McCann [39] concept, which distinguishes main types of clusters: the classical activities and service-oriented cluster is similar to a vertical cluster. At this point the cluster horizontal types has two variations: an industrial complex type and social network. The latter, however, may be very split, if it is based only on information and communication networks through Partnership development. As confirmed by international law, most successful industries are those, which are formed of companies and other institutions in the group, whose activities to the group's growth is based on mutual cooperation. Such groups are usually formed on the [40]:

- shared knowledge and professional skills throughout economy group;
- any groundbreaking technology;
- producer - consumer relationship between the network.

One of the four most important "new rules of the game" in the international element of competition is a qualitatively new cluster and network structures, the role of partnerships. It understands all of the EU and not just the parties, so clustering and clusters - national, regional and international development received considerable attention.

2.4. Clusters as the presence of product value chain

Clusters of other forms of cooperation (partnerships, alliances, networks) differ in that cluster member has technology-related activities that are innovative and common interests in the presence of the product value chain. The cluster includes more than simple horizontal networks in which companies operating in the same market and belonging to the same industry group, cooperate in areas such as research and experimental development, innovation, product development and technology transfer.

Clusters are usually cross-sectoral (vertical and / or horizontal) networks, made up of the different and complementary organizations in the value chain specializing in specific institutional solutions. Thus, clusters can be of different types. Rosenfeld [41] identified three clusters types - "acting" clusters that are naturally formed and is more than the cluster members in "latent" clusters, with possibilities that are not yet fully recovered, and the "potential" clusters, which are conditions for the formation of but it is too small critical mass and contribution [42]. Identify potential clusters on the basis of this classification is problematic, since most companies are connected with each other by horizontal and vertical links. Classifications are different, but the analysis of the Industrial sector situation in Europe aspect is guided by a cluster classification [43], [44]:

- *micro-clusters or horizontal chains.* Micro-clusters or horizontal networks consist of 5-15 small group of companies-units. These companies cooperate in various activities and initiatives. This can be a common learning and joint marketing, joint product development.
- *the value chain*. This is the classic cluster type, the crossroads between different sectors of the specific value chains and expresses the concept provided by Porter.
- *the supply chain*. This group of companies supplying components, materials and other important activities of the major manufacturer of products or their group.
- *sectoral clusters*. Sectoral clusters typically characterized by companies producing similar products group. Such a cluster is not necessarily emphasize the value chain, the more competence network.
- *geographic clusters.* Such clusters are divided according to geographical parameters - local, regional, national and international clusters.
- *macro-clusters* (national/regional level). Macro-clusters can be any of the following types, but all depends on their natural geography.

An analysis of the scientific literature ([44], [42], [43], [46], [47]), has been filed and distinguished all classified clusters' the economic benefits and efficiency indicators presented in Table 1.

Table 1. Clusters' economic Benefit and Efficiency indicators.

	Science	Government	Business
Economic BENEFIT indicators	1.Human resource rationalization - academic, administrative staff supply work. 2.Laboratories, research centers, potential of basic and applied research.	1.Job creation and retention. 2. Fees to the state budget. 3.Human resource development and physical infrastructure, improving the quality of foreign and private investment attraction. 4.The increase in exports.	1.Productivity increase. 2.Increase innovation. 3.Competitiveness increase. 4.Increased revenues, profits, output indicators. 5.Developed suppliers, network partners. 6.Higher value-added product. 7.Reduced fixed and variable costs.
Economic EFFICIENCY indicators	*Scientific and educational performance:* 1.Improved study programs. 2.Job retention and development. 3.Scientific activities and publications. 4.Participation in joint research projects and networks of excellence. 5.Patents, licenses, number of publications. 6.Increasing number of	*Knowledge economy indicators:* 1.Knowledge economy development. 2.Knowledge specialization and training. 3.Development of innovation and R&D. *Regional indicators of development:* 1.Regions internationalization rate. 2.Inter-industrial dependence - an indicator of inter-branch communications. 3.Branche concentration ratio. 4.Branches specialization index. 5.Branches agglomeration rate. 6.Production specialization index.	*Economic performance indicators:* 1.Operating specialization index. 2.Activity concentration ratio. 3.Value chain optimization. 4.Business internationalization - cooperation with foreign partners. 5.Foreign markets - business development. 6.New participants - entrepreneurship. *Innovation and R&D performance:* 1.Innovative companies. 2.Investment in research and R&D ratio. 3.New products and technologies - patents, licenses. 4.Business income from intellectual property -

