VILNIUS GEDIMINAS TECHNICAL UNIVERSITY

Rasa LEVICKAITĖ

MODELLING OF THE CREATIVE ECONOMY SUSTAINABLE DEVELOPMENT

DOCTORAL DISSERTATION

SOCIAL SCIENCES,
ECONOMICS (04S)

VGTU
LEIDYKLA
TECHNIKA
Vilnius 2015

Doctoral dissertation was prepared at Vilnius Gediminas Technical University in 2011–2015.

Supervisor
Prof Dr Habil Aleksandras Vytautas RUTKAUSKAS (Vilnius Gediminas Technical University, Economics – 04S).

The Dissertation Defense Council of Scientific Field of Economics of Vilnius Gediminas Technical University:

Chairman
Prof Dr Habil Romualdas GINEVIČIUS (Vilnius Gediminas Technical University, Economics – 04S).

Members:
Prof Dr Eugenijus CHLIVICKAS (Vilnius Gediminas Technical University, Management – 03S),

Assoc Prof Dr Algita MIEČINSKIENĖ (Vilnius Gediminas Technical University, Economics – 04S),

Prof Dr Habil Remigijs POČS (Riga Technical University, Economics – 04S),

Prof Dr Vytautas SNIEŠKA (Kaunas University of Technology, Economics – 04S).

The dissertation will be defended at the public meeting of the Dissertation Defense Council of Economics in the Senate Hall of Vilnius Gediminas Technical University at **2 p. m. on 27 April 2015**.

Address: Saulėtekio al. 11, LT-10223 Vilnius, Lithuania.
Tel.: +370 5 274 4956; fax +370 5 270 0112; e-mail: doktor@vgtu.lt

A notification on the intend defending of the dissertation was send on 26 March 2015.
A copy of the doctoral dissertation is available for review at the Internet website http://dspace.vgtu.lt/ and at the Library of Vilnius Gediminas Technical University (Saulėtekio al. 14, LT-10223 Vilnius, Lithuania).

VGTU leidyklos TECHNIKA 2311-M mokslo literatūros knyga

ISBN 978-609-457-781-9

rasa.levickaite@vgtu.lt

VILNIAUS GEDIMINO TECHNIKOS UNIVERSITETAS

Rasa LEVICKAITĖ

KŪRYBOS EKONOMIKOS TVARIOSIOS PLĖTROS MODELIAVIMAS

DAKTARO DISERTACIJA

SOCIALINIAI MOKSLAI,
EKONOMIKA (04S)

VGTU
LEIDYKLA
TECHNIKA
Vilnius 2015

Disertacija rengta 2011–2015 metais Vilniaus Gedimino technikos universitete.

Vadovas
prof. habil. dr. Aleksandras Vytautas RUTKAUSKAS (Vilniaus Gedimino technikos universitetas, ekonomika – 04S).

Vilniaus Gedimino technikos universiteto Ekonomikos mokslo krypties disertacijos gynimo taryba:

Pirmininkas
prof. habil. dr. Romualdas GINEVIČIUS (Vilniaus Gedimino technikos universitetas, ekonomika – 04S).

Nariai:
prof. dr. Eugenijus CHLIVICKAS (Vilniaus Gedimino technikos universitetas, vadyba – 03S),

doc. dr. Algita MIEČINSKIENĖ (Vilniaus Gedimino technikos universitetas, ekonomika – 04S),

prof. habil. dr. Remigijs POČS (Rygos technikos universitetas, ekonomika – 04S),

prof. dr. Vytautas SNIEŠKA (Kauno technologijos universitetas, ekonomika – 04S).

Disertacija bus ginama viešame Ekonomikos mokslo krypties disertacijos gynimo tarybos posėdyje **2015 m. balandžio 27 d. 14 val.** Vilniaus Gedimino technikos universiteto senato posėdžių salėje.

Adresas: Saulėtekio al. 11, LT-10223 Vilnius, Lietuva.
Tel.: (8 5) 274 4956; faksas (8 5) 270 0112; el. paštas doktor@vgtu.lt

Pranešimai apie numatomą ginti disertaciją išsiųsti 2015 m. kovo 26 d.
Disertaciją galima peržiūrėti interneto svetainėje http://dspace.vgtu.lt/ ir Vilniaus Gedimino technikos universiteto bibliotekoje (Saulėtekio al. 14, LT-10223 Vilnius, Lietuva).

Abstract

The object of the research carried out for the purpose of the dissertation is modelling of the sustainable development of creative economy as a new economy archetype in the context of globalization. The objective of the dissertation is to offer quantitative analysis-based modelling of the sustainable development of creative economy using an investment portfolio as an efficient resource allocation tool. To achieve the aim and to implement chosen tasks a research of the creative industries context is carried out. Under the conditions of globalization the mechanisms of sustainable development of creative economy are one of the most innovative and least researched objects, which is now becoming the center of attraction for the practical application of emerging holistic knowledge. The underlying idea of the research carried out within the framework of the dissertation is to investigate the paradigm of sustainable development taking account of the challenges of globalization and the trends in the development of creative economy in Lithuania and throughout the world. The process of the formation of sustainable development model creates a need to identify the appropriate methods for the implementation of the objective. Methodology is based on quantitative analysis for the sustainable development of creative economy using an investment portfolio as an efficient resource allocation tool.

The dissertation consists of the Introduction, three Chapters, General conclusions, References, and the list of the author's publications on the topic of the dissertation, 5 Annexes. The Foreword reveals the relevance of the problem, formulates the objective, tasks of the dissertation, and highlights the scientific and practical novelty of the work. The first Chapter presents the theoretical meta-analysis of the creative economy, presents the concept of creativity phenomenon, highlights the relevant creative economy theories. The second Chapter is dedicated to insights into the models of the structure and the development of creative economy in the context of the general economy and creative industries within European and World context; sustainable development criteria is analyzed and creative economy sustainable development model concluded. The third Chapter presents the proposed solutions for the sustainable development of the creative economy using an investment portfolio as an efficient resource allocation tool and approved based on Lithuania's example. General conclusions are summarized at the end of the dissertation.

10 research articles have been published on the basis of the present dissertation. One article was published in the *ISI Web of Science* scientific journal, one in *ISI Proceedings*, six in peer-reviewed Lithuanian scientific journals, one in peer-reviewed foreign scientific journals, and one in the peer-reviewed material of a national conference. The course of the results of the dissertation were presented at four international scientific conferences, 8 national scientific conferences, 3 round table academic discussions, and 4 scientific seminars of doctoral students.

Reziumė

Disertacijos tyrimų objektas – kūrybos ekonomikos tvariosios plėtros modeliavimas kaip naujas ekonomikos archetipas, panaudojant investicijų portfelį kaip išteklių tikslinio paskirstymo ir tvarumo užtikrinimo priemonę. Keliama mokslinio darbo problema – kūrybos ekonomikos plėtros modeliavimas naudojantis investicijų portfeliu kaip išteklių tikslinio paskirstymo priemone, kuri užtikrina kūrybos ekonomikos sistemos tvarumą. Disertacijos užsibrėžtiems tikslams pasiekti ir uždaviniams įgyvendinti yra tiriamas Lietuvos kūrybinių industrijų kontekstas. Kūrybos ekonomikos tvariosios plėtros mechanizmai globalizacijos sąlygomis yra vienas iš inovatyviausių, mažai tyrinėtų ekonomikos objektų, kuris tampa vienu iš svarbiausių besiformuojančio holistinio žinojimo praktinio taikymo traukos centru. Svarbiausia šio darbo mokslinio tyrimo idėja yra ištirti kūrybos ekonomikos tvariosios plėtros paradigmą, atsižvelgiant į globalizacijos iššūkius ir kūrybos ekonomikos raidos tendencijas pasaulyje ir Lietuvoje. Iki šiol nebuvo atlikti kūrybos ekonomikos plėtros Lietuvoje kiekybiniai tyrimai, todėl ši tiriamoji problema reikalauja konceptualių ir pagrįstų sprendimų. Pateikus Lietuvos kūrybos ekonomikos tvariosios plėtros modelį, įvardijami Lietuvos konkurencinio pranašumo kriterijai globalioje kūrybinių industrijų rinkoje. Formuojant tvariosios plėtros modelį atsiranda poreikis rasti metodus šiam tikslui įgyvendinti. Darbo tikslas yra atlikti kiekybine analize grindžiamą kūrybos ekonomikos tvariosios plėtros modeliavimą, naudojantis investicijų portfeliu kaip tiksline išteklių paskirstymo priemone.

Disertaciją sudaro įvadas, trys skyriai, bendrosios išvados, literatūros šaltinių sąrašas, autorės publikacijų sąrašas, penki priedai. Įvade atskleidžiamas problemos aktualumas, formuojamas darbo tikslas, jam pasiekti keliami darbo uždaviniai, pagrindžiamas mokslinis ir praktinis darbo naujumas. Pirmame disertacijos skyriuje pateikiama kūrybos ekonomikos raida, išsami metodologinės medžiagos, skirtos kūrybingumo fenomeno, kūrybos ekonomikos ištakų ir plėtotės, aktualių teorijų, analizei. Antrasis disertacijos skyrius yra skirtas kūrybos ekonomikos struktūros analizei, tvarumo kriterijų analizei ir kūrybos ekonomikos tvariosios plėtros modelio sudarymui. Trečiame skyriuje pateikiami adekvačiojo investicijų portfelio metodu pagrįstas kūrybos ekonomikos tvariosios plėtros modelis aprobuotas Lietuvos pavyzdžiu. Disertacijos pabaigoje pateikiamos apibendrinamosios viso darbo išvados.

Disertacijos tema paskelbta 10 mokslinių straipsnių. Vienas mokslo žurnale *ISI Web of Science*, vienas – *ISI Proceedings* duomenų bazėse, šeši – recenzuojamuose Lietuvos mokslo žurnaluose, 1 recenzuojamame užsienio mokslo žurnale, 1 – recenzuojamoje respublikinės konferencijos medžiagoje. Disertacijos eiga ir rezultatai pristatyti 4 tarptautinėse mokslo konferencijose, 8 respublikinėse mokslo konferencijose, 3 apskritojo stalo akademinėse diskusijose, 4 doktorantų moksliniuose seminaruose.

Notations

Concepts and terms

Creative economy is the economy based on ideas rather than on physical capital, and created on the basis of information and communication technologies; the author of the term is J. Howkins (2001). CE is a new and growing area of the global economy in which the principal role is played not by material, but rather by intellectual property developed through the capacity to utilise creation and creativity.

Creative industries are those activities based on the creative abilities and talents of an individual, the objective and the result of which is intellectual property and which may create material well-being and jobs. In Lithuania creative industries include the following creative and economic activity areas: crafts, architecture, design, cinema and videoart, publishing, fine and applied arts, music, software and computer services, radio and television programme development and broadcasting, advertising, performing arts and other areas integrating aspects of cultural and economic activities (Ministry of Culture of the Republic of Lithuania 2013).

Creative means having creative abilities (a creative person).

Creativity is related to creation (a creative art).

Cultural industries are branches of industry merging the creation of inherently immaterial and cultural content with production and commercialisation; the copyrights of such content are normally protected, and the content itself may acquire the form of goods or a service.

Culture economy is essentially the application of economic analysis to any creation and all performing arts, heritage and privately or publicly managed cultural industries. Culture economy is related to the organisation of the culture sector and the behaviour of producers, consumers and governments in the sector.

Single market is an area without internal frontiers in which persons, goods, services and capital can move freely. As an integrated, open and competitive area, it in fact promotes mobility, competitiveness and innovation, interacting in particular with EU sectoral policies.

Spill-over effect means any, whether positive or negative, consequence of public intervention.

UNCTAD – United Nations Conference on Trade and Development whose conference of Ministers of 2004 established the concept of creative industries.

Abbreviations

CE – creative econmy
CI – creative industries
EC – European Commission
EP – European Parliament
et al. – lat. et alii, eng. – and others
EU – European Union
EUR – Euro
EVRK – economical activities type classification, lith. – ekonominės veiklos rūšių klasifikatorius
Fig. – Figure
GDP – gross domestic product
JRP – joint research programme
LTL – Lithuanian Litas
R&D – research and development
UN – United Nations
USD – United States Dollar

Contents

[1] The annexes are available in the CD attached to the dissertation

Introduction

Problem formulation

The development of a creative society in modern Europe is one of the strategic priorities in the search for competitiveness under the current conditions of globalization. In the media world, the models for the development of creative products enable the integration of the global market in science, culture and technologies into the network of multi-stage benefit creation chains. The transformation of the conventional culture into a paradigm of the sustainable development of creative economy (CE) is becoming a vital factor in enhancing the role of creative industries (CI) within the framework of global cultures, while at the same time developing new CE sectors and supporting these with the most modern models for the organization and management of creative communities, clusters, centers and laboratories. A research of the economic mechanisms of the multicultural integration and penetration of creative activities and structures into social-economic processes enables a scientific substantiation of efficient approaches towards CE and creative product and service markets, the formulation of the research methodology based on the economy approach whose application is related to the development of CE.

Culture is becoming a basis for innovative ideas, and a factor for the development of culture goods and services, or social structures. Cultural develop-

ment and the formation of cultural environments is the most important condition for creative and innovative activity being able to create increased added value in the modern economy. Culture has become an essential and indispensable condition for the creation of economic creative activity models in the organization of global economies, while at the same time developing new economic sectors and supporting them by neoclassical economy theories. While modern societies are described as creative societies, CI are their key driving force and one, which organically complements and continues the innovative and technological potential of the knowledge economy.

The integration of creative activities, businesses and structures with the development and management of cultural (and multicultural) environments, and their penetration into all socio-economic processes facilitate the development of a global CE and the creation of product markets which are based on the ability to take complex economic decisions, the most advanced scientific analysis, econometrics and social research methods, and economic mechanisms for the commercialization of new media and creative innovations.

The need for the research into CE is a direct reflection of the EU's CE strategic projection in Lithuania in pursuit of building a common European CE market. This is also reflected in the defining of the priority areas for research and development (R&D) and innovations "inclusive and creative society" and the Joint research programmes (JRP), and, in particular, in the Ministry of Education and Science's plan to implement the JRP in creative and cultural industries (Ministry of Education and Science 2011). The appearance of such research would promote research in the area, increase the allocations from State and EU budgets allocated for the development of CI, and would also accelerate the growth of the CI sector. According to the data of the Ministry of Culture, a CI valley will be established in Lithuania as part of the 2014–2020 EU programming period; the principal areas of responsibility of the valley will be to ensure that creation, science and industry are involved in joint projects. CI in Lithuania account for 5.6% of the national GDP. Innovations, technologies, modern solutions for society, businesses and the public sector are no longer a surprise to anybody. Even so, speaking about a synthesis of science, art and business in the context of CI would be premature (Ministry of Culture 2013).

CI analysis methodology is based on quantitative methodology. The need of quantitative research of the CE is linked to Lithuanian CE research input forming European industrial policy and CI market. While forming creative economy sustainable development model there appears a need to find and adapt methods for implementation of the objective.

The problem of the present paper has been formulated with regard to the relevance of the terms of reference – modelling of the development of CE using an investment portfolio as a tool for an efficient distribution of resources in order to ensure the sustainability of the CE system.

Relevance of the thesis

Under the conditions of globalization the mechanisms of sustainable development of CE are one of the most innovative and least researched objects, which is now becoming the center of attraction for the practical application of emerging holistic knowledge. The underlying idea of the research carried out within the framework of the present thesis paper is to investigate the paradigm of sustainable development taking account of the challenges of globalization and the trends in the development of CE in Lithuania and throughout the world.

The thesis identifies criteria for the sustainable development of CE, and CE sustainable development is modelled using investment portfolio as efficient recourse allocation tool, which ensures sustainability of CE development; instruments for solutions of CE development problems and quantitative assess development of CI are applied both approbated in the context of Lithuania; quantitative methodology is applied – its integration into qualitative nature research area requires conceptual and well-reasoned solutions.

Object of the research

The object of the research carried out for the purpose of the thesis is to model the sustainable development of CE as a new archetype in the context of globalization.

Objectives of the thesis

The following objectives have been defined for the achievement of the aim of the thesis:

1. To carry out a theoretical meta-analysis of CE – define the origins of CE and CI as its core, the preconditions for their formation, explore their theoretical sources, present an overview of national and international documents, present an interpretation of concepts for quantitative dialogue, and identify the universal sustainability preconditions for the development of CE.
2. To present insights into the models of the structure and the development of CE in the context of the general economy, define the context of CE and creative and cultural industries within the Europe 2020 strategy, carry out a comparative analysis of the development of CE through selected cases.
3. To identify, on the basis of the analysis of research sources, the criteria for the sustainable development of CE for the assessment of CI, and develop a model of CE from the viewpoint of sustainable development.
4. To carry out a survey of the sustainable development of the Lithuanian

CE with the reference to the possibilities for stochastic optimisation, and the introduction of a quantitative measure of sustainability for the expansion of possibilities of research in CE.

5. To construct an adequate investment portfolio in order to secure the sustainable development of the Lithuanian CE, and approve the applicability of the solutions of the sustainable development of the Lithuanian CE.

Aim of the thesis

The aim of the thesis is to construct analysis-based model for the sustainable development of CE using an investment portfolio as an efficient resource allocation tool.

Research methodology

The present paper is assigned to the area of inter-disciplinary research. To achieve the tasks defined in the paper the author of the paper used a number of methods, including abstraction, comparison, logical, analytical and generalization methods, concept, historical, systemic, complex and document analysis. Empiric surveys use a range of methods, including expert evaluation, investment portfolio analysis, statistical, mathematical, optimization method, stochastic simulation modelling technique, and model-specific special mathematical functions.

The first Chapter of the thesis – the development of CE and the theoretical preconditions for its sustainable development – provides with theories on CE formation preconditions, theoretical background, analysis of theoretical CE components, cultural paradigm integration into the concept of sustainable development. Methods applied: abstraction, generalization, concept, historical, complex, literature sources and documents analysis.

The second Chapter of the thesis – Analysis of the structure of CE – provides with analysis of the CE sustainable development components, sustainability criteria research, model of the CE sustainable development. Methods applied: comparison, logical, analytical, generalization, systemic, documents analysis.

The third Chapter of the thesis – Approbation of the CE sustainable development model in Lithuania – provides with group expertise, dissemination of evaluations, Spearman correlation coefficients, concordance coefficients, stochastic optimization possibilities analysis and modelling of the sustainable development of the CE in CI sector. Methods applied: expert evaluation, investment portfolio analysis, statistical, mathematical, optimization, stochastic simulation modelling technique, and model-specific special mathematical functions.

Scientific novelty of the thesis

The following results new to the science of economics have been obtained in the process of drawing up the present thesis:

1. Created and approbated model for the sustainable development of CE based on fundamental theories, strategic documents and elements of practical actualization of the CI.
2. Systematized concept for the sustainable development, set sustainability criteria and the expanded area for the application of the category in research into CE.
3. Formed directions of the CE sustainable development; examination of such prospects required the utilization of stochastically informative expertise and a reference to the necessity and the possibilities of stochastic optimization.
4. The results obtained from the research may be used for the purpose of the development of the scientific foundation underlying the further inquiries into the problems of sustainable development. The present paper may also serve the purposes of interdisciplinary sciences while expanding the application of quantitative solutions in research into CE.

Practical value of research findings

The practical significance of the paper lies in the enhancement of the efficiency of investment in the Lithuanian creative industries sector. The benefits of the results are: 1) the creation of the preconditions for the inclusion of the national entities concerned into CI activities as the core of CE; 2) the development of CE increases the competitiveness of Lithuanian creative products and motivation to invite stakeholders; 3) the dissemination of the results of the paper will be used by the research community and institutions exploring the problems of CE, knowledge and the development of an innovative society, as well as by public authorities responsible for the formation and strategic development of the State policy on creativity and innovations; 4) the creation of the preconditions for its integration into CE research in the EU, the single market, international research cooperation programmes and projects. This constitutes the basis for the continuity, development and sustainability of the thesis.

Defended statements

1. CE sustainable development consists of economy, ecology, politics and culture components, from them arising sustainability criteria carried out by quan-

titative research, forms basis for the recourse allocation for the creative industries.
2. Sustainable development of the CE is considered as stochastic events; their research requires stochastically informative expertise stochastic optimization possibilities.
3. Modelling of the CE sustainable development is based on direct impact, when recourse allocation is made by adequate investment portfolio model and indirect impact when recourse allocation based on quantitative methods and creates new behavioral models, new social structures, promotes creation of new products and innovations.
4. Sustainability of recourse allocation is based on formation of adequate investment portfolio; the argument that the Lithuanian CE is based on the trend approved in Lithuania when the national sector and industry concept is disappearing in view of ever increasing globalization, and the transition to a sustainable economy is an opportunity to realize the possibilities to strengthen the competitiveness of Lithuanian CI.

Approval of research findings

Modelling of the sustainable development of CE has been approved based on Lithuania's example. 10 research articles have been published on the basis of the present dissertation. One article was published in the *ISI Web of Science* scientific journal, one in *ISI Proceedings*, six in peer-reviewed Lithuanian scientific journals, one in peer-reviewed foreign scientific journals, and one in the peer-reviewed material of a national conference. The course of the results of the dissertation were presented at four international scientific conferences, 8 national scientific conferences, 3 round table academic discussions, and 4 scientific seminars of doctoral students.

Structure of the thesis

The present dissertation paper is made up of a Introduction, three Chapters, the General conclusions, List of references, and a Summary in the Lithuanian language. The total scope of the dissertation is 145 pages, including 3 formulas, 13 figures and 14 tables. For the purpose of the present dissertation, references were made to 303 source papers.

1

The development of creative economy and the theoretical preconditions for its sustainable development

The term creative economy was first referred to in research papers in 2000s when Prof. John Howkins presented his analysis of the relationship between creativity and economy in his book entitled *Creative Economy: How People Make Money from Ideas*. Different research papers distinguish between two different types of creativity – the creativity related to the satisfaction of a person as an individual and the creativity used in order to create products. The first type creativity is a universal human characteristic and is inherent in all societies and cultures. The second type of creativity is more common in industrial societies which value innovations, particularly innovations in the fields of science and technology, and intellectual property law to a larger extent. Howkins used the term CE in the broad sense of the word; in his opinion, CE actually embraces fifteen CI ranging from the arts to broader research and technology areas. According to his estimates, the CE (the market for creative products and services) was worth EUR 2.5 trillion globally in the year 2000 and has been increasing at a rate of 5% annually for over a decade.