	students due to the favorable employment 7.Opportunities during their studies and after graduating the profession. *Income indicators:* 1.Revenue from the applied research, outsourcing of feasibility studies, etc. 2.ncome from intellectual property: patents, licenses.	7.Analysis of the displaced. *National competitiveness indicators:* 1.International Development Institute of the competitiveness rating. 2.The World Economic Forum's global competitiveness index. *Cluster effects sectoral indicators:* 1.Cluster direct impact on industry in which the business system functions as well as other sectors. 2.Cluster indirect industries.	patents, licenses. 5.Human resource skill level. *Performance optimization indicators:* 1.Rational optimization of production process - production costs and cost per unit of output decline. 2.Economies of scale. 3.Investment and development indicators 4.Attract foreign and private investment in capital and financial infrastructure index. 5.Public investment (EU structural funds, state support) ratio.

There are triple helix organizations types: academic (higher education institutions: universities, colleges, vocational training institutions, non-formal education and education support institutions), government (which the public sector in the broad sense, the state and the executive authorities, regional and local authorities, not profit organizations, interest groups, sectoral and professional associations) and business (commercial businesses operating and seeking profit) organizations. Clusters economic benefit and effect indicators were analyzed for each group of organizations (academic, public and business) separately.

In order to assess the Industrial sector of human resources has been analyzed in Lithuania acting education institutions, the way in for specialists to direct the work of the Industrial sector, and educational institutions belonging to the study and research centers carrying out research in Industrial sector. For specialists' preparation Industrial sector engaged in high schools and other educational institutions. Regional universities have sufficient competence cluster type of activity often becomes cluster catalysts. Universities benefit from cluster members on the ability not only to create innovative products, technology, process optimization, but also the ability to commercialize scientific production.

3. Joint-effort, cooperation an competition as distinctiveness

An important role in the discovery of various networking structures depends on the operational within established traditions. Such companies and organizations of various developed countries are called differently (clusters, industrial regions, local business systems, networks of excellence, etc.) And that is characterized by certain specific features. However, they have distinctive feature - a joint effort, cooperation and competition, not only with others, but also with each other to achieve maximum economic benefits. The more productive enterprises and organizations composed of cluster derivative, as each of them is more effective, the more productive and the whole group and macro - branch, region, state. Partner-mode operating groups (cluster) inside of knowledge exchange flows which are due to internal and external competition are intensive, stimulating innovative activities and the rapid growth of productivity and competitive advantage. The formation of such industrial groups has recently observed throughout the world, and the regions with higher concentrations of such groups, become all surrounding regional economic engine.

It should be noted that one of the characteristics of such groups is that these groups operating environment universities have strong fundamental research base and have acquired an international scientific reputation. This helps to attract foreign direct investment. However, science and research is not a sufficient condition for a given area emergence of competitive and high value adding clusters. One place to accumulate a lot of different factors that a particular group would become attractive for many Industrial sector investors and entrepreneurs who are looking for their place of business in a global environment.

Inter-organizational systems: clusters, partnerships, strategic alliances and organizational networking features comparison is provided in Table 2.

Table 2. Inter-organizational compounds features comparison.

Features	Clusters	Partnerships	Strategic Alliances	Organizational Networks
Relationship formalization	+/-	+	+	+/-
Geographic concentration	+	+/-	-	+/-
Communication via the value / supply chain	+	+	+	+
Orientation to the development of communication	+	-	-	-
Limitations of the structure over time	-	+	+	+
Large concentration of organizations	+	-	-	-
Operational sustainability	+	-	-	+

In the scientific literature ([48], [49], [50]) distinguished academic, public sector and inter-organizational communications business formation and strengthening of the reason and factors affecting them are presented in Table 3.

During the analysis of the strategic need for cooperation, there is a presumption of the organization in any cooperation between the ratio of watching the "power" positions, and other organizations for participation in the Industrial sector common activities have been estimated based on how much it can contribute to the achievement of specific "power" (leader) position seeking to take organizational goals.