The present Chapter of this thesis offers an analysis of the phenomenon of CE, defines the origin of CE and its nucleus – the CI, the preconditions for their

formation, and its value for the economy under overall globalization conditions. Furthermore, the Chapter addresses the different approaches towards the concepts in modern terms and identifies the concept of universal sustainability, which is integrated into the context of sustainable development by means of the cultural paradigm.

Research into the phenomenon of creativity creates the preconditions for theoretical papers looking at the CE, as do the reports produced by different States, international reports and feasibility studies. The issues surrounding CE have been addressed in the course of the past several years by Higgs, Cunningham, Pagan (2007), DeNatale, Wassall (2007), Cunningham (2007), Higgs, Cunningham, Bakhshi (2008), Reis (2008), Herrmann-Pillath (2008), Suciu (2008), Claire (2009), Suciu, Iordache-Platiş, Ivanovici (2009), Hartley (2010), Markusen, Gadwa (2010), Sokolowski (2010), ect. CI were the subject of extensive research carried out by Reid, Albert, Hopkins (2010), Harper, Cohen (2008), Dashalaki (2010), Mercer (2009), Potts (2009), Schlosser, Hartmann (2009), Bentley (2008), and others. Some exhaustive surveys into the area CI have been carried by Potts (2008) who produced a number of definitions of the different aspects related to CI. The different aspects of the CE have been also investigated by Dapp (2011), Ooi, Stober (2011); also of relevance are the surveys of creative cities, clusters and innovations carried out by Evans (2009), Bagwell (2008), Currid, Williams (2010), Collis, Felton, Graham (2010), Miles, Green (2008), and others.

This Chapter introduces the phenomenon of CE and examines the concept of CI, the various terms used by different States, and the classification systems and models used for CI in the context of the CE of the 21st century. The UNCTAD CE analysis was selected as a core theoretical definition of CE; within this analysis creative economies are based on the production cycles of creative content that necessarily involve creativity and the use of intellectual capital; essentially it is a knowledge-based activity involving the production of tangible products or intangible intellectual or artistic service. The four groups of CI as defined according to the UNCTAD classification (heritage, the arts, media and functional products) can be further subdivided into smaller subgroups. Worldwide creative industry surveys refer to the four basis methods of analysis: the UK DCMS model, the symbolic text model, the concentric circle model, and the WIPO copyright model. The analysis methods specified above constitute a basis for the further classification of creative industry areas and the complex interdisciplinary research, which takes place in social sciences.

CE is a phenomenon of the 21st century's economy based on sophisticated symbolic consumption and meeting new social, cultural and technological needs. Modern consumption changes its qualities in the context of routine consumption. Creativity has become not only part of the arts, but also a more significant contributor to all sectors where cultural material or "content production" is becoming a

basis for competitive advantage in the global market economy (Levickaitė 2010). New lifestyles create new challenges for the fundamentals of services and the production economy, while the changing needs of the market generate new tasks in the areas of media, communications, technologies and inventions. Globally there has been an observable increase in expenses for the consumption of pleasure – this area is becoming a target for the publication, media, fashion, software, tourism, sports, design and gaming industries. Transformations in the economy keep posing challenges to organizations (Alas 2008). While developing their activities organizations are obliged to identify the current and the target competences of their members (Palaimaitė, Radzevičienė 2009). The economy is increasingly becoming based on innovations and creativity, in addition to consistently new working methods and relations being formed (Karnitis 2006) and the search for ways to efficiently compete while creating intangible value (Chlivickas, Smaliukienė 2009), as any change in value orientations requires significant efforts (Zabielavičienė 2008). Innovations are perceived as not only a technological innovation, but also as marketing, process, management process or product innovations (Strazdas, Bareika 2010). The volumes of CE are growing rapidly and this is evident in the increasing number of new jobs and the changing needs of the market together with the accompanying response to the newly emerging expectations of society. CE is based on the capital of ideas rather than the physical capital. The basis for this development is the result of information and the creation of new media. The new information content and digital technologies open up new spaces and contribute to a reduction in costs. CE is characterized by an ability to use information while at the same time creating new and proprietary information content. Another quality is the growing need for interactivity in which the creator of a creation product and its consumer are engaged by interactive links. Fill describes this process as one of mutual engagement (Fill 2009). Several different models have been proposed in the course of the past several years facilitating an understanding of the structural properties of CI and the system underlying the classification of this new phenomenon. Very little investigation into CI has been carried out in Lithuania, and even then it has been in a fragmented manner and mostly in the context of the arts, media, and philosophical sciences. The purpose of the present Chapter is to review the sources of research and the course of the development of the CE, to analyze some selected cases, and to discuss the theoretical systems and models for the classification of CI and review the theoretical preconditions for their sustainable development.

On the topic of this Chapter author has published 7 scientific publications (Levickaitė 2012; Valevičius, Levickaitė 2011; Stankevičienė, Levickaitė, Braškutė, Noreikaitė 2011; Levickaitė 2011a; Levickaitė, Reimeris, Žemaitis 2011; Levickaitė 2011b; Levickaitė, Reimeris 2011).

1.1. The origin of creative economy and the preconditions for its emergence

While the Western world was transforming itself from an agrarian to an industrial society in the mid-18th century, at the outset of the modernization age characterized by the invention as the steam engine and a number of other innovations such as industrial mechanization, glass processing, and chemical technologies (Sullivan *et al.* 2003), material changes started taking place in global economy processes with the development of an urban culture, the emergence of the working class, shift work and the use of conveyor systems in factories. As early as the mid-17th century Sir William Petty, in view of the emerging capitalist relations and the development of manufacturing capitalism, substantiated the dependence of trade capital from the industrial capital and weakened the mercantile economic concept (Toby 2011). As a continuation of William Petty's labor theory of value, Adam Smith rationalized the emergence of a new theoretical direction, i.e. classical political economy, in his 1776 paper *Wealth of Nations*, and thus laid the foundations for the discipline of modern academic economics, which subsequently became the basis for the theories of capitalism and the free market. The theory of moral sentiments introduced by Smith in 1759 (Smith 1982 [1759]) was an attempt to demonstrate that the interaction between the individual decisions of workers and capitalists can be reconciled on the basis of the market, and can thus create economic welfare. In 1899, Thorstein Veblen introduced the theory of conspicuous consumption in his treatise *The Theory of the Leisure Class* according to which people buy expensive items simply in order to demonstrate they possess them (Veblen 1915 [1899]). In 1942, Joseph Schumpeter further developed the theory of cycles in his book on economics *Capitalism, Socialism and Democracy* and introduced the concept of creative destruction, according to which an ever-innovating businessman creates the welfare of the State (Schumpeter 1975 [1942]). In his treatise *The Landmarks of Tomorrow* published in 1959, a social ecologist Peter Drucker treated the concepts of work and knowledge as equal and claimed that knowledge-based work was becoming increasingly important in the business world. In 1967, Peter Drucker substantiated the significance of knowledge capital in his study *The Effective Executive*, in which he made a distinction between the category of the manual worker (working with his hands and thus creating products) and knowledge workers (using their heads, not their hands to produce ideas, knowledge and information) (Drucker 1967). In 1998, Michael Porter described a knowledge economy worker as an innovative member of the team, while the comparative advantage is becoming increasingly less significant as compared to the competitive advantage whose basis is the sustainable innovations (Porter 1998). At the end of the 20th century and the beginning of the 21st century Zygmunt Bauman, while investigating the most recent variety of postmodernism of the globalized world – that of

liquid modernity (Bauman 2000) claimed that society turns from producers into consumers in view of the ongoing attempts to implement a safe freedom, something which according to Bauman is achieved through virtual technologies (Bauman 2007). The underlying approach of Bauman's surveys of consumerism was that the consumer economy is actually an always alluring and tempting diversity of goods and services with the opportunity to experience something new (Bauman 1991). The significance of creative capital was specifically emphasized after the promoters of the concept's work was published in Australia's *Creative Nation* in 1994 – the first ever manifest of its kind. This was the time when the formation of the concept of CI that were amended on occasions and eventually expanded beyond the limits of arts approaching areas of commercial activities. The manifest *Creative Nation* (1994) specifically notes that without an integrated economic policy of fostering creation, the promoting of a creative nation or the preservation of the identity of creation is not possible. Even though the manifest was introduced as a cultural strategy, it still highlighted the economic growth factor.

The beginning of the 21st century witnessed record numbers of registered patents and trademarks – companies ranging from major global corporations to Internet shops were rapidly patenting not only conventional mechanic inventions, but also business processes, business methods or models. Howkins then called this processes the patent art (Howkins 2007). The patenting of "how" was becoming much more frequent than the patenting of "what". Nearly 170,000 patents were granted in the USA in the last years of the 20th century; the cloning of a female sheep named Dolly in the United Kingdom paved the way for the granting of patents for the cloning of human cells.

As was mentioned earlier, the word creativity presupposes a rather narrow understanding of the concept and thus limits the use of the term to analyzing actions related to the arts only. For the purpose of the present paper the concept of creativity is used in the broadest sense of the word while emphasizing that the creativity is an ability to create something new and transform the ideas into the industry of one or another field. Creativity is a difficult concept to describe in normative characteristics; however, creativity is an inherent condition of the modern economy and the driving force behind the evolution of the economy.

1.2. The evolution of the phenomena of creativity in the context of the development of creative economy

The etymological concept of creativity is based on the understanding that creativity is the ability of a person to discover something new. In psychology the term creativity is related to psychic and social processes, which generate new ideas or concepts, or the creation of new associations with existing ideas or concepts. Al-

though these different scientific areas define creativity while attaching their own conditions, many authors (Kozbelt *et al.* 2010) unanimously agree that creativity is inherent for all people and that although it is largely dependent upon the social environment, creativity manifests and reveals itself in a number of different ways. Any manifestation of creativity requires a special, divergent mode of thinking i.e. a flexible and unconventional mode of thinking that rejects all that is obvious and habitual or ordinary while focusing on a number of different possible solutions rather than on a single simple one. Guilford (1971) distinguished the following qualities of creative thinking: 1) fluency (the ability to produce great number of ideas or problem solutions in a short period of time); 2) flexibility (the ability to simultaneously propose a variety of approaches to a specific problem); 3) the ability to easily reorganize the experience to change one's attitudes and approaches; 4) originality (the ability to produce new, original ideas); 5) the completeness of the creative ideas (or solutions) (the ability to elaborate the idea and implement it as an idea by itself, no matter how important it is, is not normally recognized on a social scale; 6) sensitivity to a creative issue – the ability envisage contradictions, and the essence of the problem.

Creativity is a complex phenomenon and has as such been a regular research subject in the fields of behavioristic psychology, psychometrics, cognitive sciences, artificial intellect science, philosophy, aesthetics, history, economics, design studies, and in business and management sciences. Research into creativity is based on research into ordinary, exceptional and artificial creativity. Creativity is defined as having the following attributes: cognitive process, social environment, personal qualities, probability (randomness or an intentional search for discoveries), and serendipity. Creativity is often related to genius (Duff 2010 [1767]), talent, mental illness (Batey, Furnham 2006), disposition, and phases of troubled sleep (Cai *et al.* 2009). Although there is an opinion that creativity is an inherent quality, the scientific approach tends to claim that creativity is determined by the social environment to which an individual is adapted (Wallas 1926; Simonton 1999). For a long time creativity was associated with having a muse, while in science increasingly frequent references are made to the ability to "shake" one's thoughts and "extract" genius ideas form them (Dacey 1999).

Our understanding of creativity has undergone significant changes in the course of history. Different perceptions of creativity prevailed in different societies, which changed the meaning of the concept. In the ancient Greece the concept of art (Greek – *technē* – craftsmanship, technology) was, with exception of poetry, conditioned by strict rules rather than the freedom of action. In the Roman times this Greek tradition was modified and the freedom to enjoy imagination and inspiration was no longer a privilege of poets, but was expanded to other visual arts too. According to Tatarkiewicz neither the Greeks nor the Romans ever had a word in their vocabulary, which would correspond to the modern concept of creativity; their art, architecture, music, discoveries and inventions today reflect a long and complicated creative process

(Tatarkiewicz 1980). It was the Greek scholar Archimedes who is believed to be the first in the world to introduce to the world the phenomenon of creativity, when he exclaimed the word *Eureka* (I found it) upon experiencing a blessed moment of discovery having found the answer to a long outstanding question. Albert and Runco claimed that the greatest changes took place in the Christian period when the Great creator (Lat. – *Creatio*) was presented as the highest power and creator of the world and man out of nothing (Albert, Runco 1999). In that period the function of creation was completely attributed to the Lord, leaving man with the duty of doing alone (Lat. – *facere*). A prevailing approach in the period of early Christianity claimed that art is not an area of creativity. Tatarkiewicz noticed that in the view of the coming Renaissance revival, the concept of creativity essentially changed and became an object of personal freedom, personal feeling and self-expression. The theory of art developed in the Enlightenment period claimed that creativity is derived from imagination. Tatarkiewicz suggests it is worth recalling that the understanding of creativity in the Western and Eastern worlds has remained very different even up to the present time: for the people of the East creation is synonymous with discovery or imitation, while the concept of a creator building out of nothing is not to be found in any Eastern philosophy or religion (Tatarkiewicz 1980). According to Albert and Runco, in the 21st century the peoples of the West turned to an understanding that art and only art may be an object of creativity, in other words – the only possible creation (Albert, Runco 1999). It was only in the 20th century that new ideas came into existence linking creativity with science, although the principal concepts of applied creativity were borrowed from the arts (Tatarkiewicz 1980). In eras of scientific progress the significance of creativity for science was also investigated by representatives of natural sciences and formal disciplines, such as Hermann von Helmholtz, Henri Poincaré, Graham Wallas, Max Wertheimer. The largest contribution to the investigation and research in the area of creativity was undoubtedly made in the science of psychology, and specifically, in the psychometric investigation of a range of issues related to the measurement of psychic qualities. Specifically the research into the phenomenon of creativity, which was promoted by the American Psychological Association also laid the foundations for a survey-based research into the concept of creativity. Sternberg claimed that mid-20th century also witnessed a rise in the popularity in the pragmatic assessment of creativity, and that this later constituted the basis for the development of the three most famous practical theories of techniques of creativity (Sternberg 1999): 1) brainstorming (Osborn 1948); 2) the discovery solution theory (Altshuller 1999); 3) and lateral thinking (de Bono 1967).

According to Botwinick, creativity is characterized by exceptional results or achievements, which are original and unique and at the same time able to meet social and aesthetic needs (Botwinick 1967). Research efforts in the area of psychology primarily focused on the most prominent artists whose achievements produced the most unique and undeniably the most talented works. The second half of the 20th century witnessed a shift towards a daily and routine research into

creativity. Hansen-Lemme claimed that the development of creativity depends on a number of interrelated factors reflecting the influence of both nature and education (Hansen-Lemme 2003). Among those are the variables of personality: flexibility, openness to any new experience, the courage to take a risk; motivational variables: an interest in tasks, independence from external restrictions or pressure, experience stimulating endurance when encountering obstacles; environmental variables: a public cultural environment that values and supports creativity, the opportunity to communicate with other creative personalities.

Nowadays the concepts of creativity and innovativeness are often considered identical; however, creativity is most often used to describe an action "producing" new ideas, approaches or actions, while innovativeness is not only the generation of creative ideas, but also the application of such ideas within a certain context. Within the context of organizations innovativeness is associated with the creative ideas developed by an organization; the ideas that eventually acquire a material form – commercial products, services, business practices, and technologies; in the meantime creativity is only the first step towards innovativeness, a quality which enables the generation of new ideas. Amabile claims that innovativeness starts with creative ideas: "creativity of individuals and groups is the first step towards innovativeness; it is of vital importance at the outset, however, in other stages of innovativeness creativity alone does not suffice" (Amabile 1998). In view of this uncertainty in the perception of creativity, providing a universal holistic image would be complicated; however, according to Sternberg, when speaking about the significance of creativity for modern scientific and daily life this image may be formed by assessing different areas: cultural differences, arts, industries, business, politics, media, etc. (Sternberg 1999). The modern discourse of creativity is interdisciplinary and is revealed through its links with the different forms of social development and its impact upon the life of society. For instance, the scientific discourse of creativity is derived from and is, in Western cultures at least, further developed in the tradition of creationism. The most important contributors to the intercultural research of creativity were Jullien (1898), who mostly referred to Chinese traditions, Fagqi Xu (1998), whose research interest was creativity in organizations, and Lubart (2004) who investigated creativity from the viewpoints of psychology and management. A comparable feature uniting the concept of creativity of these different cultures is the fact that creativity is considered primarily an object of art. This is most frequently related with originality, one of the weightiest criterions in evaluating the quality of works of art and literature. Each artist, while presenting his artistic style in a different manner, may be assessed in a number of ways ranging from interpretations to innovativeness. Interpretation is perceived as being encouraged by evaluators, represented genres, art movement, and the traditions of the epoch; innovativeness, however, is the direction towards which the creator moves himself.

The most popular areas among the CI are publication, design, theatre, the fashion industry, music, and cinema; furthermore, intellectual property is increasingly referred to being as the principal factor of the new economy (Lash, Urry 1994); joining these CI are such areas as medicine, pharmacy, engineering, physics, biology, chemistry and a number of other industries which involve objects of intellectual property in their activities. The leader in this area is the USA, where copyrighted industries have increased their productivity by nearly 6% every year over the past twenty years (while other industries reported less than 2%), and the creation of over 4% of new jobs (in the period preceding the global financial crisis of 2008, some other industries would create as little as 1.5% of new jobs). The significance of creativity has been continuously growing and forcing organizations to repeatedly revisit their visions, objectives and the paths to attain their objectives. For instance, schools of technology or medicine are forced to rapidly adapt themselves to market needs and develop new areas in research such as industrial design, CI, bioethics, intellectual property managements, etc. Sciences and engineering were the last to be affected by the need to become more "creative"; according to Amabile, even the area of finance has been inevitably affected by the need for creativity, and has started utilizing creative thinking in practice (Amabile 1998). Amabile claimed that business organizations may also employ some elements of creativity; however, they are still subject to three compulsory conditions (Amabile 1998): 1) competence (technical, functional and intellectual knowledge); 2) creative thinking skills (how flexibly and creatively any issues are addressed); 3) motivation (in which the primary importance is attached to internal motivation).

Creativity is one of the factors in the theory of aptitude. This was more extensively discussed by Renzulli (1978) and Sternberg (1999). According to Renzulli, creativity is one of the three interacting components of aptitude. When speaking about aptitudes or the gifts of a group Renzulli described them as ideas and work, which cause changes and affect other people (Renzulli 1978). He refers to the final product, the evaluation of the achievements whose principal features are innovativeness and practical applicability. Sternberg actually refers to the same qualities of creativeness (Sternberg 1999). According to Renzulli, although there is common consent concerning the significance of creativity with respect to the concept of aptitudes, the evaluation of the qualities of the group is still an object in long-lasting disputes – as any measurement of creativity often lacks objectiveness or reasonableness (Renzulli 1978).

There is evidence of the existence of a relationship, although quite a loose one, between creativity and intellect. Individuals who possess high intellectual qualities and universal aptitudes have been observed as having exceptional creativity. Nonaka, a Japanese organizational theorist, carried out a series of surveys at companies in Japan, and noted creativity and the creation of knowledge as one of

the most important factors in creating success (Nonaka 1991). Nonaka specifically noted the significance of unexpressed knowledge in the creation process.

At the beginning of the 20th century Schumpeter introduced his economic theory of creative destruction (Schumpeter 1975). According to Schumpeter his theory is based on the assumption that there are certain operating methods the results whereof cause permanent destruction and replacement by something new (Schumpeter 1975). Romer, an economist from Stanford University has claimed that creativity is an extremely important factor in combining the new and different elements, which facilitate and promote the development of the new technologies and products that cause the constant development of the economy (Romer 2009). In the 21st century creativity is giving rise to new approaches and views towards economic processes, in view of the establishment of a creative society and the birth of a new social class – the creative class. Florida has been developing a theory of a creative class noting that the regions following the "3T" model (technology, talent, tolerance) always manage to achieve a higher concentration of creation professionals and thus contribute to the more rapid development of the economy (Florida 2002).

Ideas are by their very nature very different from tangible products derived from ideas, and therefore the abundance of ideas may not be naturally limited in the same way as tangible products can. Creativity is turning into an economic activity whereby an idea is transformed into a material – an abstraction is turned into a specific semblance. Where an idea becomes a practically used matter it acquires a specific economic value and becomes a property and an exchangeable object. In this way, the result of creativity is the product of creativity, which may be a product or a service. According to Howkins, a product of creation may transform its categories from goods into services and back again to goods (Howkins 2007). In all respects the most important characteristics of a creation product are the results of creative activity, which have a recognizable economic value.

Historically any creation products have been mostly associated with art. This eventually formed an attitude in the human conscience that art is one of the most important creative activities, while at the same time attributing creativity to an artistic category. The American CI school (tradition) claims that artists do not hold a monopoly on creativity, and that artists are not the only actors in a CE. In the context of creation artists are most often more successive due to the specific spaces they have for creation, supply and demand, and their ability for self-identification in the art world. Creativity also manifests itself in science, and specifically in the area of research and technology. Howkins claims that there is still some difference between scientific and artistic creativity. Ronan, a world science historian, claims that a broad creative imagination and strict discipline based on the experience of observation may attract attention in science (Ronan 1983). Wilson, a biologist who has discovered consilience as the "to describe the synthesis of knowledge from different specialized fields" claims that creativity is "an ability of the brain to generate novel scenarios and settle upon the most effective among them" (Wilson 1998).

Creativity is observable at different levels of organizations – ranging from the working environment to the development of products created by a particular organization. Organizations are changing at a rapid rate – they face increasing competition, changing technologies, social networking is growing in scope and penetrating the activities of organizations, forcing them to stay smart and alert. According to Howkins, creativity is possible in any organization, which is capable of making discoveries or implementing innovations (Howkins 2007), something, which is by itself an object of intellectual property. The most commonly distinguished types of intellectual property are the following: 1) copyrights include individual creative expression carried through specific creative works (i.e. audio recordings, computer software, etc.); 2) patent rights protecting the invention of new industrial products and processes, and granting the inventor monopoly rights to produce a new product; a registered patent provides much more enhanced protection than copyrights to a creative product; 3) trademarks do not possess qualities like creative expression which are characteristic of copyrights, or the exceptional characteristics of the patent rights; trademarks are actually the value of symbols representing a specific object; 4) design is related to a requirement to possess an exceptional quality; this type of intellectual property is frequently registered as a trade mark (Howkins 2007).

In his book *The Creative Economy* Howkins offered a thought that the term CI could have a synonym – intangible industries (Howkins 2007). This is in no way a universal definition of the concept of CI, and may not be applicable in all cases; however, the generation of ideas and their transformation into virtual or software products could have some of the attributes of intangible industries.

The basis of CE is the economic value generated by transactions in creative products. This value is created on the basis of intellectual property. The creativity of a creator does not necessarily produce a creative product whose result could not be measured by economic transactions or values in all cases.

In social sciences, based on the sets of exclusive qualities and the areas of manifestation social creativity is classified into three types: 1) artistic creativity (Zeki 2001) includes imagination and the ability to create original ideas and new methods of interpreting the world expressed by a text, sound or an image; 2) scientific creativity (Simonton 2003) refers to curiosity, the desire to experiment and find new methods of solving problems; 3) economic creativity (Ivcevic 2009) is a dynamic process which enables the creation of innovations in technologies, business practices, marketing and other areas. The latter is closely related to the acquisition of economic competitive advantage. All the previously mentioned aspects of creativity also include technological creativity (Mokyr 1990) and are all interrelated. Irrespective of the method used to interpret creativity there is no doubt that the creativity concept is absolutely vital in defining the economic areas of CI and CE.

Another approach suggests that creativity is a measurable social process (Perry-Smith, Shalley 2003). However, from the economic viewpoint the relation-

ship between creativity and the social economic development is not so obvious, especially considering the extent to which creativity contributes to the economic growth of a country. In this respect it is important to not only measure the economic effect of creativity, but also the cycle of creative activity in view of the interaction between the four forms of capital, i.e. social, cultural, human and structural or institutional – as the factors for the growth of creativity (or the creative capital). The overall effect of all these factors is defined by the general term results of creativity. Essentially this is the structure of the creativity index; one of the best pieces of research concerning the creativity index is a study by researchers at Hong Kong University. Their study claims that the "creativity index is one of the tools to discover and measure the wealth of creativity residing in a country" (A Study on Creativity Index 2004). According to the findings of their study creativity is measured on the basis of five variables: 1) the results of creativity; 2) institutional capital; 3) human capital; 4) social capital; 5) cultural capital. Creativity may also be defined as a process whereby ideas are generated, integrated or transformed into valuable items. Originality refers to the creation of something out of nothing, or the transformation of something that already exists. These concepts are inseparable from innovativeness and the open innovations (Chesbrough 2003). The scope of CE is determined based on these indicators of CI. Theoreticians in the field, and also those who create public strategies and professionals working in creative business organizations have interpreted the concept of CI differently. There is no single definition of CI, or even the criteria for a systemic assessment of the objects constituting this part of CE. Finally, there is still no common consensus as to whether CI include only artistic areas, or whether research should be included. The terms cultural industries and CI are frequently confused, or in some cases the two terms are used interchangeably. Any further consideration of the two concepts should first define the products or services created or produced under their auspices.

Where culture is understood in an anthropological or functional sense, the concept of cultural products may be used. For instance, it may be assumed that cultural goods or services, such as works of art, music concerts, literature, films or TV programs or video games have the following exclusive qualities: 1) their production requires specific human creativity efforts; 2) they communicate symbolic messages to their consumers, i.e. they surpass their practical usage to the extent they are additionally used for broader communications purposes; 3) they have at least a potential to comprise intellectual property attributable to an individual or a group producing the product or the service.

An alternative or an additional definition of cultural products or services arises from the type of the value they embody or create, i.e. it may be concluded that, irrespective of their commercial value, those products or services do have any additional cultural value which may not be fully measured in terms of financial ratios. In other words, different types of cultural activities and the products and services produced by them are evaluated by both the producers and the consumers –

for cultural and social qualities, which may complement or even go beyond their purely economic evaluation. Those can be aesthetic considerations or an operational contribution to the understanding of the cultural identity of a community. If such cultural value could be readily determined it could be used as an observable characteristic to be applied to compare cultural products and services concerned with products of other types.

The economic understanding of cultural products and services is based on the perception that cultural products and services represent a category that goes beyond the limits of our understanding of conventional products or services. The concepts include the different products produced by humans; the production of such products does require some tangible amount of creativity. Therefore, the category of creative goods is broader than the cultural products as defined above by embracing such products as fashion and software. Even though the latter products might also be considered to be pure commercial products, their production requires a certain input of creativity.

1.3. Cultural industries and the emergence of a standardised and clichéd culture due to the influence of technologies and the media

The term cultural industries emerged in the post-war period pronounced as a strict critique of entertainment by representatives of the Frankfurt school. Theodor Adorno (1991, orig. 1972) who, together with Max Horkheimer, in his 1947 book *Dialectic of Enlightenment* was the first to mention the term *culture industry thus attempting to more precisely describe and identify the mass culture.* As claimed by Adorno and Horheimer (2002, orig. 1987) "aesthetic barbarism today destroys the formation of intellectual culture, even worse – all is simply neutralised by an overly narrow statement culture industry". Similar ideas were developed soon afterwards by Herbert Marcuse in his book *One-Dimensional Man: Studies in the Ideology of Advanced Industrial Society* (2002, orig. 1956) in which he claims that "whatever is happening now may not be described as deterioration of high culture and transition to the mass culture – that is rather a complete rejection of the high culture completely determined by the reality itself". At that time the concept of cultural industries was designed to cause shock, to prove that culture and industry are opposite matters, and the term itself is used in polemics against the restrictions of cultural life. Later on the term was used to express contempt towards popular papers, films, journals or music produced for mass consumption. A more comprehensive analysis of this ambivalent phenomenon carried out by representatives of the Frankfurt school concluded that cultural industries had to be critiqued for promoting standardized and cliché culture development under the influence of technologies and media.

Even today culture and industry are interpreted differently. The cultural industries concept frequently provokes thinking in opposite extremes, such as elite culture against mass culture, high culture against popular culture, or art against commercial entertainment. More frequently it is stated that cultural industries are branches of industry producing cultural goods and services.

UNESCO defines cultural industries as those goods and services that "combine creation, production and commercialization of contents which are intangible and cultural in nature". The copyrights of the content are normally protected, and the content itself may acquire a form of goods or services (UNESCO 2010). According to UNESCO, the important factor is that cultural industries perform a central role in promoting and supporting cultural diversity and ensuring the democratic right to use culture (UNESCO 2010). This dual nature actually merging the cultural and the economic aspects does create a very specific profile of cultural industries.

According to Hesmondhalgh (2007), France has probably the clearest understanding of cultural industries in Europe; it has built up an ambitious communications strategy and programs, and in this respect has been outpacing Great Britain since as early as the 1970's. In France cultural industries are defined as economic activities joining the functions of cultural ideas, creation and production with more industrial functions in the large-scale production and commercialization of cultural products. Seemingly this kind of definition leads to a broader interpretation of cultural industries than was included in the conventional concept of culture sector.

The culture economy is an object of the economy related to the results of culture. The object of research into culture economy in the first place includes a measurement of the economic benefit generated by culture, its products and services. The areas of research of culture economy include religion, ideology, social norms, social hatred, identity, economy culture, literature, and art economy. The principal issue raised by researchers into culture economy is to understand how ideas and behavior disseminate among people and form social targets (Wasserman, Faust 1994), and such processes as learning (Grusec, Hastings 2007), sociocultural evolution (Trigger 1998), or information cascades. The latter were investigated by Bikhchandani *et al.* (1992) who claimed, "An information (or informational) cascade occurs when a person observes the actions of others and then – despite possible contradictions in his/her own private information signals – engages in the same acts". The methods of research into CE include case studies and the theoretical and empirical modelling of the cultural penetration into social groups. The term culture economy is more popular in European and South American countries. Many contemporary theoreticians, politicians and business representatives use the term culture economy when referring to the economic aspect of culture policy. Furthermore, many artists or intellectuals feel some discomfort about discussions concerning CI; hence, the CE which emphasizes business or market aspects. Culture economy is essentially the application of economic analysis to any creation and all scenic arts, heritage and privately or publicly managed cultural industries.

Culture economy is related to the organization of the cultural sector and the behavior of producers, consumers and governments in this sector. The discipline of culture economy embraces the prevailing and radical views, the neoclassical and welfare economies, the public policy and institutional economy areas. In his essay *The Cultural Economy of Fandom* (1992) the most famous culture economy theoretician, John Fiske, claimed, that "All popular audiences in engage in varying degrees of semiotic productivity, producing meanings and pleasures that pertain to their social situation out of the products of the culture industries" (Fiske 1992). The trilogy *Culture and globalization* series (2007 2008 2010) by Helmut Anheier and Yudhishthir Isar analyses the dynamic relationship in which culture is part of the process of economic change that in turn changes the conditions of culture. It brings together perspectives from different disciplines to examine such critical issues as: 1) the production of cultural goods and services and the patterns of economic globalization; 2) the relationship between the commodification of the cultural economy and the aesthetic realm; 3) current and emerging organizational forms for the investment, production, distribution and consumption of cultural goods and services; 4) the complex relations between creators, producers, distributors and consumers of culture; 5) the policy implications of a globalizing cultural economy.

Anheier and Isaro (2008) engage in empiric research of the way cultural industries interact with the rules dictated by globalization, the most important of which – culture – is inseparable from economy; that is the queen of export of modern countries, the benefits of whose crown are yet nearly unused. Jack (2002) concludes that CE by itself holds some special qualities and operates in the market according to a well-directed scenario whose principal leitmotivs are the following: 1) a broadly perceived form of post-cultural CE in which the culture-economy dualism disintegrates; 2) the increasingly popular idea of culturization, which is based on the epochal narratives of the changing relation between culture and economy (Jack 2002).

Although in the present paper theoretical analysis is based on the principles of cultural economy as a discipline, the purpose of the present paper is to better understand the dynamics of creativity, and all of its interactions with the global economy, including its multi-faceted aspect whereby culture economy interacts with technology and commerce policy.

1.4. Creative industries – the potential of creation, skills and talents when using the creative property potential

The definition and use of the term CE varies from country to country. The term was first used in scientific sources several decades ago. As was mentioned earlier the very concept of CI originated in Australia in 1994, following the publication

of the manifest *Creative Nation*. The political initiative undertaken in 1997, just three years later, by the Government of the United Kingdom laid the foundation for global practices in the analysis of CI, although the concept and the object are not always perceived identically by the science and business worlds, or indeed by Governments. While responding to market changes and observing the competitive environment, business called upon politicians and public figures to draw attention to this new, innovative interdisciplinary area. Lash and Urry (1994) proposed one of the first definitions for CI claiming, "each area of CI has its unique and an irreplaceable quality which is related to financial exchanges into intellectual property right". According to the DCMS (2010), CI are those, which arise from an individual result in creation, embrace skills and the promotion of potential talent as something inseparable from the use of intellectual property. This, and a somewhat proliferated definition, act as a guide to what the DCMS (2010) claims may cover the domain of CI; according to the DCMS, there are thirteen of these in total: advertising, architecture, arts and antique markets, crafts, design, designer fashion, film, video and photography, music and the visual and performing arts, publishing, software, television, and radio. As the Local Government Association of Great Britain (2010) notes creative and culture industries have always been very important to Great Britain as a source of ideas and inspiration; however, complementary to other immaterial benefits, these industries have acquired specific economic value in recent years. The economy of Great Britain has become very knowledge-based – the production, use, sharing and analysis of knowledge have become an extremely important part of the economy and the basis for the creation of the State's welfare. Melnikas (2005) notes that a knowledge economy is an economy which is developed under the conditions of a knowledge-based society and whose growth is determined by the principal factors representing its development and the dissemination and use of new knowledge in all areas of economic life, while at the same time ensuring further economic growth, improvements in the quality and enhancement of productivity in all sectors by the means of new production and operational methods, and the development and practical implementation of new technologies (especially high-tech services). In 2007, nearly 50% of jobs in the United Kingdom were in the knowledge-based economy area. In essence this concept includes the production of high and medium technologies, hi-tech services (communications, computer services, research and development), financial and business services, CI, and also education and healthcare. In the period from 1995 to 2005, for every 12 new jobs created in the UK in the knowledge-based economy, only one job was created in other industries. The example of the United Kingdom is unique both in Europe and globally. The strategy developed and implemented by the country created tangible value added and yielded positive financial and social results up until the outset of the global recession in 2008. And even then the sector least affected by the economic decline was the CI sector. Fig. 1.1 shows the scheme of the impact of CI on the national economy.

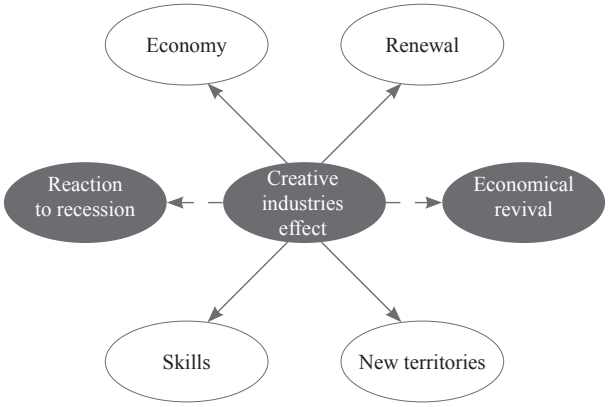


Fig. 1.1. Impact of creative industries upon the national economy (source: Local Government Association 2010)

CI being the key part of the knowledge-based economy did have a significant impact upon the creation of the national and local economy. The benefits of investment in CI include the following areas (Local Government Association 2010):

1. Productivity. Over the past decade CI grew at an average of 4% GVA between 1997 and 2006, compared to 3% across the whole economy.
2. Jobs. Creative employment also grew at twice the national average, increasing by an average of 2% per year as compared to 1% in the economy as a whole over this period. In local areas investment in creative industry interventions, such as festivals, can create employment and generate income by attracting local as well as foreign tourists.
3. Innovations. Innovations create new markets, growth in productivity, spill-overs and new efficiency. According to Melnikas *et al.* (2000) innovation is a functional and in essence progressive novelty targeting replacing the old with the new. CI are considered to be an important source of innovations. Creative firms tend to be early adopters of innovation as well as stimulators of innovation in other firms that they work with as partners and/or suppliers.
4. Regeneration. CI have the potential to contribute to physical and social regeneration, as well as community cohesion. The project-based principle of the operations of CI does promote the community cohesion.
5. New theories. CI can contribute to improved quality of life for residents, and increased attractiveness of territories for investment. Both cities and peripheral areas benefit in this way.

Investment in CI does allow the formation of new ideas as to how to create a higher quality of life. The development of strategies for CI is believed to be a

matter of national scale with the responsibility borne by top management, while the efficiency of implementation and the benefit from the development is the responsibility of regional authorities and communities.

Table 1.1. Creative industries classification (source: author)

Traditional culture activities	Heritage	Traditional cultural expressions	Arts and crafts
			Festivals and celebrations
		Locations of cultural values	Archaeological sites
			Museums
			Libraries
			Exhibitions
	Arts	Visual arts	Painting
			Sculpture
			Photography
			Antiques
		Performing arts	Live music
			Theatre
			Dance
			Opera
			Circus
			Puppetry
New creative activities	Media	Publishing and printed media	Books
			Press and other publications
		Audio-visual arts	Films
			Television
			Radio and other broadcasting
	Functional creations	Design	Interior
			Graphic
			Fashion
			Jewellery
			Toys
		New media	Software
			Video games
			Digitalised creative content
		Creative services	Architecture services
			Advertising services
			Cultural and recreational services
			Research and development
			Digital press

An important event in establishing the concept of CI was the XI conference of UNCTAD ministers held in 2004. The conference included the subject of CI into

the agenda of the international economic development and was drafted according to the recommendations of celebrity specialists in CI and development.

CI are vast in scope, and deal with the interplay between various subsectors. These subsectors range from activities rooted in traditional knowledge and cultural heritage such as arts and crafts, and cultural festivities, to more technology and services-oriented subgroups such as audiovisuals and new media. The UNCTAD classification of CI is divided into four broad groups: heritage, arts, the media, and functional creations. These groups are in turn divided into nine subgroups. The rationale behind this classification is the fact that most countries and institutions include various industries under the heading "CI", but very few try to classify these industries in domains, groups and subsectors. Yet doing so would facilitate an understanding of the cross-sectoral interactions as well as of the broad picture. This classification could also be used to provide consistency in quantitative and qualitative analysis. According to this classification, CI are comprised of four groups, taking into account their distinct characteristics. These groups are heritage, arts, the media and functional creations (Table 1.1). The four groups of CI are distinguished according to the nature of their activities (Creative Economy Report 2008).

According to UNCTAD CI are defined as (Creative Economy Report 2008): 1) comprising the cycle of creation, production and the distribution of goods and services that use intellectual capital as their primary input; 2) a knowledge-based activity most often related to the arts (but not exclusively) which is able to generate income from trade and intellectual property rights; 3) comprising tangible products and intangible intellectual or artistic services with creative content, economic value and market objectives; 4) at the cross-road among the artisan, services and industrial sectors; and; 5) constituting a new dynamic sector in world trade.

1. Heritage. Cultural heritage is identified as the origin of all forms of arts and the soul of cultural and CI. This is the starting point for this classification. It is heritage that brings together cultural aspects from the historical, anthropological, ethnic, aesthetic and societal viewpoints, and influences creativity and is the origin of a number of heritage goods and services as well as cultural activities. Also closely associated with heritage is the concept of "traditional knowledge and cultural expressions" embedded in the creation of arts and crafts as well as in folklore and traditional cultural festivities. Therefore, the group is further subdivided into two sub-groups:
   a) traditional cultural expression: arts and crafts, festivals and celebrations;
   b) cultural value locations: archaeological sites, museums, libraries, exhibitions, etc.
2. Arts. This group includes only CI based on arts and culture only. The group is further subdivided into two sub-groups:

   a) visual arts: painting, sculpture, photography and antiques;
   b) performing arts: live music, theatre, dance, opera, circus, puppetry, etc.
3. Media. This group covers two subgroups of media which produce creative content with the purpose of communicating with large audiences ("new media" has been classified separately):
   a) publishing and printed media: books, press and other publications;
   b) audio visuals: film, television, radio and other broadcasting.
4. Functional creations. This group comprises more demand-driven and services-oriented industries creating goods and services with functional purposes. The group is further subdivided into the following sub-groups:
   a) design: interior, graphic, fashion, jewellery, and toys;
   b) new media: software, video games, and digitalised creative content;
   c) creative services: architecture, advertising, culture and recreational services, research and development, the digital press, etc.

There is an ongoing debate about whether science and R&D are components of the CE. Besides the issue of including the economic gains derived from intellectual property stemming from scientific research, there is very little empirical research, which has attempted to analyze the interactions between research, science and the dynamics of the CE. UNESCO approached this matter in the context of increased cooperation between science and industry as well as between the public and private sectors in the promotion of scientific research for long-term goals, prior to the discourse about the CE, in the context of the World Conference on Science in 1999. As was pointed out by the Amsterdam Creative Industries Declaration (2010), which was signed by 75 experts from all over the world, the two sectors should work in close collaboration and in a complementary manner. However, from reviewing follow-up activities, it seems that scientists from the public and private sectors have not yet articulated this cooperation, even if the private sector is a direct beneficiary of scientific innovation and science education and an increasing proportion of funds for creative-industry related scientific research are financed by the private sector.

Howkins uses of the term CE in a broad sense, covering fifteen CI extending from the arts to the wider fields of science and technology, which are inseparable from the knowledge economy. One of the most comprehensive definitions of the interrelation between CI and the knowledge economy was provided by Hartley (2005). According to Hartley, the most important part of the CE is attributed to those CI which represent a fusion of concepts and practices and involve creation arts (individual talent), CI (mass) in the environments of new media technologies, knowledge society and interactive citizens-consumers (Hartley 2005).

For countries in the developing world, the recognition of the development dimension of the CI, and hence of the CE, has been more recent. The São Paulo Consensus, which arose from UNCTAD XI was a decisive step in this regard.

Subsequently, UNCTAD has enlarged the focus of its policy-oriented analysis, emphasizing four key objectives in its approach to the CE (Creative Economy Report 2008): 1) to reconcile national cultural objectives with technological and international trade policies; 2) to deal with the asymmetries inhibiting the growth of CI in developing countries; 3) to reinforce the so-called "creative nexus" between investment, technology, entrepreneurship and trade; and 4) to identify innovative policy responses for enhancing the CE for development gains.

UNCTAD's definition of the CE (Creative Economy Report 2008):

1. The "CE" is an evolving concept based on creative assets potentially generating economic growth and development.
2. It can foster income-generation, job creation and export earnings while promoting social inclusion, cultural diversity and human development.
3. It embraces economic, cultural and social aspects interacting with technology, intellectual property and tourism objectives.
4. It is a set of knowledge-based economic activities with a development dimension and cross-cutting linkages to the overall economy at macro and micro levels.
5. It is a feasible development option calling for innovative multidisciplinary policy responses and inter-ministerial action.
6. CI are at the heart of the CE.

At the same time, at UNESCO Headquarters work was proceeding on the preparation of a cultural diversity convention whose provisions would specifically recognize the contribution that cultural industries make to economic and cultural development in both industrialized and developing countries. The resulting Convention on the Protection and Promotion of the Diversity of Cultural Expressions was adopted by the General Conference of UNESCO in October 2005 and entered into force in March 2007 (Creative Economy Report 2008).