Table 3. The economic inter-organizational communication reasons and influencing factors.

Reasons	Influencing factors
Transaction costs economy	1. Production and transaction costs 2. Production activity and transaction volumes 3. Experience in the production and transactions 4. Localization
Stock-based reliance	1. The financial, human and capital resource needs 2. Organizational internal resources
Strategic cooperation need	1. The need for leadership position 2. Aid occupying a leading position in the scale
Organizational relationships based on reliance	1. General organizational culture 2. The centralized decision-making process 3. The general principles of operation 4. Legal and organizational activities togetherness
Organizations shareholder, partner choice	1. Shareholders, shareholders and other stakeholders' expectations and desires 2. Legal persons interconnectivity with the organization status
"Best practices" takeover need	1. The need to take "best practices" 2. The willingness and ability to share "best practices"
Business risks reducing demand	1. Covered and the extent of risk 2. Opportunities for cooperation to reduce, move or avoid risks
Financial demand for EU support	1. The financing conditions / rules Requirements 2. The aim of absorption of EU support to regional level 3. Cooperation into the required project results / outcomes indicators
Other reasons: proximity to markets, specialized workforce focus, developed a network of suppliers and intermediaries	1. The financing conditions / rules requirements 2. Opportunities for cooperation to reduce, move or avoid risks 3. The financial, human and / or capital resource needs

Transaction costs economy - the desire to minimize the company's production costs and transaction amount. Organizations production costs vary depending on the production scale and scope, staff training and production experience, performance, localization advantages and influence of the organization, which is derived from property rights (patents, trade secrets, etc.). Transaction costs are also different and include costs associated with the transactions for the purposes of economy, management and monitoring. It is assumed that in any transaction an organization is seeking to choose the most efficient / cheapest alternative.

Stock-based reliance - that's the reason relates to the organization's need to engage in exchanges with other organizations in order to acquire scarce financial, human and capital resources, or use of infrastructure resources. More focus on organizations internal environment, since compliance with the provisions of the idiosyncratic and difficult to simulate the internal organization resources is the basis, which allows the organization to build and maintain long-term competitive advantage, but recognizes the importance of internal organization resources can be acquired from external sources.

Organizational relationships based on reliance are important for the following aspects: maintaining an overall organizational culture of the organization and its branches / representative levels, strengthen the centralized decision-making process or to decentralize, to observe the general organization and its units operating principles.

Organization shareholders and the shareholders meeting is the presumption that the organization has the responsibility to develop and strengthen these relations, what the organization wishes to shareholders, stakeholders or other organization's strategic choices affecting the natural or legal persons.

"Best practices" taking over need - based on the assumption that the organization aims to promote cooperation and the intensity of cooperation in order to realize the need to learn from the partner organization's experience, knowledge and technology to take over.

Business risks reducing the demand - that's the reason, which leads organizations provided encountered and unforeseen risk, which is expected to reduce, move or developed, to avoid inter-organizational cooperation. The partner organizations of technological knowledge, skilled personnel skills, experience in dealing with similar

problems, the ability to respond to environmental changes and unforeseen environmental factors reduces the risk of significant damage probability.

Financial demand for EU support - is the objective of co-operation to apply for European Union funding, co-operation as a condition or indicator the financing conditions and / or rules, or if the cooperation is projected reinforcement of reclamation of the financing obtained a significant level (national or regional level).

Depending on the condition and needs of organizations, there are excluded other inter-organizational communications formation and strengthening reasons: proximity to markets, specialized manpower mobilization, developed network of suppliers and intermediaries.

Thus, the point of this Inter-organizational systems emergence and development of a catalyst is a long-term goal of ensuring added value creation, competitiveness and efficiency of cooperation within the inter-organizational obligations.

4. Conclusions

Inter-organizational business systems relations in Industry sector performance are formed for a variety of reasons, but the main cause of these relationships and the development of a catalyst is a long-term goal of ensuring added value creation, competitiveness and efficiency of cooperation within the inter-organizational obligations, that are met in clusters, alliances, networks and partnerships as well.

Inter-organizational business relations formation depends on a Industrial sector functioning infrastructure: necessary equipment suppliers, opportunities, specialized labor supply, information and specific availability. The areas in which the Company and (or) the organization's co-operation and exchange of information can achieve greater benefits than individually and ensure synergy effect is a great medium for inter-organizational compounds emergence and development.