It might thus be concluded that in the course of the past decade the concept of CE has been developing in several directions. The concept itself emerged as a means to highlight the role of creativity as a factor in modern economic life, while itself materializing the statement that economic development and cultural development are not isolated phenomena, but are rather a part of sustainable development ensuring the simultaneity of economic and cultural growth. The very idea of the CE in the developing world specifically highlights the significant creative capital and abundant cultural resources present in all developing countries. The CI which use these resources not only enable countries to tell their own stories and project their own unique cultural identities to themselves and to the world, but they also provide these countries with a source of economic growth, employment creation and increased participation in the global economy. At the same time, the CE promotes social inclusion, cultural diversity and human development.

1.5. A theoretical pentagon of the creative economy

This Subchapter of the paper introduces five theoretical preconditions for the CE phenomenon. References are made to the theories developed by economic researchers, and also different interpretations concerning the existence of the new economic phenomenon. The interpretation offered by John Howkins is based on the theory that the CE is made up of fifteen CI (classified by the author himself). The subject under discussion is the relationship between creativity and economy; despite the fact that both phenomena are not new, it is the nature and the scope of their interrelationship, which is novel. A broad interpretation of creativity also underlies Richard Florida's descriptions of the emerging "creative class" in society, a cohort of professional, scientific and artistic workers whose presence generates economic, social and cultural dynamism, especially in urban areas. According to Richard Caves (2000), CI are characterized by seven economic properties which while are not unique by themselves, their sectors, whose driving force is creativity, do create new approaches towards business processes, the supply of new products and the demand for them, and embrace both economic and social indicators of national economic development. Charles Landry elaborated upon the idea of a creative city. He claimed that all cities have a single and most important resource – their people. Creativity modifies the location, natural resources and access to the market while becoming the principle driving force for the dynamics of the growth of a city. The term creative city defines a city in which diversified cultural activity is an inseparable from the economic and social functioning of the city. His theory is based on the concept of creative identities. The principal factors causing the rapid growth of CI globally are related to both technologies and the economy. The technological communications changes prompted by the digital revolution and the economic environment in which this revolution has developed merge together, thus creating conditions for the further development of creative economies.

The CE is a 21st century phenomenon based not on the ordinary satisfaction of utilitarian needs, but rather on the sophisticated consumption and satisfaction of higher social needs. Consumers in the modern developed world noticeably change their qualities – from functional to the intellectual or moral satisfaction needs in the context of daily consumption. Entertainment, in its broad sense of the word, and lifestyle create challenges to the fundamentals of a service and production economy: production is automated and the need for human resources in the service industry is diminished. As a result, representatives of the Millennial generation have themselves become fully-fledged participants in the CE – as consumers, suppliers and observers. The changing market needs produce new tasks in the area of communications, technologies and inventions. These developments are further followed by changes in the specifics of CI that actually constitute the core of the CE, which creates a context for daily changes in the needs for symbolic consumption that appear sud-

denly, and disappear equally rapidly. On the global scale expenses for "pleasure" services are rapidly increasing, as the services are on growing scale becoming art of fashion, software, leisure time and other industries. The CE is rapidly creating large numbers new jobs and new market needs, while at the same time responding to market expectations. The impact of the CE can be most prominently seen through the use of skills and business models for the purpose of creation of organizational value and the management of intellectual capital, rather than through conventional CI. In a similar manner as with individual processes, both creativity and economy have developed independently for many centuries; however, in the 21st century they have acquired a new common denominator by having become a CE highlighting intellectual property and the creativity aspect as the most important attributes of the new economy (Levickaitė 2010). Organizations are becoming increasingly dependent upon creativity by refusing conventional physical raw materials and their increasing use of a wide range of intangible intellectual raw materials.

Table 1.2. Creative industries according to DMCS and Howkins classification (source: author)

CI according to the Department for Culture, Media & Sport of the UK (DCMS 2006)	CI according to Howkins (2007)
Advertising	Advertising
Architecture	Architecture
Arts and antiques	Arts
Crafts	Computer games
Design	Crafts
Fashion	Design
Films, video production and photography	Fashion
Music, visual and performing arts	Films
Publishing	Music
Radio	Performing arts
Software, computer games and e-publishing	Publishing
Television	Research and technologies
	Software
	Television and radio
	Toys and games (except computer games)

In the first edition of his book *Creative Economy* (2001) Howkins claimed that CI are the core of the CE. According to Howkins, the world has been divided by digital technologies and at the same time creativity is dividing the world, though not in terms of people being creative, but their talent to express creativity through marketable products. Howkins systemized CI into fifteen sectors thus expanding the list of CI offered by the UK Department for Culture, Media &

Sport. His list has become one of the most popular standards for evaluating and expressing economic values in the global, national or local environments both in developed and developing countries (Table 1.2).

Howkins qualifies each creative industry according to its input into national economy, its added value, and how it differs from traditional industries and their businesses. Table 1.3 presents the CI sectors and areas listed by the author and their descriptions.

Table 1.3. Creative industries description according to Howkins (2007)

Sector	Description
Advertising	An opportunity to present one's work beyond the boundaries of traditional media by penetrating into the new relationships of both modern and conventional technologies by which organizations now reach their customers by filling in empty spaces with logos, brand names and slogans.
Architecture	Architecture is a business of copyrights and is clearly outstanding as the most international out of the 15 industries: partly because it does not rely on words, but also because it has achieved its original international iconography that is not dependent on any nations and cultures.
Arts	The art market is unusual as it deals only with original works that are unique and rare. While the objective of most industries is to multiply and sell as many new copies as possible, the art dealer's objective is to highlight the rareness of a piece of art.
Crafts	Crafts flourish in two separate markets; in the art market where they are exhibited in art galleries and sold at auctions, and also in the much larger tourism and leisure markets.
Design	The Industrial Designers Society of America defines industrial design as the "creation and development of concepts and specifications that optimize the function, value and appearance of products and systems for the mutual benefit of users and manufacturers" (IDSA 2010).
Fashion	Designer fashion is a small but intensely competitive business; a volatile combination of art, crafts, design, manufacturing, retailing and publicity.
Films	Films are protected by copyrights. Most laws interpret the concept of an "author" quite broadly to include the screenplay author, the producer, the director and others, (including protection of costumes, design, etc.). Once created, the film's rights are sold or licensed to distributors within each territory, types of intermediaries (cinema, broadcast, etc.) and each language.
Music	Music is the most intangible of creative work products. The industry has four main sectors: composition, performance, publishing/licensing, and sound recordings.

End of Table 1.3

Performing arts	The performing arts include all kinds of on-stage and site-specific performances. Activities in performing arts writing, producing, casting, directing and performing, design, lighting and sound, set-making, marketing and administration.
Publishing	People appreciate books not for their content but for the diversity of their design and their physical tangibility. Even though the number and circulations of published titles is still growing, profit margins in the industry remain at a record low.
Research and Development	Research and development is a patent business. On the global scale from 2006 to 2012 the leaders in the research and development market were the USA (USD 330 billion), China (USD 136 billion), Japan (USD 130 billion) and Germany (USD 53 billion).
Software	The design and writing of computer programs is clearly a type of creation too. It might be sensible to include each kind of software to a relevant category; so the development and selling of software industry would be assigned to R&D, and computer-aided design would be considered a type of design.
Toys and games (except computer games)	Design, production and sales of toys and games have been affected by the growth of the computer games industry. Toys or games are objects of several types of intellectual property protection. Their names might be trademarks, but the design and artistic elements may be protected by copyrights.
Television and radio	In technical terms of the object, broadcasting is a specific and somewhat simple business of transmitting sound and image to an audience. Although most of these kinds of upgrades require significant additional investment, they repay fast.
Computer games	This industry consists of three sectors: device-based games with software, universal CD or DVD games, and Internet games. With the fast improvement of gaming devices, ever-faster processors and universal access to the Internet, the personal computer gaming sector has decreased.

According to Howkins (2007), some CI such as music and design are very volatile. At present, the rapidly growing industries are architecture, arts, research and development. Some industries have a tendency to grow faster than others, as people are becoming increasingly creative, and technologies enable products to generate larger profits.

A Harvard professor economist researcher of the CI Richard Caves (2000) offered to assess CI according to their seven economic properties (see Table 1.4).

Table 1.4. Creative industries economic properties evaluation according to Caves (2000)

Economic properties	Evaluation
Nobody knows principle	There is demand in the creative product market, however, its cycle depends on the response to the product; while this consumer reaction to a creative product is neither known beforehand, nor easily understood after the product's presentation.
Art for art's sake	Artists' concern – originality of the work of art, performance technique, professional skills, aesthetics, harmony, etc. While seeking the objectives of the works' implementation and presentation the remuneration for the artist is often is of very low priority. Therefore often artists opt for lower fee rather than choosing a better paid but in their opinion commonplace activities.
Motley crew principle	Diverse skill inputs are required for creation of relatively complex creative products (e.g. films). The more skills are employed, the better and the more valuable result is attained.
Infinite variety	Creative products are differentiated according to their quality and uniqueness: each product is a combination of different inputs, which leads to an infinite variety (e.g. pieced of creative writing: poetry, prose, essay writing, scenarios, etc.)
A list / B list	Since creative skills are differentiated in a vertical manner, artists are valued according to their skills, originality, experience of the creative process, and, finally, the "produced" creative products. Artistic skills are characterised by certain insignificant strengths; however, major differences actually display themselves when it comes to talent, which is often directly proportional to financial success.
Flying time	Time category becomes vital when coordinating complex projects merging different skill inputs.
Ars longa	A reference to an aphorism by Hippocrates *Ars longa, vita brevis* [art is long, life is short] used by R. Caves to describe the timeless art. Some creative products have durability aspects that invoke copyright protection thus enabling the creator or performer (or his families) later to collect royalties.

The theory of the seven economic properties developed by Caves were criticized due to its conservative and very inflexible approach (Towse 2003). It should be presumed that not all art workers (creators) are motivated by the driving force – *art for art's sake*; sometimes some non-creative products (e.g. other licensed production) may become an object of the *ars longa* concept), while the time flies concept may also encompass large-scale and multi-faceted structure projects. CI by themselves are therefore not unique, however, their sectors whose driving force is creativity do create new approaches towards business processes, the supply of new products and the demand, and embrace both economic and social indicators

of national economic development. Furthermore, CI are flexible and attractive when it comes to cooperating with non-creative (supported) industries.

The development of CE is inseparable from a creative class and the theory of creation businessmen. A broad interpretation of creativity also underlies Richard Florida's descriptions of the emerging "creative class" in society, a cohort of professional, scientific and artistic workers whose presence generates economic, social and cultural dynamism, especially in urban areas. More specifically, the creative class is made up of individuals working in the areas of science and engineering, architecture and design, education, music and entertainment; their overarching function is to create new ideas, technologies and the creative content. In Florida's view, the creative class consists of business, financial and legal professionals as well. Whether artists or engineers, musicians or computer experts, writers or entrepreneurs – these people have a common creative ethos, and they are valued for creativity, individuality, diversity and talent. In short, they are people creating the economic value by virtue of their creativity. The values of the creative class are individuality, meritocracy (authority of the talented), diversity and openness. Florida has estimated that in the beginning of the 21st c. the creative class was represented by about one third of the USA's labor force, and about half of the wages paid nationwide (i.e. about USD 6.8 trillion) was paid to representatives of the creative class – equal to the amount paid in the production and service sector together. "Creativity is not mental capacity. Creativity is related with an ability to synthesize. It is a process comprehension of data and the selection and the review of the material with a view to creating something new and useful" (Florida 2002). Several years later Florida elaborated his idea that as soon as the growth of creativity becomes the primary factor in economy, the mankind enters the creation age (Florida 2005). Florida presented his "3 Ts" (technologies, talent and tolerance) economic growth theory. Florida's theory differed from the conventional concept in the sense that the author was seeking to prove that it is specifically talent that rules economic development. In a sense, he goes one step further by adding the third T (tolerance), in order to attract the necessary human resources. Florida's ideas were criticized, for example, for the range of occupational categories used in defining the creative class being too wide. Nevertheless, he was recognized as a researcher who significantly contributed to the public discourse on the evolving CE. At the same time, the concept of creative entrepreneurs and creative cities emerges to describe successful and talented business people able to transform their creative ideas into products or services provided to the public, in addition to the newly coined concepts of "creative businessmen" and "creative cities".

Another concept important for the development of CE was that of a creative city. In his famous work on the creative city concept, Charles Landry (2000) argues that cities have the single most important resource – its people. Creativity modifies the location, natural resources and access to the market while becoming

the principle driving force for the dynamics of the city's growth. "Today many cities in the world are going through transition periods, which often are evoked by renewed vitality of globalization. In areas such as Asia, cities grow, and elsewhere, such as Europe, the old industries are declining and cities added value does not depend on what is produced, but rather on the intellectual capital, that is used for products, processes and services" (Landry 2006). These transitions vary from region to region. In areas such as Asia, cities are growing, while in others, such as Europe, old industries are disappearing and the value added in cities is created less through what is manufactured and more through intellectual capital applied to products, processes and services" (Landry 2006).

The idea of CE has been also widely used in the area of urban economy. This is how the concept of a creative city came into existence. The term creative city defines a city in which the diversified cultural activity is an inherent part of economic and social functioning of the city. These cities often are based on a strong social and cultural infrastructure; they have relatively high level of employment in creative sectors and seek to be attractive to incoming investment due to their good cultural infrastructure. Creative cities use their creative potential in various ways. Some function as nodes for generating cultural experiences for inhabitants and visitors through the presentation of their cultural heritage assets or through their cultural activities in the performing and visual arts. As noted in the *Creative Economy Report* (2008) some, such as Bayreuth, Edinburgh or Salzburg, use festivals that shape the identity of the whole city. Others look to broader cultural and media industries to provide employment and income and to act as centers for urban and regional growth. In other cases, a more pervasive role for culture in the creative city rests on the capacity of the arts and culture to foster urban livability, social cohesion and cultural identity. The contribution of the creative sector to the economic vitality of cities can be measured in terms of the direct contribution of the sector to output, value added, incomes and employment and further through the indirect and induced effects caused. Such effects are created by the expenditures of tourists visiting the city to experience its cultural attractions. In addition, cities with an active cultural life can attract inward investment in other industries seeking to locate in centers that will provide an enjoyable, stimulating environment for employees. That eventually creates a pleasant and motivating environment for employees working in the city.

A good example of a creative city is London. The CI comprise the second biggest sector in the London economy. Between 1995 and 2001, London's CI grew faster than any other major industry except financial and business services and accounted for between 20 and 25 per cent of job growth in the city over this period (Creative Economy Report 2008). Established in 2004, the UNESCO Creative Cities Network reflects a changing perception of culture and its role in society and as part of the economy (Creative Economy Report 2008). The idea for the network was based on the observation that while many cities around the world realize that

the CI are beginning to play a much greater role in their local economic and social development schemes, they do not see clearly how to harness this potential or how to engage the appropriate actors in this development. The main objective of the network is, therefore, to facilitate the development of cultural clusters around the world to exchange know-how, experiences and best practices as a means of promoting local economic and social development through CI. In order to better target the development needs of specific subsectors within the cultural industries, the Creative Cities Network devised seven thematic networks and cities can choose one field on which to focus their efforts. Cities may choose one are to which they prefer to focus. Cities with established creative pedigrees in the fields of literature, cinema, music, folk art, design, information technology/media arts or gastronomy can apply to join the network. Cities are encouraged to consider their candidature in fields that have the greatest potential for economic and social development.

For the purpose of drawing up the *Creative Economy Report* (2008) Montreal was selected as a case study for design-integrated processes and the kind of development of cultural districts that is also found in other parts of the world. The notion of "design" is fully integrated as part of the urban planning strategy for the city. In Montreal, design is not only about generating wealth but also about improving the quality of people's live. The Canadian authorities invited designers and architects to redefine a new aesthetic/functionality of open spaces and to reinvent and redevelop neglected parts of Montreal in order to make these more attractive to the citizens. The "Design Commerce Montreal" project invited designers/architects to work on the look and feel of shopping areas by redesigning numerous shops and restaurants. It is interesting to note that while the Creative Cities Network started out by focusing on the fine arts and core cultural industries such as literature, music and folk art as well as on the need to build on a proven track record within one of the cultural themes or disciplines, the difficulties in demonstrating measurable economic results may have led to a more economics-based interpretation of this requirement, shifting the focus from fine arts/tradition and its upgrading or adornment effect on the city to a more innovative (design) and market-driven approach to the development of CI within the cityscape.

The theory of creative identities of CE developed by John Hartley (2005) is based on personal ideas, talent, experience and work. Irrespective of the approach or manner of analysis CE is dependent on the creative identity. The need for a creative worker is present in every section of the development, production and distribution of a creative product. In exactly the same way a creative consumer is expected from the other side of the chain, i.e. the buyer. According to Hartley (2005), principal pillars of CE are human imagination, experience, creative work and consumption. The author referred to the formation of the modern identity as a DIY (do-it-yourself citizenship) (Hartley 1999) thus describing the new entertainment format and the transfer to the vanishing limit between the creator, seller and

the consumer of creative services, or otherwise – the merge of work, leisure time, education and entertainment.

The constituent elements of CE are CI, a creative class, creative cities, creative identities, economic properties of the CE (Fig. 1.2). These five attributes of CE interact both in between themselves, and jointly thus creating an entirety of ideas, creativity, imagination and creative innovations. The scope of the survey defined for the purpose of the present research paper is based on the analysis of CI in the context of sustainable development of CE.

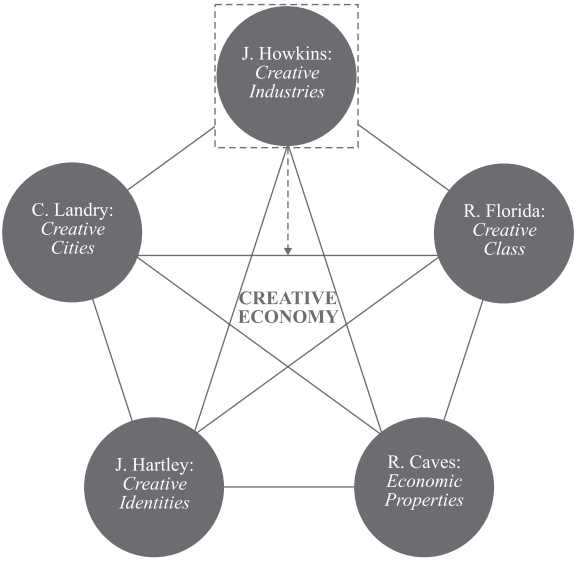


Fig. 1.2. A pentagon of creative economy
(source: adapted by the author from Levickaitė, Reimeris 2011)

In 2013, on the basis of the concept of a pentagon of CE introduced in 2011, D. Kirvelis introduced a post-humanistic concept of ecological techno-creative economy. The author was claiming that life and the living systems are an uninterrupted evolution of biotechnologies, while the technological development of the mankind is essentially the continuation of the biological evolution, and that all the concepts discussed [of the pentagon of CE] may be united by the ecological concept of techno-creation NBICEE economy. The converging NBICEE technology joins ecology, economy, and the NBICEE technological complex would be a path of the humanity towards trans-humanism (Fukuyama 1992) and post-humanism (Ihab 1977), therefore, according to Kirvelis, creative education emerges as the highest level information technology (Kirvelis 2013). The further objective of this paper is based on CI analysis and research of the CE is formed on CI basis.

1.6. Creative products – promotion of economic efficiency, productivity and sustainable development

The *Creative Economy Report* (2010) claims that the growth of creative production within an urban context derives partly from the existence of agglomeration externalities, the beneficial spill-overs that accrue to firms from proximity to one another. It is not only in cities that such effects can be realized. In principle, groups of creative businesses might grow up in any location if the conditions for development of a creative cluster exist. Enterprises producing such cultural products as music, films visual arts, fashion, design, etc. tend to converge in distinctive clusters. That reflects the economic, social and cultural interactions that develop between firms and that become essential to their survival and growth. As Allen Scott argues (Scott 2005), "By clustering together, firms are able to economize on their spatial inter-linkages, to reap the multiple advantages of spatially concentrated labor markets, to tap into the abundant information flows and innovative potentials that are present wherever many different specialized but complementary producers are congregated, and so on" (Scott 2000).

As Michael Porter argued some twenty years ago in the early stage (Porter 1990), the production of creative goods and services under these circumstances can be shown to enhance efficiency and productivity growth and promote sustainable development (Porter 1990). In an urban context, this has been observed in traditional centers of cultural production and creative activity such as London, Los Angeles, New York and Paris and, more recently, in the metropolitan surroundings of Bombay, Hong Kong, Mexico City, Seoul and Shanghai.

It is not only in the major centers that such cultural districts arise, however. In many parts of the world, similar processes are resulting in local concentrations of cultural production. Such concentration of cultural production provides economic empowerment for the community and reflects the traditional knowledge, skills and cultural traditions of the people. Some examples of such production drawn from the developing world are cited by Santagata (2006): 1) In Sigchos, Ecuador, a number of artisans produce pottery, woven goods and clothing reproducing old forms, designs and traditional colors; 2) In Aleppo, Syrian Arab Republic, micro- and small firms gathered in small areas of the town produce green olive soap according to a 3,000-year-old tradition. The technology employed is ancient, the product highly standardized. Santagata argues that cultural districts such as these may be able to establish collective intellectual property rights over the distinctive qualities of their particular output. Such rights, which may, for example, be exercised in the form of trademarks, can act as a safeguard against illegal copying as well as a stimulus to new business investment and the maintenance of quality standards.

CE is not a homogeneous phenomenon – it has many aspects and contributes to the economic, social and cultural development in a number of ways. From the economic viewpoint (Raspea, Van Oort 2006) the international trading, formation of clusters and regional development are specifically the focus of CE. According to the assessment of the UNCTAD (2008) the global market for traded goods and services of the CI has enjoyed an unprecedented dynamism in recent years. Over the period 2000–2005, the CI gained shares in global markets, growing at an annual rate of 8.7%. For instance, the global exports of visual arts items doubled from USD 10.3 billion in 1996 to USD 22.1 billion in 2005. The exports of audiovisual works actually tripled during the same period, and concluding a rights transfer contracts, being the most frequent manner of dealing in creative content, most often trades them. The operation of the intellectual property market both on the national and international scale depends on whether the participating States ensure an efficient supervision of copyrights thus enabling efficient collection and distribution of taxes for copyrights. Porter (2000) speaks about increasingly often-mentioned phenomena – clusters – that have existed for more than one century. The author mentioned that the clusters being formed are inseparable from creative process, which becomes a driving force and a competitive advantage in any area. Clusters foster the growth of productivity, competition and the appearance of new competitive products and services. Peculiarities of international trade in cultural goods and services, as well as issues related to intellectual property and copyrights are analyzed in the following Chapters of the present paper.

The most important social impact of CE and at the same time of the CI (Belfiore 2002) is their contribution to employment. It should be noted that CI are both knowledge intensive, requiring specific skills and high-level qualifications of their workforce, and labor intensive, especially those with a high concentration of creative inputs, as occurs, for example, in theatre or film production. The contribution of the CI to employment is usually significant; typically, they account for around 2% to 8% of the workforce in the economy, again depending on the scope of the sector as defined. The capacities of such industries to create new jobs may be also important from political viewpoint. For example, strategies aimed at redeveloping depressed industrial regions in a number of countries have looked to the establishment of CI as an effective way to boost employment (Flew 2013). Furthermore, it is sometimes noted that the quality of jobs generated by the CE may provide greater levels of employee satisfaction than more routine occupations because of the commitment and sense of cultural involvement engendered among participants in a creative endeavor (Jacobs 2013). Political partners of the United Kingdom Australia, Singapore or New Zealand were quick to perceive the social benefit brought about by CI, their potential to reduce unemployment and increase employment in locations other than cities and administrative centers, and started following the example of the United Kingdom; other countries, such as China,

for some time was indifferent for issues like creative organizations and innovations, however, having observed the benefit thus created by other countries with a double force assimilated and developed the best ideas related to the social benefit generated by CE (Wang 2004). In 2003, CI in the USA accounted for 2.5% of the total employment (when considering the total employment generated by creative economies) (Creative Economy Report 2008). The major part of creative workers was independent artists, writers, performers and workers in the publishing industry.

Another very important aspect of CI is their ability to promote social inclusion (Seltzer, Bentley 1999). CE on the community level is a cultural activity, which may be important for joining social groups into communities and strengthening social relations (Towse, Handka 2013). Communities torn by social tensions and conflicts of different kinds (Rushon 2013) often agree to jointly participate in different cultural events. Such initiatives as community art programs create social capital thus promoting human abilities and the motivation to commit to act for the benefit of the community's life and installing the skills that may be successfully used in local CI (Dreeszen *et al. 2*007). Furthermore, creative activity can be shown to be important for individual health and psychological well-being.

As many women work in the production of art crafts, fashion-related areas and the organization of cultural activities, the CE can also play a catalytic role in promoting gender balance in the creative workforce, particularly in developing countries (Carter *et al.* 2013). It can also facilitate greater absorption into the formal national economies of some categories of generally marginalized talented workers involved in creative activities.

CE is closely related to the education system of some developed and deve loping countries. In schools, the role of the arts in forming children's social attitudes and behaviors is well recognized (Arya, Peters 2010). In adult education, many possibilities exist for using education in culture and the arts to enhance understanding of society and its functions. There is a two-way relationship between the education system and the CI. First of all, education and training institutions are responsible for turning out individuals with the skills and motivation to join the creative workforce. On the other hand, the CI provide the necessary artistic and cultural inputs into the education system to facilitate students' education in the society in which they live and, in the longer term, to build a more culturally aware population (Apple 1996).

Whether the term "culture" is interpreted in an anthropological sense to mean the shared values and traditions that identify a community or a nation and bind it together or whether it takes a more functional sense to mean the practice of the arts, the CE as a purveyor of creative goods and services clearly has profound cultural implications. Cultural activity fosters the growth of both economic and cultural value, and it is the latter that discloses the peculiar contribution of products to an individual, economy and society (Flew 2012). From a policy perspective, the gen-

eration of cultural value alongside economic value from the operation of the CI is relevant because it serves the cultural objectives of society, which stand alongside the economic objectives of a government and are reflected in the broad reach of its cultural policy (Potts 2011). The cultural value of identity is especially important, whether understood at the level of a nation, region, city, town or community.

Diversity is a cultural dimension of the CE that became more prominent in recent years. As processes of globalization continue, the value of cultural diversity has been more sharply defined and the role of the CI in promoting it has been more clearly understood. The Universal Declaration on Cultural Diversity adopted by UNESCO in 2001 sees diversity as being embodied in the "uniqueness and plurality" of the identities of various societies and groups, a common heritage of humankind. Since culture itself is intrinsic to the realization of human aspirations, it is argued that cultural diversity will be an important factor in promoting economic, social and cultural development. These sentiments were in turn given substance in the Convention on the Protection and Promotion of the Diversity of Cultural Expressions, which specifically identifies the cultural industries as essential to the achievement of the benefits of cultural diversity in developed and developing countries alike.

The CI also contribute to sustainable development. The importance of cultural sustainability has been more than once highlighted by Nelson (2009, 2011), Salim (2011), Speck (2006), Ester (2003). The tangible and intangible cultural capital of a community, a nation or a region of the world is something that must be preserved for future generations just as natural resources and ecosystems need to be safe-guarded to ensure continuation of human life on the planet. As argued by Bekerman and Kopelowitz (2008) cultural sustainability implies a development process that maintains all types of cultural assets, from minority languages and traditional rituals to artworks, artifacts and heritage buildings and sites. It is the CI that provide the strategies to get hold of the investments to develop and promote the cultural industry in a sustainable way.

Cultural industries are environmentally friendly. The primary input for creative activities is creativity, rather than natural resources, as is the case in mining industry, or the land ownership (as in agriculture), he CI production is usually less dependent on heavy industrial infrastructure and can be easily compatible with rules and objectives that aim at environmental protection and preservation (Hawkes 2001). There is an observable parallel with the most recent concept of CI – creative ecologies. In his study entitled *Creative Ecologies: Where Thinking is a Proper Job* Howkins (2010) develops the production of "right" and "clean" creative products. The author starts the foreword of the book by referring to a quality indicator that in this age the most important thing how we live our lives. Modern times are inseparable from creation, creativity and the CE in an environment that is ecological in all senses of the word.

1.7. Preconditions of universal sustainability for the development of creative economy

The sustainable development (or sometime referred to as balanced development) is based on such a concept of economic development that embraces an entirety of methods ensuring the access to all resources for the generations to come. The historic roots of the term "sustainable development" originate from a German term to be found in the professional terminology of forestry – the sustainable yield (Germ. *Nachhaltiger Ertrag*) which was first recorded in written sources back in 1713 (Grober 2007). The sustainability concept is believed to have originated from the area of forestry when cutting a forest involves identification of the trees to be cut, as well as reforestation volumes to preserve the forest for the future generations (Ehnert 2009). The basis of the sustainable development is not only the preservation of physical capital resources for the future; the concept also presupposes a method of thinking, an ideological capital that ensures a sustainable development of the future. The issue of sustainability was relevant back in the ancient times, and the aspect was already discussed by Aristotle who claimed that household management must be regenerative, rather than wasteful (Ehnert 2009). In the modern age the sustainability is believed to have been mentioned for the first time in 1972 by a group of researchers working at the Massachusetts Institute of Technology (USA). While speaking about the efforts to maintain economic equilibrium, the researchers of the Institute noted that by their research efforts they attempt to develop a model reflecting the global system in a way that: 1) sustainability develops without a sudden and uncontrollable decline; 2) sustainability facilitates retaining the necessary material requirements for its people (Grober 2007, Spangenberg 2001). In 1987, the United Nations World Commission on Environment and Development published its report "Our common future" that in English sources is also often referred to as the *Brundtland Report*. The basis of the report contains two main concepts: 1 the concept of "needs", in particular the essential needs of the world's poor, to which overriding priority should be given; and 2) the idea of limitations imposed by the state of technology and social organization on the environment's ability to meet present and future needs. The United Nations Organization builds the sustainable development on three core elements: the sustainable development as sustained economic growth, social development and environmental protection. On the basis of those three elements new sustainability standards were designed in different sectors of industry. UNESCO (2001) designated the sustainability concept not only as economic growth, but also as a pursuit for an adequate intellectual, emotional, moral and spiritual existence. In this respect cultural diversity is the fourth element of sustainable development, and embodies the concept of universally sustainable development.

When speaking of CE, and CI, it is quite useful to consider the etymology of the word "culture". The Latin word "cultura" is a polysemantic word. It may means cultivation, education, training, teaching, perfection, development, worshipping and may have many other meanings. The word "culture" is used both as a designation of an activity, and as an understanding of the level of science.

The concept of creation both with respect to science and the activity is directly related to the concept and the utilization of knowledge, innovations and technologies. However, any creative activities always target attaining a certain level of culture. This enables realizing a specific divide and the interface between the CE, and the CI, and the correlation between the pragmatic economy and industries.

A methodically impeccable utilization of such correlations is in all cases an expedient exercise, as the adequacy of the modern analysis and solutions is thus tested in pragmatic situations, and it is only then that the methods are adapted in CI.

The universality of the transition concept deserves attention when also considering the universal sustainability concept. The universal concept *per se* is developing in two aspects. First, in numerous global documents and the accompanying substantiations the universality manifests itself through the construction of analogous categories to ensure that sustainability is identically understood by all entities – regions, nations, business, etc. The second dimension targets a feasibly widest cycle of entities both concerned with sustainable development and responsible for its realization. This dimension also includes an integration of cultural component to the social, ecological and economic components. However, the frequently occurring experiment and its designation as an ultimate feasible component may be excessively ambitious.

In the "Post-2015 Agenda" (*Towards a Framework of Universal Sustainability Goals as Part of a Post-2015 Agenda*) the universal sustainability objectives is one of the four components promoting international cooperation and the holistic approach towards the sustainability status. An integrated system of Universal Sustainability Goals could comprise the following six goal dimensions: 1) dignity and human rights for all; 2) equity, equality and justice; 3) respect for nature and planetary boundaries; 4) peace through disarmament, demilitarization and nonviolent dispute settlement; 5) fair economic and financial systems; 6) democratic and participatory decision-making structures. These six dimensions must not be regarded in isolation from one another, although each being independent and significant in its own way, the universal sustainable development arises specifically from their interaction.

The values of sustainable development are specified in the Earth Charter in which sustainability is presented and integrated vision of the future. As declared in "Agenda 21. Sustainable Development Action Program" (2001), the United Nations Conference on Environment and Development (Rio de Janeiro, Brazil, 3–14 June 1992) known as the World's top level summit attended by 178 govern-

ments, passed the "Agenda 21" – the Global Sustainable Development Action program. The Governments are implementing the mandate approved at the United Nation General Assembly (1989), at the world-level summit convened to define the common strategies to prevent the negative impact of human activities upon the physical status of the environment and promote environmentally sustainable economic development in all countries. "Agenda 21" is a global action plan – from now for governments of the 21st century, United Nations organizations, development agencies, non-governmental organizations and the independent groups in all areas in which human activities make an impact upon the environment. In the Chapter on economic sustainability "Agenda 21" specified three measures (information, integration and participation) facilitating the countries in attaining their defined goals. The document noted that in sustainable development, everyone is a user and provider of information considered in the broad sense, also emphasizes the need for the conventional center-driven sectors to refer to the intersectional coordination principles and integrate into the social environment of the development. The "Agenda 21" also emphasizes the importance of a wide participation of people in the decision-making process in order to achieve sustainable development.

Related to the universal sustainable development are the theories on "strong sustainability", "weak sustainability", deep ecology and "just sustainability". The later refers to the social aspect of sustainability only in relation to environmental protection (Ageyeman 2005). It is "the egalitarian conception of sustainable development" (Jacobs 1999) Other authors have claimed that the "just" sustainability refers to ensuring a better life now and in the future, whilst living within the limits of the available resources and recognizing the limits of the ecosystem (Agyeman *et al.* 2003). This concept of the universal sustainable development focuses equally on three conditions: improving the quality of life and well-being of present and future generations; recognition of justice and equity (Schlosberg 2013); and the ecosystem of processes, procedures and outcomes (Agyeman 2005). The open access technologies offer the most direct path to reach the "just" sustainability. Still, the "green development" is distinguished from the sustainable growth, which encompasses economic, social and cultural issues. As claimed by the researchers of sustainability Donohoe and Needham (2006) is the ability to manage today's resources whilst conserving them for future generations. At the same time references are made to the responsibility of the current generation for seeking to improve the life of future generations by restoring the damage to the ecosystem already incurred and by resisting any future damage to it.

An element of sustainable development – culture – defines the complexity of the modern society. In this context "Agenda 21" (Culture: Fourth Pillar of Sustainable Development, 17 November 2010) elaborates on the new approach towards the relation between culture and sustainable development through dual means:

firstly, the development of the universal culture policy; and secondly, ensuring that culture has its rightful place in all public policies. "The Network of Excellence" supported by the EU elaborated on its targets in the document "Sustainable Development in a Diverse World" in which it integrates multi-disciplinary disciplines and refers to cultural diversity as "one of the roots" of development. The sustainability cyclist theory defines the culture area as practices, discourses and material expressions, which in the course of time express the continuity of the meaning. Still, as the fourth pillar of sustainable development culture has not yet been recognized on a universal scale.

Sustainable development is an eclectic concept covering a wide range of political views. The different concepts used only confirm the tension existing between the ecoentrism and antropo-centrism. Several definitions and images of sustainable development exist side by side. In a broad sense of the word the very idea of sustainable development requires the current generations to maintain a systemic view to growth and development and to manage natural resources, the manufactured and social capital for own benefit and that of the future generations.

According to Lubbers and Morales (2001), the sustainability concept may be used alternatively for constructing the further development trajectory of the increasingly globalizing society. As thinking paradigm sustainability is characterized by durability, a holistic and an integrated approach (Nieto, Neotropica 1997; Klingmann 2010). According to Lubbers and Morales, this durability is determined by a persistent strive to build intergenerational equality. The holistic approach is fostered by placing a special focus upon ecological, social issues and security in all circles of the society – from local to the global. Where sustainable development is understood as a starting point for actions, it gives rise to alternative objectives and targets.

The very concept of sustainable development has been frequently criticized as being overly abstract. How can we know the needs of the future generations? How can we measure their capacities to meet such needs? And what is to be considered a need, rather than luxury? Furthermore, it has been already proven that sustainable development is a stimulating concept. Sustainable development stimulates individuals and organizations to think in longer-term perspectives, assume a holistic and integrated approach, mind the capacity of the environment, also duly consider the existing limitations, as well as modify their behavior modes to more environmentally friendly.

Originally the concept of sustainability was understood as ecological sustainability only; however, in that case it might not be an alternative paradigm. The new "cultural sustainability" concept is slightly different in the sense that larger attention is paid to cultural diversity. A society is not viable unless it has capacities to manage such diversity. Without such fruitful interrelation the homogeneous cultures are much poorer. Culture must be open to the coming globalization, the same time though protected from a hegemonic or identity distorting effect.

Skeptics of the sustainable development concept argue that currently the concept is being used in a overly universal manner and fails to explain the main idea of the term. Temple (1992) argues that such situation confuses researchers, policy makers, as well as the public at large.

1.8. Conclusions of Chapter 1 and formulation of objectives

1. An overview of a number of research sources allows a conclusion that in the course of the past two decades the concept and the understanding of CI, the political structure, ideological management and their contribution to the national economy were largely changing. During that period CI expanded beyond the limits of arts (cultural industries) and approached a potentially commercial activity thus creating a nucleus of CE.
2. CE is a phenomenon of the 21st century based not on the ordinary satisfaction of utilitarian needs, but rather on the sophisticated consumption and satisfaction of higher social needs. CE is the venue for the integration of work, recreation, leisure time, new media, technological, social and cultural needs, while the concept of CE is undergoing theoretical search and is in itself a developing concept based on creative capital able to foster economic growth and development.
3. The theoretical pentagon of CE consists of a set of five theories: 1) the theory of CI argues that the basis of creative economies consists of 15 CI: advertising, architecture, arts, crafts, design, fashion, films, music, performing arts, publishing, research and technologies, software, toys and games (except computer games), television and radio, computer games; 2) creative class theory claiming that creative talent constitutes a basis for economic growth; 3) the theory of seven economic properties claims that by themselves are not unique; however, their sectors whose driving force is creativity do create new approaches towards business processes, the supply of new products and the demand, and embrace both economic and social indicators of national economic development; 4) the creative city theory claims that cultural activity is an inseparable part of the economic and social functioning of the city; 5) the creative identity theory is based on the phenomenon of creative identities, creative identities are believed to be inseparable from personal ideas, talent, experience and work. The present dissertation paper defines the field for CE research, and the analysis is carried out in the context of CI.
4. With references to research literature and EU documents the present Chapter of the thesis includes an analysis of the classification of CI; for the further analysis the author of the paper hose the UNCTAD model of comprehension

of CI which provides a possibility to research the sustainable development object of CE on the academic basis.

5. The analysis of research sources presented in the present Chapter allows a conclusion that the theoretical research of CE gave rise to two major approaches. The classical historical approach claims that CE emerged from cultural economy, and that the result of CE is creative products and services. The new modern approach maintains that creativity is a basis of a holistic process embracing a huge variety of modern economic, innovative, social, environmental and other factors.
6. The overview of the relevant research sources suggests a conclusion that the basis for the development of CE is culture which, being an element of sustainable development, is designed to define the complexity of the modern society and integrates multi-faceted competences. The efficient management of cultural diversity through the activities of CI creates preconditions for ensuring the sustainable development of CE.
7. The generalisation of the insights related to the universal sustainability leads to a conclusion that sustainability should be related to the vision of the future, while culture, being an element of sustainable development, is mean to define the complexity of the post-modern society which interprets cultural diversity as a result of multi-faceted competences, and as a fundamental element of the new sustainable development. The universal sustainability concept including the element of culture expresses the measure of continuity for which the most important properties are durability and a holistic and integrated approach.

The following objectives have been defined after carrying out a theoretical meta-analysis of CE for the achievement of the aim of the thesis:

1. To present insights into the models of the structure and the development of CE in the context of the general economy, define the context of CE and creative and cultural industries within the Europe 2020 strategy, carry out a comparative analysis of the development of CE through selected cases.
2. To identify, on the basis of the analysis of research sources, the criteria for the sustainable development of CE for the assessment of CI, and develop a model of CE from the viewpoint of sustainable development.
3. To carry out a survey of the sustainable development of the Lithuanian CE with the reference to the possibilities for stochastic optimisation, and the introduction of a quantitative measure of sustainability for the expansion of possibilities of research in CE.
4. To construct an adequate investment portfolio in order to secure the sustainable development of the Lithuanian CE, and approve the applicability of the solutions of the sustainable development of the Lithuanian CE.

2

Analysis of the structure of creative economy

In the course of the past decade the importance of CI were recognized on the highest levels of the EU (Klüver 2010; Ladrech 2010). On 12 September 2013, the EP published its Resolution on promoting the European cultural and creative sectors as sources of economic growth and jobs. The cultural diversity of the EU (Scharpf 1994) and the decisive factor that such industries as architecture (Baum *et al. 2*008), archives and libraries (Holden 2007), crafts (Drake 2003), audiovisual works (films, television, video games and multimedia) (Bontje, Musterd 2009), cultural heritage (Garnham 2005), design (Matheson 2006), festivals (Moeran; Pedersen 2011), music (Oakley 2004), performing arts (Markusen 2006), publishing (Cooke, Lazzeretti 2008), radio (Davis, Scase 2001) and visual arts (Flew 2004) constitute the most dynamic economic sector in Europe (Boschma, Fritsch 2009). As indicated in the Resolution those industries employed millions of people in the then EU-27, every year they amount for a larger portion of the GDP, and are growing faster than other economic sectors. CI represent a leverage of social (Oakley 2006) and territorial (Banks, O'Connor 2009) cohesion, the core factor of creativity and innovations with a range of positive effects for business (Bilton 2007), economy (Bakhshi, McVittie 2009) and the society (Deuze 2007). CI meet the ever-changing environments (Georg 2008) caused by state-of-the-art technologies (digital changes) and globalization, which in its own turn create new

challenges and opportunities. Enterprises operating in creative and cultural sectors, and in particular, small and medium businesses that are so characteristic of creative and cultural organizations (Hotho, Champion 2011) currently meet a number of different obstacles for the disclosure of their full potential (Kourtit *et al.* 2001; Cunningham 2004; Calapez, Souza 2013). In April 2010, with a view to creating a conducive business environment fostering the development of creative business and creative entrepreneurship, the EC published its *Green Paper on the potential of cultural and creative industries*, which promoted the cooperation between organizations and individuals throughout Europe. After the publication of the Green Paper some studies were commissioned to survey the cultural and creative industry sectors and their impact upon CE and regional welfare (KEA European Affairs 2013); another objective was to establish in the European cultural development agenda the principles, which are being surveyed also in the context of economics.

A group of experts from different Member States for the purpose of the development of CI since 2008; the expert group was commissioned to focus upon the strategic cultural and CI support programs (Cunningham 2002), including structural fund support (2011s), development of export (Cunningham 2006) and internationalization (Fillis 2001) strategies (2012–2013s); finance engineering (Caves 2002) assimilation of best practice in cultural and CI in small and medium businesses (2013–2014s). The civic society was established (Pratt 2004) according to the recommendations of 2008; starting from 2010 extensive surveys were initiated in a number of areas such as finance, taxation, regional cohesion, digital environment, mobility, education and development of skills.

In the context of the new EU programs (adopted after 2013), and specifically the new Creative Europe program and the Cohesion policy instruments, and in response to "Europe 2020" strategy the EC is offering new measures for the opening of the potential of CI.