Companies to cooperate motivated by rational economic factors mostly, based on the principle of mutual benefit, stressed cooperation, collaboration and coordination, value of the participating organizations by following the selected Inter-organizational system type benefits. Organizations differ according to different variables that determine their relative resource control volume and dependence on other companies Thus, the use of the power positions in inter-organizational business relations can be seen as another company controlling and operating tool.

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Evaluation of corporate social responsibility promoting factors

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Abstract

It is observed that the narrow boundary dominates between really promoting CSR factors and the factors that act more as motivation tools for achieving the desired result. Conceptually distinguishing CSR promoting factors usually include only the individual model components or different authors' views and findings based on research data. That gives us the understanding of CSR factors' value as a whole, but not as a specific mechanism for application in practice. This research aims to highlight the problem that requires evaluation of significance of CSR factors which affect the promotion of CSR. The question "whether the company should be socially responsible" is not relevant any more today. More important issue covers the most efficient factors analysis that could help to engage and improve various CSR areas. Consequently, the work aims to develop a model of CSR promoting factors and finally to evaluate these factors. Therefore, it is important by bringing out CSR paradigm, identify internal and external CSR factors and design theoretical model of CSR promoting factors that leads to the opportunity to evaluate them.

Keywords: corporate social responsibility, promoting factors, evaluation.

1. Introduction

In today's global business environment the orientation of business towards their activities is focused on the development of corporate social responsibility ideas, where results are geared not only to the pursuit of profit, but also to sustainable development by creating value to society and other stakeholder groups. Such holistic approach is realized through the management and enforcement of corporate social responsibility (CSR) measures and is not only a matter of the organization today gaining new meaning. Often a company seeking to implement CSR initiatives is waiting for the support from society, government and their solutions that motivate CSR supporting programs and concessions that could inspire a smoother and more realistic CSR mechanism.

Theoretical concept of CSR factors, which many Lithuanian and foreign authors dealt with [6; 7; 3; 13; 8; 12; 18; 10; 11],include a general approach. Therefore, new and more precise insights on this topic are still very important. Regarding CSR internal and external factors, there are much research carried out on their benefits and problems of that companies encounter when implementing CSR. However, it is noted that the increasing expansion of the spectrum of factors of CSR do not allow to assess the true value of them to the company's operations.

Conceptually distinguishing CSR promoting factors usually include only the individual model components or different authors' views and findings based on research data. That gives us the understanding of CSR factors' value as a whole, but not as a specific mechanism for application in practice. Therefore, companies, which are

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interested in CSR and try to get useful information to facilitate their engagement in CSR, start to roam in a wide CSR content, and the result is often false steps, i.e. not objectively chosen CSR promotion measures which usually does not create benefits both, to the company and society at large. This research aims to highlight the problem that requires evaluation of significance of CSR factors which affect the promotion of CSR. The question "whether the company should be socially responsible" is not relevant any more today. More important issue covers the most efficient factors analysis that could help to engage and improve various CSR areas. Consequently, the work aims to develop a model of CSR promoting factors and finally to evaluate these factors. Therefore, it is important by bringing out CSR paradigm, identify internal and external CSR factors and design theoretical model of CSR promoting factors that leads to the opportunity to evaluate them.

2. CSR promoting factors and their types

According to many authors [19; 20; 21; 22; 23; 24] the factors influencing the CSR can be of two types – internal and external. Internal factors relate to the organization, i.e. company's policy, the ongoing processes within the company including the staff and officials of the company.

Bernatonyte et al. [25] claim that general CSR influencing micro factors are closely related to human and financial resources and their management. However, the current situation shows that a very important factor in the cognitive, cognitive micro-as well as the benefits of CSR guidelines by tightening security and the perception of the company's results of operations. However, the current situation shows that a very important micro factor is the perception of cognitive and value guidelines by CSR and the benefit to the company performance. External factors are targeted at the market, environment and society, where through the relationship with the society and the authorities it is aimed to form proper approach to the establishment of the company's reputation and overall activities. Macro factors that influence the CSR is related to legislation, regulatory measures, which are documented at the country national level and the authorities.

Vaiciulis [26] in his scientific work, while summing up the internal and external factors affecting corporate social responsibility, divide them into seven groups (Fig. 1).

Fig. 1. CSR influencing factors (adapted from Vaiciulis [26]).

In order to avoid confusion and not to depart from the research objective, we will continue to analyse the model more widely focusing on promoting CSR factors in a company.

3. Evaluation methodology of CSR promoting factors

Analysing the scientific literature, it is important to note the abundance of social responsibility factors and their nature. It is observed that the narrow boundary dominates between really promoting CSR factors and the factors that act more as motivation tools for achieving the desired result. Academic literature is full of discussions about the benefits of CSR activities, which lead to intense corporate interest in CSR. According to Guoga and Vincas [13] implementation of social responsibility in businesses is important for internal company incentives. Declaring itself as socially active, company ensures its staff loyalty, improves employee identity, and the desire of employees to identify themselves with the honestly behaving organization.

Having analysed the scientific literature it can be noted that external factors contributing to CSR outnumber internal CSR factors and are more diverse in content. The external CSR initiatives are associated with the public sector, the society and public organizations. However, to promote corporate social responsibility, or influence it in the best way can CSR policy created by actors in the close environment. As it was noted by Smaliukiene [27] it was set out in a number of findings on corporate social responsibility research that external influence is not

enough to increase company's social achievements, therefore organizational level should be included in the CSR promotion activities.

In assessing this approach and taking into account the examined the CSR participants' concept, it can be concluded that business, the public sector, the public and civil society organizations play a key role influencing the proper functioning of CSR promotion system but factors at organizational level are effective and important as well.

Theoretical analysis of internal and external CSR promoting factors contributing demonstrated that the greatest impact on CSR activity should promote the following factors:

Internal factors:

1. Capacity of company's financial resources [1; 28; 29];
2. Capacity of company's human resources:
- Management perception of high CSR value [27; 3; 15];
- High moral and value system of staff [30; 31; 27];
- High level of relationship between employer and employees [32; 33].

External factors:

1. Mandatory based on legislation requirements [34; 35; 36; 6; 7; 18];
2. Facilitation:
- Government approved measures to promote CSR program [36; 37];
- Preferential conditions in the tax and labor relations system [13; 37; 18; 25; 28];
3. Partnership [27; 37];
4. Approval:
- Demonstration of Best Practice [35; 6; 7; 37];
- Awards and nominations for socially responsible activities [8; 25; 37];
5. Publicly declared information:
- CSR publicity in the media [3; 9; 36];
- CSR publicity on the websites [37; 36];
6. Public actions and projects (37;38];
7. International ISO standards [8; 39].

After identification of CSR factors and evaluation of CSR actors' significance in the CSR promotion process, model of CSR promoting factors was designed (Fig. 2).