2.1. The context of the creative economy and creative industries in the Europe 2020 strategy

The European Competitiveness Report, published annually, and the Communication *An Integrated Industrial Policy in the Globalization Era* (2013) claim that the development of CI is the basis for the economic growth of EU. For Europe to retain the position of the economic leader the industry needs to take a properly significant place in the development of the EU economy. The Europe 2020 strategic guidelines provide that the objectives of development are to boost economic growth and to create new jobs while maintaining and supporting a strong, diversified and competitive industrial basis, while offering to Europe well-remunerated jobs and reducing environmental pollution. CI are an important factor for economic and

social innovations in other sectors. The *Joint Research Centre of the EC* (2013) estimated that further to the direct contribution of cultural and CI to the growth of economy and creation of new jobs, there is also an indirect impact in terms of initiation of the development of the cultural capital, promoting innovations and creating new products, processes, social structures and behavioral modules. This is conventionally referred to as a spill-over effect that manifests itself in a number of areas – development of the creative innovative business, information and communication technologies (ITC), tourism industry, education, science, social innovations, urban rehabilitation and regional development. The *European Competitiveness Report* (2013) indicates that CI constitute the basis for the economic growth of the EU, accounting for 3.3% of the gross GDP of the EU, and employing 3% of the total work force. In 2002–2007, CI had a positive and material effect upon the GDP per capita growth ratio in the Member States. The main reason for such increase in the importance of cultural and CI is the inclination of the sectors towards innovations, while the people working in the sector are not only innovators themselves, but also tend to foster and promote innovations in other sectors.

In view of the intensifying globalization the concept of a national sector and national industries is somewhat disappearing. Europe is seeking to create a holistic strategic approach to the creation of European value chain ranging from the infrastructure and raw materials to servicing after the sale or the provision of a service. For promotion and fostering the creation and growth of small and medium-sized enterprises it is specifically the CI companies that become vital for the formation of the EU industrial policy. This transition towards sustainable economy offers a convenient opportunity to strengthen the competitiveness of CI. The *Industrial Strategy in Europe* (2013) seeking competitiveness and sustainability may accumulate a critical mass of changes, while a suitable sustainability strategy should lead towards economic success. Sustainability is not possible without competitiveness, while a long-term competitiveness may not be achieved without sustainability, which in its own turn is possible only by promoting creative innovations.

On the topic of this Chapter author has published 2 scientific publications (Levickaitė 2012; Levickaitė 2011).

2.2. Political economic guidelines for the purpose of developing the EU single market area and the priorities of industrial competitiveness

Completed in 1992, the single market is an area without internal frontiers in which persons, goods, services and capital can move freely, in accordance with the Treaty establishing the European Community. The internal market is essential for prosperity, growth and employment in the EU, contributing to the achievement of its

objectives under the Lisbon strategy. As an integrated, open and competitive area, it in fact promotes mobility, competitiveness and innovation, interacting in particular with the EU sectorial policies. To ensure that everyone, citizen or business, can make the most of the advantages of the single market, the EU concentrates on dismantling barriers still impeding its operation. It seeks to harmonize legislation in order to improve its response to the challenges of globalization and to adapt to advances, such as the new technologies.

As argued by the EU Single Market Department the internal market seeks to eliminate barriers and simplify the existing rules that serve for the prosperity of the EU – individuals, consumers, and business and provides for 503 million people from 28 Member States a possibility of direct market. The fundamental provisions of the internal market always refer to the principle of "four freedoms": free movement of people, goods, services and capital. These provisions are further elaborated in the EU Treaty and forms the composition of the internal market according to which: 1) individuals have a freedom to live, work and study in another EU Member State; 2) in view of the increasing competition buyers have a possibility to acquire goods cheaper, have a larger choice and may enjoy an enhanced level of protection; 3) the business environment enjoys a simplified procedure to engage in activities abroad.

As indicated in the *EC Communication A single market for 21st century Europe* (2007) knowledge and innovations become the "fifth freedom" as the fundamental principles of the internal market were based on the freedom of the movement of goods and services which in the 19th century was supplemented by new principles of the free movement of knowledge and innovations.

The integrated industrial policy concept is based on the multi-dimensional EU economic policies, such as competitiveness, trade or innovations as long as they perform the most important function – have a direct impact upon the competitiveness of industry. The integrated policy is equally based on two leverages – competitiveness and sustainability. An integrated approach requires cooperation and coordination between the EC and the Member States. While fostering the strong, multi-dimensional and competitive ambition of the new industrialization Europe is strengthening its single economic policy. The subjects are covered in the Europe 2020 strategy and the *EU Single Market Strategy* adopted on 27 October 2011. The latter strategy pays specific attention to protection of intellectual property rights and the transformation of the knowledge-based economy into the stage of the creativeness-based economy that would further lead towards innovation of products and processes.

The Single Market Department of the EC has defined the following cultural and creative sectors to be supported as sources of economic growth and jobs:

3.30.01 Audiovisual industry and services;

3.40.10 Textile and clothing industry, leathers;

4.15 Employment policy, action to combat unemployment;

4.45.02 Cultural programs and actions, assistance;
4.45.06 Heritage and culture protection, movement of works of art;
4.45.08 Cultural and artistic activities, books and reading, arts;
4.70.05 Regional cooperation, trans frontier cooperation;
5.05 Economic growth;
8.50.02 Legislative simplification, coordination, codification.

The following actions were identified as the main priorities of the integrated EU economic policy in pursuit of industrial competitiveness (*European Competitiveness Report* 2013):

1. Substantiation of competitiveness, i.e. horizontal analysis of the impact of economic policy upon competitiveness.
2. Verification of suitability, i.e. the strive of the effective legal base to diminish the cumulative effect; and to decrease the European business costs.
3. Facilitate crediting of small and medium-sized enterprises and foster their internationalization.
4. Adopt a strategy for strengthening of the European standardization.
5. Enhance the efficiency of the European transport, energy and communications infrastructure and the services facilitating the European industry.
6. Develop a new raw material strategy by creating and ensuring appropriate conditions for the management structure facilitating the supply and management of local raw materials.
7. Focus on the most state-of-the-art production technologies taking into account the peculiarities of the sector and ensure the efficiency of resources.
8. Take measures to improve the structural conditions and support innovations in energy intensive industries.
9. Develop an industrial policy by creating a solid industrial basis encompassing the entire supply chain.
10. Draw up annual reports on economic competitiveness of Member States, their industrial policy and the related actions.

While referring to the situation of CI in Lithuania worthy of mention is the survey conducted in Lithuania in 2012 concerning the contribution of copyrights and related rights (CRRR) to the Lithuanian economy; the survey was commissioned by the Ministry of Culture of the Republic of Lithuania and the World Intellectual Property Organization and carried out by the *European social, legislative and economy projects*. The survey analyzed the annual contribution of the CRRR area to the Lithuanian GDP, employment, and foreign trade in 2000–2008. The findings of the survey showed that individual CRRR activities were changing very fast, although the aggregated impact of all such activities upon the economy of Lithuania was changing moderately. In 2008, the RRR accounted for 5.4% of the GDP, and

4.92% of the national employment. This only shows that CI are a productive component of the Lithuanian economy; as a statistical employee in the industry creates value added higher than average. In the area of foreign trade the CRRR area export accounted for 4.68% of the gross export. As compared to neighboring countries in terms of the added value or the share in the GDP created by the CRRR economy segment Lithuania is comparable to Latvia, Finland, Slovenia and Bulgaria.

The survey also allowed a conclusion that the most important branches in the CRRR economy are 1) press and literature; 2) software and databases; 3) advertising services. In the period from 2000 to 2008, the economic contribution of press and literature sector was rapidly decreasing shrinking by nearly one third; however, at the end of the period surveyed it still remained the leading CRRR sector generating 0.87% of the gross added value. Ranking as second are software and databases whose share in the Lithuanian economy doubled within the period under review, and in 2008 accounted for 0.69% of the GDP. The advertising area, being third in terms of economic significance was likewise growing rapidly and at the end of the period reviewed accounted for 0.47% of the GDP.

The survey was conducted on the basis of the WIPO Guide on Surveying the Economic Contribution of Copyright Industries which has been referred to while carrying out the surveys in already more than 30 countries worldwide. Such comparative surveys increase the scope of the different opportunities to use the best practice of other countries when designing the CRRR policy directions (Ministry of Culture 2013).

It may be concluded that the principles of the internal market ensuring free movement of people, goods, services and capital and representing one of the most successful examples in pursuit of uniting Europe also provide for conditions for the development of knowledge and innovations. And that is of specific relevance for the integrated industrial development in the EU Member States of the copyright and related rights industry – the Lithuanian creative products and services.

2.3. The comparative analysis of the development of creative economy: USA, United Kingdom and Australian cases

CI being the core of CE are one of the most innovative areas of economic activities and are closely related to different scientific, practical and functional research undertakings. An isolated survey of an episode of such activities in Lithuania could be most probably considered to represent only an incidental evaluation of the overall performance of CI. The broad-scale analysis of the concept presented in the present paper allows a better understanding of the most important theoretic and practical aspects of CE, as an inseparable part of the globalized environment.

The present paper presents an overview of the surveys in the area of CE carried out globally within the past decade. The surveys are essentially based on two key concepts – first, a classical historical approach holding that CE originated from cultural economy, and that the product of CE is products and services; and the second – new and contemporary view according to which creativity is the basis for a holistic process encompassing a number of modern economic, innovative, social, environmental and other factors. The theories are further confirmed by the findings of the surveys and best practice examples from selected regions of the world. The present paper offers an overview of the model surveys in the area of the CE development carried out in the USA, Australia and the United Kingdom. The examples presented largely illustrate how CE is penetrating the urban, territorial, national and regional development economy.

2.3.1. Concentration of creative entities in a geographic territory (New England case)

Since the very emergence of the phenomenon of CE a much larger focus was placed to the needs and efforts to describe a new competitor rather than generate proposals related to new evaluation methods, definitions, structure or analysis. DeNatale and Wassal (2007), the authors of the system in research of creative economies applied in New England and elsewhere, who have also carried out the analysis of CI, CE and the labor force in New England (Fig. 2.1), have drawn up a very comprehensive, very practical and easily adaptable study which transformed from small-scale surveys in the public sector into a highly illustrative and comprehensive analysis of private persons and organizations of all types, and eventually developed into a solid foundation for different local and State-scale initiatives to develop the CE of New England.

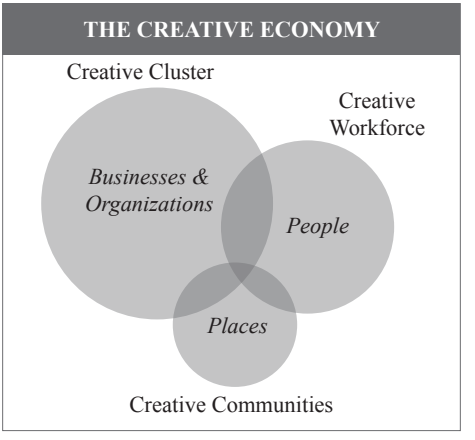


Fig. 2.1. Creative economy structure (source: DeNatale, Wassal 2007)

The principal conclusions drawn up by DeNatale and Wassal were the following: 1) a relatively higher concentration of creative enterprises and creative workers in a geographic area yields a competitive edge by elevating the area's quality of life and improving its ability to attract economic activity; 2) the definition of the CE is represented by the "cultural core". It includes occupations and industries that focus on the production and distribution of cultural goods, services and intellectual property; 3) cultural enterprises can be tracked along the production and/or distribution of cultural goods and services, based on an input/output relationship model between industries. The cultural workforce represents work that directly produces cultural goods, regardless of industry; or, work within an industry that makes cultural goods and/or services, regardless of actual work task; 4) thus New England's location can be interpreted as saying that this region has 12.8% more than the national share of employment in its cultural enterprises; 5) New England's advantage lies in greater concentrations of industries and occupations of national importance; 6) the concentration of employees in the culture are in New England is in general larger than in all other regions of the USA; 7) three New England states rank among the top ten in artists as a percentage of the workforce; 8) in 2000, about 65% of all culture workers were employed in cultural enterprises. The remaining 35% therefore have an impact on non-cultural enterprises; 9) The unemployment rate of the cultural workforce in New England in 2000 was almost two percentage points below the overall rate.

As a summary it may be concluded that the region of six States in the USA which have been implementing a strategic CE development policy has achiever not only significant economic prosperity, but also impressive results in terms of the social inclusion, resiliency of the society and the geographic concentration of professionals.

2.3.2. Transformation of creative economy results into a significant factor of economic growth (Australia case)

An important role in terms of the development of the theory and practice of CE on a global scale is assigned to an Australian researcher Cunningham (2000). According to this researcher CE in fact is much broader than we might possibly think, and extends way beyond art and culture. And at this point it is necessary to seek to establish as soon as possible what CE might look in the future and what steps should be taken to facilitate its development. The author proposed a transfer from the sector-based methodology according to which sectors of CE are considered to be a separate part of economy to the CE in which creative professions and interim products readily contribute to the development and growth of innovations. The principal insights offered by Cunningham (2007) are the following: 1) CE is a separate sector of economy; CE is born at the time when we manage to dissoci-

ate ourselves from other sectors and CI are viewed as contributing to the overall economy, while creative products are considered to be an interim contribution to other sector; 2) the result of creation may become an efficient driver for economic growth – creative skills have become economically significant, and playing an increasingly important role in economy in the broad sense of the word; 3) design is one of the brightest examples of creative contribution to the broader economy, especially into the production industry; 4) CE is also growing in the context of the ever changing culture; 5) the role of consumers in the context of culture is limited to the creation of the content generated by consumers themselves. Currently the Internet contains much larger volumes of the content created by consumers themselves, rather than creative products of creative enterprises; 6) significant impact upon culture: a) interrupts the legal chain in the value of professional creation; b) innovations are pursued not only at the production, but also at the distribution level. In the opinion of Cunningham (2007) Australia needs to create a more uniting and dynamic innovations system better adapted for supporting CE and the society.

This view allows an assumption that the distribution of priorities of CE (rather than their absence) does not accumulate the potential of the national CI and fails to use it in the activities of the supported industries.

2.3.3. The relation of the creative value added to the contribution of the creative sector into the national economy (United Kingdom case)

Three researchers – Higgs, Cunningham and Bakhshi presented a summary of the situation of CE in the United Kingdom. Authors have proposed CE development models which in compare with other models ensure five advantage to the policy makers: 1) it focuses on core creative added value, excluding activities in related chains that are not central to the creative process, such as distribution or retailing; 2) it enables us better to map the extent of creative individuals working in other sectors; 3) it distinguishes between creative individuals and others who work in CI, a useful tool for skills and business development; 4) it uses census data rather than sample surveys, wherever possible; and 5) it enables us to determine the total personal earnings arising from creative employment, a useful indicator of its economic value (Higgs *et al.* 2008).

Higgs *et al.* (2008) main findings are: 1) the CE accounts for over 7% of UK employment, consistent with the official estimates: in 2001, creative employment accounted for almost 1.9 million people or 7.1% of UK employments; (2) creative employment has grown strongly over the long run, UK creative employment grew by 3.3% per annum from 1981 to 2006, compared with 0.8 percent for the broader UK economy. The highest growth rates have been among "specialists" creative workers within the CI where average annual growth since 1981 has been 6.2%.

However, since 2001 overall growth slowed to 1.0%, just below the UK workforce annual rate of 1.2% for the same period; 3) creative incomes are higher than average: creative incomes were on average approximately 37% higher than in the UK economy as a whole in 2006. But they have grown at the slower rate of 2.5% per annum since 2001, compared with 3.5% for the total workforce. Creative occupations generated over GBP 40 billion in salaries and wages in 2006, while support staff in CI earned an extra GBP 16.8 billion: more creative people work outside the CI than inside them: creative employment occurs disproportionately outside the CI themselves. Some 35% of the total creative workforce is employed in non-creative sectors. This level is similar to the 39% of total UK financial services workforce employed in non-financial services industries in 2001.

It may be concluded that being a leader in the export of European CI the UK is capable of not only uniting the creative potential of employees, while creating a phenomenon of the new industry, but also to maintain the viability of the aggregate economy. According to the DCMS report, in 2012 1.68 million people were working in the CI of the UK, accounting for 5.6% of the total UK workforce. The employment ratio is growing with every year: In 2011, it was 8.6% by far higher than in other sectors of the UK (the overall employment in the economy was 0.7%).

Table 2.1. Segment shares of overall creative employment for 1981 to 2006 and long run growth rates of employment (Source: Higgs et al. 2007; Analysis by CCI of DCMS reports and custom census and LFS data tables from the Office for National Statistics)

Creative segment	Segment's share			20-year ave.	Segment's share					25-year ave.
	1981	1991	2001		2002	2003	2004	2005	2006	
Avertising and marketing	5%	6%	10%	6.7%	11%	11%	11%	11%	11%	6.3%
Architecture, visual arts and design	32%	26%	20%	1.4%	22%	22%	23%	22%	22%	1.7%
Film, TV, radio and photography	13%	10%	10%	2.4%	9%	9%	9%	9%	9%	1.6%
Music and performing arts	10%	11%	9%	3.4%	9%	10%	10%	10%	10%	3.5%
Publishing	26%	22%	20%	2.5%	18%	18%	18%	17%	17%	1.4%
Software, computer games and e-publishing	14%	25%	31%	8%	30%	30%	30%	30%	31%	6.5%
Creative workforce				3.8%						3.2%

2.4. Models of structural analysis of creative industries

Several different methods facilitating the understanding of the structural qualities of CI have been proposed lately. The following subchapter presents an overview of the four models highlighting the different classification systems assigned by the models to CE. Each of the models has a particular logical background, which depends on the fundamental assumptions regarding the objective of the industries and their operational method. Under each model branches of CE are on a slightly different basis classified into principal and subsidiary. This only once again demonstrates the difficulties in defining the creative sector as discussed earlier. Further the present Chapter of the paper offers an overview of the four models being analyzed (Creative Economy Report 2008):

UK DCMS model: This model derives from the impetus in the late 1990s in the United Kingdom to reposition the British economy as an economy driven by creativity and innovation in a globally competitive world. CI are defined as those requiring creativity, skill and talent, with potential for wealth and job creation through the exploitation of their intellectual property (Department of Culture, Media and Sport 2010). Virtually all of the 13 industries included in the DCMS classification could be seen as cultural in the terms defined earlier; however, the Government of the United Kingdom has preferred to use the term CI to describe this grouping, apparently to sidestep possible high-culture connotations of the word cultural.

Symbolic texts model: This model is typical of the approach to the cultural industries arising from the critical-cultural-studies tradition as it exists in Europe and especially the United Kingdom (Hesmondhalgh 2007). This approach sees the "high" or "serious" arts as the province of the social and political establishment and therefore focuses attention instead on popular culture which actually is an entirety of ideas, projections, approaches, images and other phenomena supported by the prevailing direction as a given culture and specifically viable in the post-war Western world and much more active in the post-modern epoch. An American author Sontag (1964) claims that the popular forms of culture are good because they are simply awful. McRobbie (1994) has said that popular culture appeals to popular pleasures. The main attributes of such culture are media, social networks, the use of information for the sake of pleasure. The processes constituting the formation and the transmission of the public culture are shown in the symbolic text model as an industrial production, dissemination and consumption of symbolic texts or messages (the meanings of which are broadcast by the different media, such as films, TV programs or press).

Concentric circles model: This model is based on the proposition that it is the cultural value of cultural goods that gives these industries their most distinguishing characteristic. Thus the more pronounced the cultural content of a particular

good or service, the stronger is the claim to inclusion of the industry producing it (Throsby 2001). The model asserts that creative ideas originate in the core creative arts in the form of sound, text and image. The creative ideas and their influence diffuse outwards through a series of layers or "concentric circles". The proportion of cultural to commercial content decreasing as one moves further outwards from the center. The model has become the basis for the classification of the European CI in the study prepared for the EC (KEA European Affairs 2006).

WIPO copyright model: This model is based on industries involved directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyrighted works (World Intellectual Property Organization 2003). The focus is thus on intellectual property as the embodiment of the creativity that has gone into the making of the goods and services included in the classification. A distinction is made between industries that actually produce the intellectual property and those that are necessary to convey the goods and services to the consumer. A further group of "partial" copyright industries comprises those where intellectual property is only a minor part of their operation.

The UK DCMS model makes no distinction between the industries included, but the other three designate a group of "core" industries, i.e., those whose inclusion is central to the definition adopted in each case. It is apparent that the contents of the core differ markedly among these three models; for example, the creative arts, which are the epicenter of the concentric circles model, are regarded as peripheral in the symbolic texts construction.

On the basis of the models discussed previously UNCTAD (2010) classified the areas of CI according to the following system:

UK DCMS model: advertising, architecture, art and antiques market, crafts, design, fashion, films and video, music, performance arts, publishing, software, television and radio, video and computer games.

Symbolic texts model: core cultural industries (advertising, film, internet, music, publishing, television and radio, video and computer games), and peripheral cultural industries (creative arts), borderline cultural industries (consumer electronics, fashion, software, sports).

Concentric circles model: core creative arts (literature, music, performing arts, visual arts), other core cultural industries (films, museums, libraries), wider cultural industries (heritage services, publishing, sound recording, television and radio, video and computer games, music, performing arts, visual arts and computer games), related industries (advertising, architecture, design and fashion).

WIPO copyright model: core copyright industries (advertising, collecting societies, film and video, music, performing arts, publishing, software, television and radio, visual and graphic arts), interdependent copyright industries (blank recording material, consumer electronics, musical instruments, paper, photocopiers, photographic equipment), partial copyright industries (architecture, clothing, foot-

wear, design, fashion, household goods, toys). Table 1.6 presents the five models of the classification of CI (KEA, Eurostat, WIPO, DCMS, UNCTAD) underlying the assessment and the comparison of the results of CI and their contribution to the national economy.

There is yet no unanimous standard for the qualitative analysis of CI – there are different methods of explanation of structural qualities of CI. The attractiveness of the different models may differ depending on the purpose of the survey and its practical application. To carry out quantitative surveys in the sector of CI, a classification system must be developed that could constitute a basis for the creation of an operational model for the use of CI in the wider systems of a standard industrial classification applied in national economies.