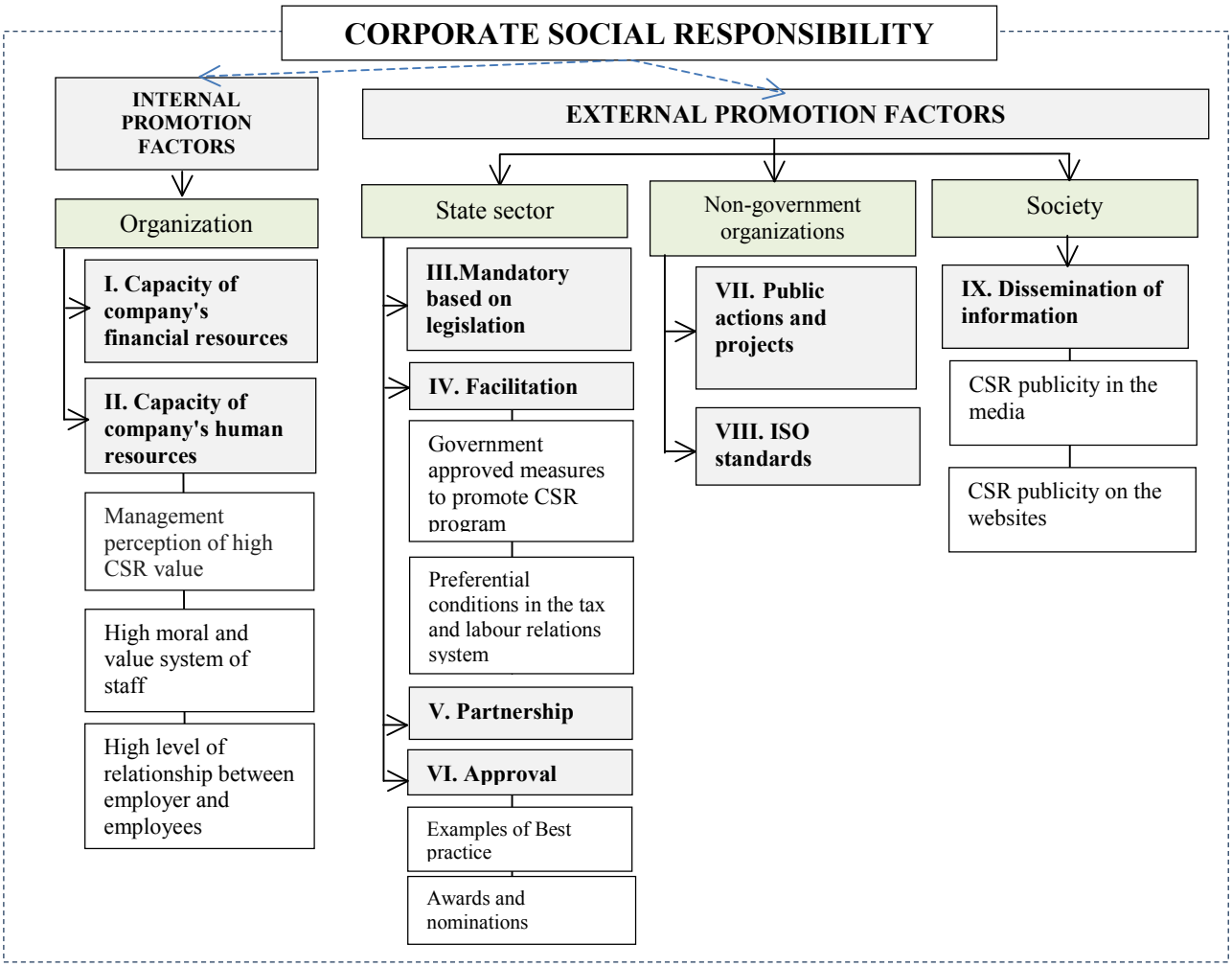

Fig. 2. Model of CSR promoting factors evaluation.

Figure shows the factors contributing to CSR evaluation model and it allows us to see clearly separate CSR participants formed social responsibility promoting packages. Why such a structure model is important for companies? - Each company is unique and acts at a different level of the market, is engaged in different activities, fosters different organizational activities policies and culture, so it is natural that CSR incentives may vary.

It should be noted that clearly reflected information in the model enables a simple but effective evaluation system of CSR factors contributes to the evaluation methodology, which aims - to assess what CSR factors are effective in promoting corporate social responsibility in SMEs and large enterprises. The designed CSR promoting factors evaluation methodology contributes to the qualitative performance of the empirical study in evaluation of CSR promoting factors. This method can be adapted to any type of organization, according to the exact point system, shift of the CSR promoting factors can be traced and compared with SMEs and large companies views revealed in the test results.

4. Conclusions

Designed model of CSR promoting factors is comprehensive and highlights the main actors in CSR and main groups of promoting measures. Formed package of CSR participants and factors refers to what the company has to take in order to properly coordinate and implement CSR. The model's construction is simple, but profound and allows to analyse the factors promoting CSR in more detail than it has been provided earlier in a too wide CSR theoretical context. Such model offers the more comprehensive understanding of CSR promoting factors and it is expected that the model will be the basis of further deeper analysis of CSR promoting factors contributing in a broader context.

Companies engaging in social responsibility do not realize that their installed (in)tangible efforts may not always correspond to the desired result to be achieved. This is due to the fact, that for the implementation of CSR, companies are not successful at selecting CSR promoting factors, i.e. they can omit the factors that are favourable and beneficial for the company.

The designed theoretical model of CSR promoting factors will enable the company to develop the autonomy and the principle of strategic focus, in determining what CSR factors contribute to their opportunities and should be considered as a priority - capable of creating the highest added value for both the company and its environment.

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