Table 2.2. Creative industries classification norms (sources: Capacities of creative industries NKP projects to boost economy, KEA, DCMS, UNCTAD)

KEA classification	Eurostat classification	WIPO classification	DCMS classification	UNCTAD classification
Heritage (museums, archaeological sites, libraries, archives)	Heritage Archives Libraries	–	–	Cultural sites (archaeological sites, museums, libraries, exhibitions, other) Traditional cultural expressions (arts and crafts, festivals and celebrations)
Visual arts (crafts, painting, sculpture, photography)	Visual arts	Visual and graphic arts	Arts and antiques Crafts Fashion design	Visual arts (painting, sculpture, photography, antiques)
Design	* Design is attributed to visual arts	* Design is attributed to visual arts	Design	Design (interior, graphics, fashion, jewellery, toys)
Performing arts (theatre, dance, opera, circus, festivals)	Performing arts	Music, theatre, opera	Performing arts	Performing arts (live music, dance, opera, circus, other)
Books and press	Books and press	Press and literature	Publishing	Publishing and printed media (books, press, other)

End of Table 2.2

Films, film production radio, television, music, computer games	Audio, visual and multimedia production	Films and film production	Films and film production	Audiovisual media (cinema, television, radio and other)
		Radio and television	Radio and television	
		Photography	Music	* Music is attributed to performing arts
	–	Software and databases	Leisure software	New media (software, computer games, digitalised software)
–	–	Software and computer services	Software and computer services	
Architecture	Architecture	–	Architecture	Creative services (architecture, advertising, creative R&D, cultural recreation services)
Advertising	–	Advertising	Advertising	
Cultural tourism	–	–	–	
–	–	Intellectual property protection communities	–	–

2.5. Models of creative industries for the assessment of the dynamics of creative economy in the context of the overall economy

Potts, Cunningham (2008) offered four models for the assessment of CI, their relations with the overall economy and treatment in each aspect. Each of the models require a different economic policy, therefore the authors anticipate that the welfare model requires subsidies, the competitiveness model requires standard industrial policy, and the growth model requires investment and growth strategy, while the innovation model requires the innovations strategy. The authors analyzed the dynamic relation between the CI and the rest of the economy; they based their four models proposed on a different theoretical foundation, and for each model proposed a most appropriate structure for the policy intervention. Let the economic value of the whole economy be defined as Y, and the economic value of the CI as CI, affording us the master equation:

$$CI = A.Y$$

The CI comprise some given fraction (A) of all economic activity. In a static model, this estimate is treated as the "significance" of the sector. In Australia, A is estimated at 0.045, and has been a central output of the CI mapping documents. These estimates from a static viewpoint all find that the CI are indeed "economically significant" as compared to other high-profile sectors in terms of income, employment and services. For comparison, the significance A of the agricultural sector is 0.03. By implication, the CI are argued to deserve policy attention (and support) in proportion to that significance. The authors also noted that such identification of the value of significance does not have a basis in economic theory. It is a matter of political expediency to afford an industrial sector policy attention in proportion to the share of income it generates, not a matter of economic logic. Nevertheless, there is an overall position that the interaction of CI with the aggregate economy is positive rather than negative. Therefore the economic significance requires to be reconstructed by shifting from understanding of the static to the dynamic value. In this approach, the economic analysis of the relation between an industry sector and the rest of the economy is instead constructed in terms of the dynamic inter-relationship, which we may specify by examining the higher order moments of our master equation: specifically, how a change in CI activity (ΔCI) affects aggregate economic activity (Y). The starting axiom is that change in CI affects Y in some way ($\Delta CI \leftrightarrow Y$).

The four models proposed are the set of possible dynamic interrelations in which a change in CI activity has either: a negative (Model 1), neutral (Model 2) or positive (Models 3 and 4) effect on the aggregate economy.

For the sake of convenience, we also assume that $dCI/dY = 0$, meaning that economic growth affects the CI no differently to other industries.

Policy is analyzed in terms of whether change in the CI changes aggregate utility welfare (U). It is presumed that dCI/dU can increase, decrease or leave utility unaffected.

1. The welfare model

In this model, the CI are hypothesized to have a net negative impact on the economy, such that they consume more resources than they produce. A dynamically equivalent statement is that the rate of total factor productivity (TFP/CI) growth is less in the CI than in other sectors (TFP/Y), as assumed in Baumol and Bowen (1966). In this model, the CI are essentially a "merit good" sector (Musgrave 1957) that produces cultural commodities that are welfare enhancing ($dY/dCI > 0$), but that are only economically viable with a transfer of resources from the rest of the economy ($dY/dCI < 0$).

Furthermore, positive knowledge spillovers associated with production that would augment TFPY are excluded (or are disregarded).

$$\text{Hypothesis 1:} \quad \frac{dY}{dCI} < 0, \ \frac{dU}{dCI} > 0$$

In this model, the CI are a net drain on the economy, although a net drain worth having, as the overall effect is welfare positive. This is due to the production of commodities of high cultural value ($dY/dCI > 0$), but low market value ($dY/dCI < 0$), as production is inherently unprofitable because demand curves lies everywhere below cost curves. The economic justification for such restitution must ultimately then rest on a market failure argument, with policy appropriately calibrated to estimates of this non-market value, as under the natural market conditions it would suffer a failure. Yet there is a question of whether such evaluation is appropriate, therefore the authors suggest to are that if $dY/dCI < 0$, then the policy intervention would be assessed as $dY/dCI > 0$. If this model is true, then policy prescriptions should center about income and resource reallocation or price maintenance in order to protect an inherently valuable asset (i.e. cultural production) that is naturally and continually under threat in a market economy. Scholars of cultural economics (Throsby, Withers 1979; Throsby 1994 2001) claimed that dY/dCI is, on the whole, mostly positive. Therefore the authors of the model suggest accepting it as self-understandable logic, and center upon the conclusions on what would happen if dY/dCI were negative. Specifically, it means that growth in the CI comes at the cost of aggregate economic growth, as their growth is not what "the market" wants, but must be compelled to support it through transfers. Evidence for this model could be the following: 1) high levels and rates of negative profit among CI firms; 2) low total factor productivity ($TFP/CI < TFP/Y$); 3) persistently lower income to factors of production in CI compared to other industries; 4) other indications that the economic viability of activities organizations within the CI is critically dependent upon resource transfers from the rest of the economy to maintain prices, demand or supply. If this model is true, the authors suggest observing not just an economically stagnant or low-growth sector, but also one with lower performance levels (e.g. return on investment, incomes, etc.). Such decomposition allows multiple opportunities for empirical assessment. The implicit truth of this model is almost axiomatic in the field of cultural economics with several exceptions. This differs from the implicit assumption of competition in neoclassical microeconomics, which is instead presumed in Model 2.

2. The competition model

Model 2 differs from Model 1 in allowing that the CI are not economic laggards, nor providers of special goods of higher moral significance, but effectively "just another industry": in effect, the entertainment or leisure industry. In this model, which is the default setting in standard microeconomic analysis; a change in the size or value of the CI has proportionate (but structurally neutral) effect on the whole economy. This model also presumes that the growth impact is also neutral, such that the CI would in aggregate contribute no more or less to technological change, innovation or productivity growth than the average of other sectors. This model does not argue that the CI have no effect on income, productivity or welfare,

as that is trivially false, but that their effect is on par with all other sectors – such that $TFP_{CI} = TFP_{Y}$. Indeed, this is what standard economic analysis would predict as based on the competitive substitution of resources in a market-based economy to achieve equivalent returns at the margin. In other words, standard economic theory predicts Model 2, in which the CI are normally competitive. If so, this implies that the marginal welfare benefit of policy-based redirection of resources into this sector is zero in aggregate. In this case there are no political circumstances that would boost economic welfare. The authors imply that cultural/creative goods are "normal goods", as they have qualities like price differences, substitution threats, and marginal utility. In this case, an expansion of the CI sector would have no aggregate welfare benefit distinct from expansion of any other sector.

$$\text{Hypothesis 2:} \quad \frac{dY}{dCI} = 0, \ \frac{dU}{dCI} = 0$$

Model 2 does not exclude the possibility that the economics of the CI are "special" in terms of extreme levels of demand uncertainty, revenue models, tendencies toward monopoly, complex labor markets and property rights, endemic hold-up problems, information asymmetries, highly strategic factor markets, and so on (Caves 2000; De Vany 2004). Rather, it emphasizes that these coordination problems are eventually solved under competitive conditions, just as the special circumstances of other industries led them to discover specific institutional arrangements and coordination structures.

The model analyzed by the authors emphasizes these as problems for management as well as opportunities for entrepreneurs, but ultimately insists that they are no different to the "special" problems of all other industries, such as energy or tourism, which also have "interesting" features associated with scale, coordination, uncertainty, networks, and so forth. The "normal model" thus finds that the CI have comparable industry statistics to other sectors. It follows, then, that they should properly require the same policy treatment as other industries. The CI, in this view, are just another member of the industrial community, and they should rightfully function with the other industries. Recognition of normal existence is sufficient and "significance" is immaterial.

Thus if the assumption that CI do not require any special policy intervention, a consistent application of policy mechanisms as in other industries would be sufficient. In this view, the CI policy focus should not be about resource re-allocation, but rather with the plea for consistent industrial policy treatment (and especially with respect to international movement of labor and intellectual property).

Evidence of the normal model would come from the equivalence of CI economic indicators with those of the whole economy in the form of evidence of normal competition and enterprise. For the more industrially mature parts of the CI, such as film, TV and publishing, this is generally true, as the dominant firms

in these sectors have experienced relative stability and consolidation over several decades. However, there is a range of new media, which do not fit this pattern, and this is the basis of the third model in which the CI facilitate economic growth.

3. The welfare model

Model 3 explicitly proposes a positive economic relation between growth in the CI and growth in the aggregate economy, such that $dY/dCI > 0$. In this model the CI are a growth "driver" in the same way that agriculture was in the early 20th century, elaborately transformed manufacturing was in the 1950s–60s, and ICT was through the 1980s–90s. There are many possible explanations, but all are some variation upon either the notion that the CI introduce novel ideas into the economy that then percolate to other sectors (e.g. design-driven innovation), or that the CI facilitate the adoption and retention of new ideas or technologies in other sectors (e.g. information communication technologies).

The key difference from Models 1 and 2 is that under Model 3 it is assumed that CI are closely associated with the growth of the economy. This can be evaluated in two principle ways: supply-side and demand-side. The supply-side interpretation of this model emphasizes the export of new ideas from CI to Y. The demand side interpretation emphasizes how growth in Y causes a proportionate increase in demand for CI services. In practice, it is extremely difficult to separate these two forces (the supply and the demand) without recourse to advanced micro-econometric techniques, which are not attempted here due to data limitations. Model 3 may therefore be true, but with different policy implications depending upon whether causality runs predominantly from CI to Y – the supply-side growth driver model – or from Y to CI – the demand side induction model.

$$\text{Hypothesis 3:} \quad \frac{dY}{dCI} > 0, \ \frac{dU}{dCI} \geq 0$$

Yet in both cases, policy should properly treat the CI as a "special sector". This is not because it is economically significant in itself, but because it powers the growth of other sectors. This may plausibly lead to intervention, but unlike Model 1, the ostensible purpose of this is to invest in economic growth, or to invest in the development of capacity to meet growth in demand. If Model 3 is true, then there is a clear economic case for redirecting resources, not just for the benefit of the CI per se, but for the benefit of all. The CI, in this view, are clear winners to be backed.

Evidence for this model would come from association of the CI with growth. This would accrue not just in jobs and commodities, but also in new types of jobs and new sorts of commodities and services. Model 3 proposes the CI as growth drivers not because of operational expenditure multipliers, but due to their role in the adoption, retention and absorption of new ideas and technologies. The CI create new industries and market niches and stabilize and develop extant industries.

This is the opposite of Model 1, in which economic growth suffers when there is such continued investment, which introduces and processes the new ideas that drive economic growth. Thus the political interference should be just as it was in the case of coal and steel was in the late 1900s and ICT was in the late 20th century. Creative ad cultural industries are a driver of growth. And the more developed they are, the better for economy.

4. The innovation model

These three models might seem exhaustive of analytic possibilities: yet a fourth model is also possible. Rather than thinking of the CI as an economic subset "driving" growth in the whole economy, as in Model 3, the CI may not be well characterized as an industry *per se*, but rather as an element of the innovation system of the whole economy.

Model 4 hypothesizes the relationship between the CI and the rest of the economy in a different way. Instead it is based on the contemporary innovation literature sourced in the Schumpeterian tradition and applied mostly in the business and strategy literature (Metcalfe 1998). This model effectively rejects the initial statics-to-dynamics master equation CI=A.Y, and re-conceptualizes the CI as a higher-order system that operates on the economic system. Model 4 is similar to Model 1, in that it ventures an element of special pleading. The CI, in this view, originate and coordinate change in the knowledge base of the economy. In consequence they have crucial, not marginal, policy significance. In Model 4, the significance of the CI is not in terms of their relative contribution to economic value (Models 1–3), but due to their contribution to the coordination of new ideas or technologies, and thus to the process of change. In this view, the CI are misspecified as an industry *per se*, and better modeled as a complex evolving system that derives its economic value from the facilitation of economic evolution and the process of innovation. The CI might in this sense be better understood as a kind of industrial entrepreneurship operating on the consumer side of the economy (Potts *et al.* 2008). In this case, we are dealing with an evolutionary model of the CI.

Change in the CI therefore produces structural and not just operational change in the economy. For example, some of the most dramatic changes in contemporary business models have been provoked by new uses of the Internet in recent years (Wellman, Haythornthwaite 2008). The "culturization" of the economy (Lash, Urry 1994) is now clear and is in evidence in design-driven innovation, the manifold industrial applications of games technologies and the impact of vernacular creativity and user-led innovations in mobile media use (Cunningham 2006). New opportunities and possibilities will thus emerge of which the welfare effect cannot be known in advance. This is the typical situation of economic evolution as the origination, adoption and retention of generic novelty (Dopfer, Potts 2014). According to Model 4, the CI do not drive economic growth directly, but trigger changes in the economic framework. If Model 4 is true, then, the CI are part of the

innovation system driving and coordinating the growth of knowledge process that underpins economic evolution.

$$\text{Hypothesis 4:} \quad \frac{dY}{dCI} \text{ undefined, } \frac{dU}{dCI} \text{ open}$$

Culture is indeed a public good, but for dynamic not static reasons. Unlike the value of museums or classical arts, which seek cultural value through the maintenance of past knowledge, CI value lies in the development and adoption of new knowledge. Evidence for Model 4 therefore accrues from ongoing regeneration of existing industries and the emergence of new industries in consequence of CI activity. Furthermore, this must be a systemic facilitator of ongoing structural change and adaptation across the whole economy.

As evidenced by Potts and Cunningham (2008), irrespective of the different definitions of CI, the principal findings of the different surveys carried out in Australia, New Zealand, Europe, UK only confirmed that CI are growing at a faster rate than the aggregate economy (Table 2.3). According to the authors, based on this view, CI have not only static, but also dynamic economic value – further to their contribution to the development of culture and the society, and the economic growth.

Table 2.3. Creative industries growth ratios (source: Potts, Cunningham 2008)

Country	CI value added, % GDP	CI value added growth, %	GDP growth, %	CI growth ratio	CI employment growth, %	National employment growth, %	CI employment growth ratio
Australia 2000–2005	6.0	10.4	4.0	**2.6**	3.8 1996–2001	1.9 1996–2001	**2.0 1996–2001**
New Zealand 1996–2001	3.1	8	3.7	**2.2**	5	3	**1.6**
Europe 1999–2003	2.6	5.4	2.9	**1.9**	n/a	n/a	–
UK 1997–2005	7.3	5.0	3.0	**1.7**	2.0	1.0	**2**

In sum, these four models represent four possible modes of dynamic interaction between the CI and the economy (CI=A.Y). In Model 1, Y drives CI through transfers of resources. In Model 2, the CI are just another industry. In Model 3, CI drives Y through high rates of growth. In Model 4, the CI evolve Y through transfers of knowledge. While establishing the concept of dynamic value of CI with respect to the aggregate economy, the authors define the further economic prospects adaptable to the policy and development of CE.

2.6. Theoretical assumptions for the model of the sustainable development of the Lithuanian creative economy under the EU single market conditions

A Recommendation of the EC *Unlocking the potential of cultural and creative industries* indicates that represent highly innovative companies with a great economic potential contributing around 2.6% to the EU GDP, within the past five years having created more jobs than other sectors of economy. In 2010, exports of the CE sectors in the UK reached 10.6%, there were 106,000 businesses operating in the sector, and the market growth during the times of economic recession in 2008–2009 was 1.2%.

Table 2.4. Types of activities of creative industries in Lithuania according to the EVRK (source: adapted by the author from Vilnius creative industries map 2010)

Groups of CI	Sub-groups of CI	Activities of CI	Types of activities of CI	EVRK
Traditional culture activities	Heritage	Locations of cultural values	Library and archives activities	91.01.
			Museums activities	91.02.
			Operation of historical sites and buildings and similar visitor attractions	91.03.
		Crafts	Specialised retail trade in souvenirs, art works and religious articles	47.78.10
			Production of ceramic household and ornamental articles	23.41.
			Cutting, shaping and finishing of stone	23.70.
			Manufacture of imitation jewellery and related articles	32.13.
			Manufacture of games and toys	32.40.
			Manufacture of imitation jewellery and related articles	32.12.
		Expression of traditional culture	Activities of amusement parks and theme parks	93.21.
			Other amusement and recreation activities	93.29.
			Excursion organisation activities	79.12.
	Arts	Visual arts	Photography	74.20.
			Artistic creation	90.03.
		Performing arts	Production of live theatrical presentations	90.01.
			Support activities to performing arts	90.02.

End of Table 2.4

New creative activities	Media	Publishing and printed media	Book publishing	58.11.
			Publishing of newspapers	58.13.
			Publishing of directories and mailing lists	58.12.
			Publishing of journals and periodicals	58.14.
			Other publishing activities	55.19.
		Audio-visual arts	Sound recording and music publishing activities	59.20.
			Motion picture projection activities	59.14.
			Motion picture, video and television programme post-production activities	59.11.
			News agency activities	63.91.
			Radio broadcasting	60.10.
			Television programming and broadcasting activities	60.20.
			Motion picture, video and television programme distribution activities	59.13.
			Public relations and communication activities	70.21.
	Functional creations	Design	Motion picture, video and television programme post-production activities	59.12.
			Landscape service activities	81.30.
		New media	Publishing of computer games	58.21.
			Computer programming activities	62.01.
			Other software publishing	58.29.
			Web portals	63.12.
		Creative services	Retail trade in antiques	47.79.10
			Architectural activities	71.11.
			Media representation	73.12.
			Engineering activities and related technical consultancy	71.12.
			Other professional, scientific and technical activities n.e.c.	74.90.
			Operation of arts facilities	90.04.
			Advertising agencies	73.11.
			Market research and public opinion polling	73.20.
			Research and experimental development on social sciences and humanities	72.20.
			Specialised design activities	74.10.
			Educational support activities	85.60.

The survey initiated by the EC and carried out by the Uppsala university indicated that in 2010 CE sectors (i.e., CI) in Europe employed 6.5 million people,

and their economic grown by 12.3% exceeded the growth of other sectors; the regions best consolidating the creative potential are recognized those in Member States, Lithuania is mentioned among countries providing most jobs in the area – 5.79%, and by its employability ratio second to Austria only (6.2%). In 2010–2011, the best performing in the area were the USA (CI accounting for 11% of GDP), Australia (10.2%), South Korea (9%), and the UK (6.2%).

According to the data of the Statistics Lithuania (Department of Statistics) in 2011, 12,904 companies operated in the creative cultural sector employing total 42,394 persons (46 types of economic activities according to the national version (EVRK) of the Statistical Classification of Economic Activities in the European Community (NACE). That accounted for 8.6% of all companies operating in Lithuania employing 4.76% of the entire total national workforce. The new field of CI (heritage and art group) recorded by 1.32 times more companies (7,346) than the traditional field (5,558) (media and functional works group). However, the number of persons employed in the new CI (36,320) exceeded that in the traditional fields (6,074) by 5.97 times. The turnover of companies engaged in cultural and CI (LTL 4,1 billion) exceeded that of the companies operating in the traditional sectors by 8.48 times, the latter reported at LTL 4,9 billion. The growth of companies in the creative industry sector in 2006–2011 reached 38%, and the number of employees in the sector grew by 5.54%. The turnover of companies in the CI in 2001 increased from LTL 1.9 billion to an excess of LTL 4 billion in 2006, decreased in 2009 to LTL 3.797 billion, and subsequently was increasing to reach LTL 4.655 billion in 2011. Thus, the turnover in the course of ten years (2001–2011) increased by 2.45 times.

Table 2.5 represents the number of companies operating in the CI sector according to the Economical activities type classification[1], the number of employees working in such accompanies, the turnover and the gross operating profit for 2011.

[1] * Turnover (of non-financial companies) and * Total companies (non-financial enterprises). 1) the survey population covers: public and private companies, state and municipal companies, branches of foreign companies, agricultural and cooperative enterprises, public institutions, individual companies and natural persons engaged in economic activities. Included are only those public institutions which cover from their income more than half of their operating costs. Economic activities according to ERVK Rev. 2 includes all types of economic activities, except agriculture, financial intermediation, public governance and defence activities. 2) in 2005–2009 the number of employees was recalculated for natural persons engaged in economic activities according to the duration of validity of their business certificate (or a permission to engage in economic activities).

Table 2.5. Number of companies operating in the creative industries sector according to the EVRK, the number of employees working in such companies, the turnover and the gross operating profit for 2011 (source: compiled by the author, Statistics Lithuania data 2014)

No.	Type of activity	EVRK	* Number of companies (non-financial companies) units	Number of employees (non-financial companies) /persons	Turnover (non-financial companies) ,000 LTL	Gross operating profit (non-financial companies) ,000 LTL
1.	Library and archives activities	91.01.	10	123	9.050	4241
2.	Museums activities	91.02	5	24	341	–92
3.	Operation of historical sites and buildings and similar visitor attractions	91.03	6	68	4009	–186
4.	Specialised retail trade in souvenirs, art works and religious articles	47.78.10	n/a	n/a	n/a	n/a
5.	Production of ceramic household and ornamental articles	23.41	214	499	16618	2062
6.	Cutting, shaping and finishing of stone	23.70	551	1422	69537	9711
7.	Manufacture of imitation jewellery and related articles	32.13	117	n/a	n/a	n/a
8.	Manufacture of games and toys	32.40	13	n/a	n/a	n/a
9.	Manufacture of imitation jewellery and related articles	32.12	465	n/a	n/a	n/a
10.	Activities of amusement parks and theme parks	93.21	20	94	5810	452
11.	Other amusement and recreation activities	93.29	709	1161	75068	10071
12.	Excursion organisation activities	79.12	41	350	193167	7298
13.	Photography	74.20	1329	1056	49524	12996
14.	Artistic creation	90.03	1608	660	4472	10271

Continuation of Table 2.5

15.	Production of live theatrical presentations	90.01	370	281	25527	2118
16.	Support activities to performing arts	90.02	100	336	37974	5311
17.	Book publishing	58.11	159	992	153274	21143
18.	Publishing of newspapers	58.13	90	1959	183182	7821
19.	Publishing of directories and mailing lists	58.12	16	22	1256	347
20.	Publishing of journals and periodicals	58.14	137	1275	113211	6958
21.	Other publishing activities	55.19	110	380	28643	3393
22.	Sound recording and music publishing activities	59.20	42	131	18299	2586
23.	Motion picture projection activities	59.14	7	228	44625	6820
24.	Motion picture, video and television programme post-production activities	59.11	11	83	25175	2851
25.	News agency activities	63.91	5	93	5528	709
26.	Radio broadcasting	60.10	29	200	22998	2265
27.	Television programming and broadcasting activities	60.20	33	532	169416	26768
28.	Motion picture, video and television programme distribution activities	59.13	76	254	69787	7424
29.	Public relations and communication activities	70.21	163	728	139491	9348
30.	Motion picture, video and television programme post-production activities	59.12	7	20	2872	1325
31.	Landscape service activities	81.30	636	1168	52817	8701
32.	Publishing of computer games	58.21	3	9	7345	216
33.	Computer programming activities	62.01	597	5418	684647	101055
34.	Other software publishing	58.29	38	200	20186	2138
35.	Web portals	63.12	59	355	43663	3325
36.	Retail trade in antiques	47.79.10	n/a	n/a	n/a	n/a
37.	Architectural activities	71.11	752	3788	273431	35178
38.	Media representation	73.12	56	402	136892	7008

End of Table 2.5

39.	Engineering activities and related technical consultancy	71.12	2139	8086	580688	92317
40.	Other professional, scientific and technical activities n.e.c.	74.90	426	1609	236144	25633
41.	Operation of arts facilities	90.04	19	136	19537	5434
42.	Advertising agencies	73.11	1442	5408	839630	80843
43.	Market research and public opinion polling	73.20	101	2219	229645	39994
44.	Research and experimental development on social sciences and humanities	72.20	28	94	6504	2279
45.	Specialised design activities	74.10	140	448	40355	4454
46.	Educational support activities	85.60	25	83	15101	3185
Total			12904	42394	4655384	571317

As evident from Table 2.4 and 2.5, out of the ten creative and cultural sectors in Lithuania, the largest in terms of the number of companies, total employees and the gross operating profit is the creative services sector joining total 5,128 companies and 22,273 employees. The second in the ranking is the new media sector (697 companies, 5,982 employees), third – publishing and printed media sector (366 companies, 2,249 employees). The smallest are the cultural sites (21 companies and 215 employees), and performing art sectors (470 companies and 617 employees). It might be also noticed that similar trends prevail in other member States of the EU in which creative services sector account for the largest part of CE development; while the traditional heritage areas, such as crafts or festivals represent a demising share of CI, therefore they are protected by the State as unique phenomena and elements of historical heritage.

2.7. Criteria of the sustainable development of creative economy for the assessment of creative industries

A conventional perception of sustainable development includes three components – environment, economy and the social aspect. The author of the survey were referring to "Agenda 21" (2002 2012) adopted at the United Nations Conference on Environment and Development (Rio de Janeiro, Brazil, 3–14 June 1992), as well

as the updated approach to the key pillars of sustainable development – economy, ecology, politics and culture. For the purpose of constructing a theoretical model of sustainable development of CE the author of the present research paper based on Rutkauskas *et al.* (2014) distinguished in the research literature 20 criteria of sustainable development of CE (those were defined on the basis of the four pillars of sustainable development – economy, ecology, politics and culture (Fig. 2.2).

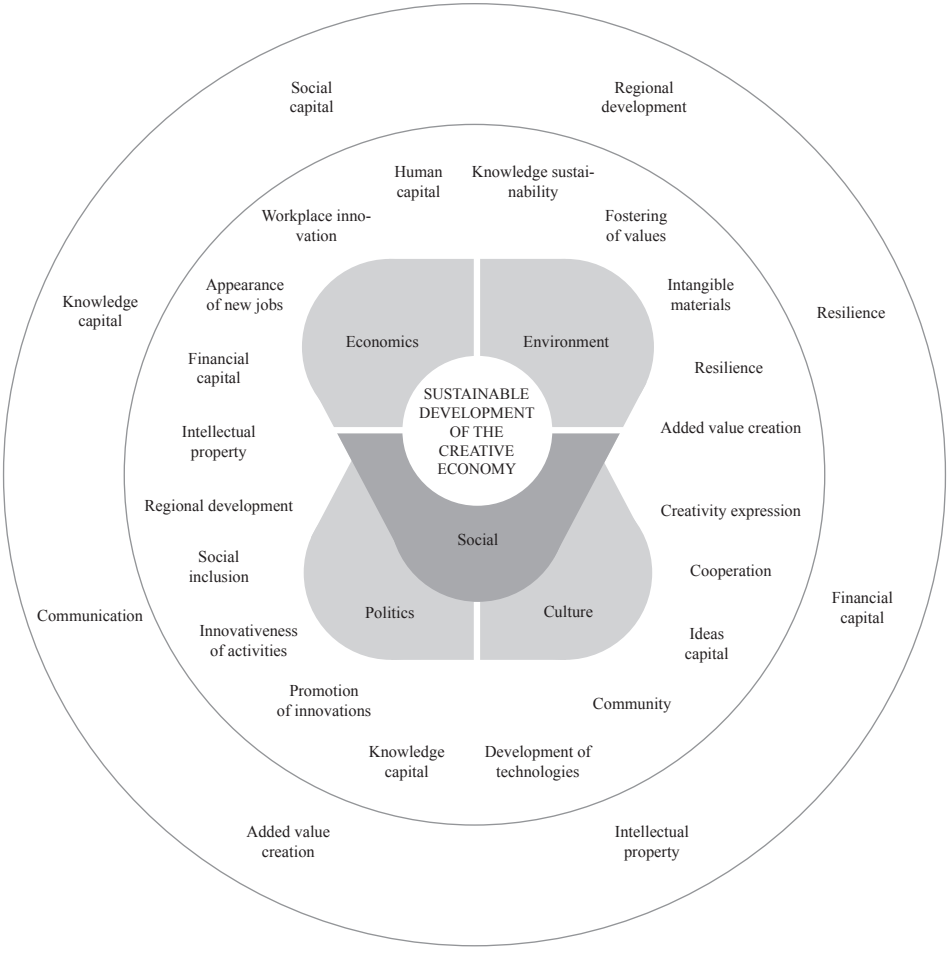


Fig 2.2. Components of the sustainable development of creative economy (source: author 2014)

Creativity expression (Runco 2010; Beghetto, Kaufman 2007) should be interpreted in the context of CE as a tool facilitating specifying abstractions (ideas) and promoting the appearance of new creative products and services. Most frequently the expression of creativity is actually a direct ability of a creator to dis-

close his creative work to the market. The expression of creativity is a cultural dimension closely related to the capital of ideas. Capital of ideas (Howkins 2001; Bernstein 2005) – is an intangible asset that, in view of the cooperation of creative product and creative service markets (Garmann Johnsen, Ennals 2012; Uricchio 2004) create a high added value (Arndt *et al. 2*012; Hearn *et al. 2*007) in the ecological dimension. The technologies developed on cultural basis (Potts *et al.* 2008; Caves 2002; Deuze 2007) promote new social structures that are reflected through the relations of the new communities (clusters, incubators, parks) (Parmentier, Mangematin 2014). In the political dimension regional development (Jayne 2005; Hall 2000) represents the strive of the States to ensure infrastructures important for communities and the related standards of social-economic environment, living standards quality giving rise to social inclusion (Stryker *et al.* 2000; Kumar 2000) in view of the emerging new social structures. The appearance of such new social structures is determined by the innovativeness of activities (Berardo, Deardorff 2012; Frankea, Shah 2003), promotion of innovations (Garmann Johnsen, Ennals 2012) and the knowledge capital (WKCI 2014; Graham 2002; Lööf 2002; Garmann Johnsen, Ennals 2012) also referred to as intellectual capital. The economic dimension is inseparable from human capital; in other words, from human resources (Davidsson, Honig 2003; Dunn, Holtz-Eakin 2000) that accumulate competences, knowledge, social and individual attributes thus creating economic value. The importance of intellectual property (Howkins 2001; Bilton 2007; Vaidhyanathan 2003) builds up a basis for the creation of innovative jobs (Totterdill, Ennals 2014; Black, Lynch 2004), appearance of new jobs (Dunn, Holtz-Eakin 2000), strengthening of financial capital (Dunn, Holtz-Eakin 2000; WKCI 2014).

The ecology dimension integrates fostering of values (Moeran, Pedersen 2011; Yu *et al. 2*004), usage of intangible raw materials (Santagata 2004; *Australian Copyright Council* 2008), and hence arising renewal (resilience) (Dong, Haruna 2012) and sustainability of knowledge (WEF 2014; WKCI 2014; Garmann Johnsen, Ennals 2012) that is related to life-long learning, digitalization and telematization.

The criteria specified build up the appropriate preconditions for the creation of a theoretic model of CE from the viewpoint of sustainable development, and for the further research while making references to CI, which, as has been earlier mentioned constitute the core of CE.

2.8. Construction of the model of the creative economy from the viewpoint of sustainable development

By their nature CI are classified into traditional cultural activities and the new creative activities. From those two roots the tree of CI grow the branches of arts, heritage and media and functional works of arts.

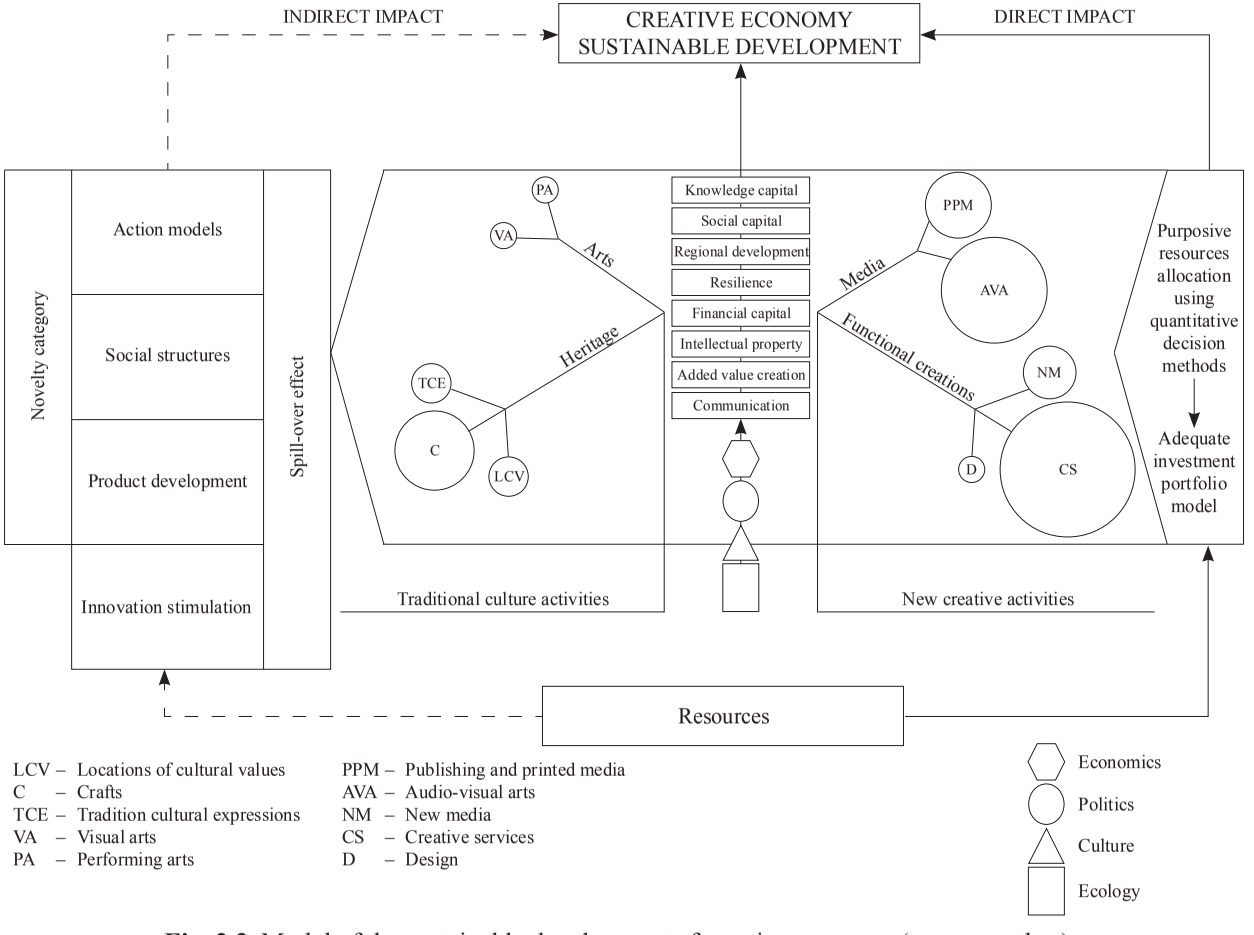


Fig. 2.3. Model of the sustainable development of creative economy (source: author)

The heritage branch yields the traditional cultural expression, crafts, cultural valuables sites, which are one of the most protected (due to its uniqueness, history, and a tendency to become extinct) branches of CI. The fruits of the art branch are visual arts and performing arts. Those are traditional CI of the cultural foundation. The media branch embraces publishing and audiovisual works, while the functional works branch yields the fruits of design, new media and creative services. The latter represents the largest sector of CI. The purpose of the theoretical model is to disclose the logics of the distribution of resources (attention) for the purpose of ensuring the sustainable development of CE (Fig. 2.3). The direct effect of the distribution of resources is based on the qualitative decision methods regarding the distribution of resources, while the four sustainable development criteria derived from the four components of sustainability (economy, ecology, policy and culture) further produce an indirect effect further causing the spill-over effect – a positive indirect public intervention outcome which become a starting point for the formation of new behavior models, new social structures, creation of new products and fostering of innovations.

The model is perceived as a basis for the further research of how criteria of sustainable development affect the evolution of individual CI. The identified criteria actually represent the directions the significance whereof defines the effect upon the CI (investment). Thus the objective of an empiric survey is to project an allocation of focus (investment) into the development of factors to maximize their effect upon the existence of the CE.

2.9. Conclusions of Chapter 2

1. With a view to promoting the economic development of the EU and retaining it leading position in the global economy, the guidelines of the Europe 2020 strategy provides for the renewal of economy not only by retaining or creating new jobs, or jobs of new type, but also by developing the sustainable, i.e. the diversified and competitive industrial basis which further creates the preconditions for the emergence of the new industry. In the case of Lithuania, total 46 branches of economic activity blend into the single EU market of CI on the basis of the new principles of the free movement of knowledge and innovations.
2. Due to their potential for the realization and expression of creation, as well the uniqueness of their qualities CI are an important factor for social and economic innovations in other sectors. In view of the vanishing national industries in the face of the ever intensifying globalization, due to the inclination to innovations the CI represent a potential for economic growth, building up a platform for a cluster of the sub-systems of CE seeking developing into an

innovative (while addressing social, environmental, economic growth issues, as well the conceptualization of culture) national industry.

3. The transition of the post-modern society towards sustainable economy and the shift from the holistic strategic approach towards the creation of the European economic value chain enable seeking long-term competitiveness. A theoretically substantiated multi-criteria expediency of the cluster should become a basis for the efficient functional orientation, and – which is specifically important – a means for projecting a rational need for the use of investment and other limited resources. For that purpose not only an organizational structure as a union of comparable objects, but also a cluster of activities related by their functionality and the use of rational resources should come into being.
4. The CE development cases in New England, Australia or the United Kingdom analyzed in the present Chapter of the paper justify an assumption that the implementation of the strategic CE development policy not only brings about economic welfare, but also fosters social inclusion, community resilience, and the professional geographic concentration. This view allows an assumption that the distribution of priorities of CE (rather than their absence) does not accumulate the potential of the national CI and fails to use it in the activities of the supported industries. In the cases analyzed for the purpose of the present paper CI might be identified as a phenomenon of the new industry.
5. Models of the structural analysis of CI enable the understanding of the possible ways of the use of CI in the wider standard industrial classification systems applicable in national economies. The UK DCMS model identifies a new economy based on creativity and innovations in the global competitive environment. The symbolic texts model sees the "high" or "serious" arts as the province of the social and political establishment and therefore focuses attention instead on popular culture, which actually is an entirety of ideas, projections, approaches, images and other phenomena. The concentric circles model is based on the proposition that it is the cultural value of cultural goods that gives these industries their most distinguishing characteristic. The WIPO copyright model is based on industries involved directly or indirectly in the creation, manufacture, production, broadcast and distribution of copyrighted works. The structural analysis models create preconditions for a logical classification of the areas of CI taking into account the structural qualities of the phenomenon being surveyed.
6. Models of CI for the assessment of the dynamics of CE in the context of the aggregated economy together represent a theory of four hypotheses. These four models represent four possible modes of dynamic interaction between the CI and the economy. Under the welfare model the economy drives CI through transfer of resources. The competition model treats CI as just another

industry. The growth model assumes that CI drive the aggregate economy through higher rates of growth. According to the innovations model, CI evolve within the aggregate economy through the transfer of knowledge.

7. The theoretical model for a sustainable development of CE presented in Chapter 2 of the paper justifies the objective to disclose the logics of the distribution of resources (attention) for ensuring the sustainable development of the CE. The direct effect of the distribution of resources is based on the qualitative decision methods regarding the distribution of resources, while the four sustainable development criteria derived from the four components of sustainability (economy, ecology, policy and culture) produce also an indirect effect further causing the spill-over effect – a positive indirect public intervention outcome which become a starting point for the formation of new behavior models, new social structures, creation of new products and fostering of innovations.
8. The theoretical model is perceived as a basis for the further research of how criteria of sustainable development affect the evolution of individual CI. The distinguished criteria are actually the areas the focus placed on which (actually, investment) produces an impact upon CI, and point out the empiric guidelines on the ways of allocation of the development of factors to maximize their effect upon the overall existence of the CE.

3

Approbation of the creative economy sustainable development model

The present Chapter of the paper addresses the problem of the sustainability of investment in CI on the basis of quantitative solution methods. CE research methodology requires an exceptional coherence of research methods for the following reasons: 1) the absence of comprehensive economic research into the phenomenon of CE; 2) a still unidentified qualitative dialogue for analysing CE; 3) the multifaceted nature of the components, which make up CE. The defined objective of the empiric survey is to identify the most appropriate allocation of the sustainability factors, which affect the evolution of individual industries so that the overall effect of their aggregate existence can be maximised. The methods applied for the purpose of the present paper, which are defined as endorsements of solutions for the sustainable development of CE, are quantitative solution methods – a *Delphi* structured communication technique based on expert surveys together with an assessment of the compatibility of opinions in group expert examinations, followed by the ranking of CI according to selected criteria (the VS method), and the formation of an investment portfolio according to an adequate portfolio model. The empirical research is conducted in the following stages (Fig. 3.1):

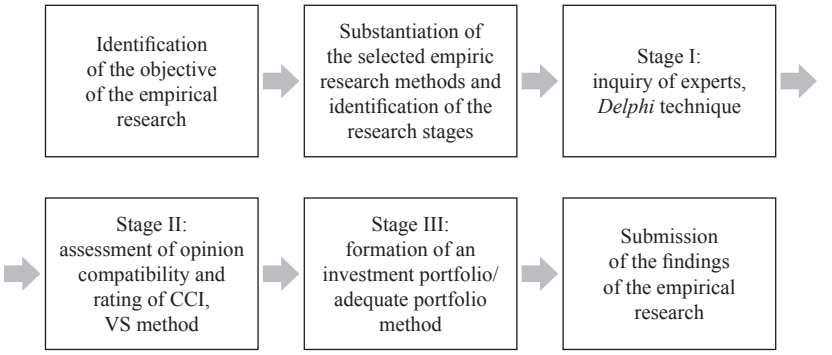


Fig. 3.1. Empiric research stages (source: author)

The following subchapters of the paper present a detailed description of the empirical research stages and the relevant findings.

On the topic of this Chapter author has published 1 scientific publication (Rutkauskas, Levickaitė, Maknickienė 2014).

3.1. Establishment of the criteria for the sustainable development of creative economy for the evaluation of creative industries

The first stage of the empirical research is based on the principles of group expertise. The group evaluation option was chosen with a view to assessing and generalising the CE sustainable development criteria distinguished in scientific literature. This method is based on the *Delphi* structured communication technique and logical procedures, while the quantitative expression of the outcomes ensure a prioritised sequence of expert opinion for the evaluation of creative industries. The following tasks were identified as part of the preparatory arrangements for the expertise:

1. Formulation of the objective of the expert study.
2. Assessment of the advantages and the disadvantages of the technique selected.
3. Drawing up of the expert study procedures plan.
4. Selection of experts and setting up of the group of experts.
5. Performance of the survey.
6. Processing of the results.
7. Drawing up of the findings of the expert study.

For the purpose of developing the model for the survey of sustainable development of CE the author of the survey identified 20 sustainable development criteria

for CE elaborated in the scientific literature covering the subject (see Chapter 2), and constructed on the basis of the four components of sustainable development – economy, ecology, politics and culture. The purpose of the present expert survey is to carry out an expert evaluation for the analysis on the basis of the accepted criteria. This analysis will later constitute the basis for an evaluation of investment in creative industry sectors.

The *Delphi* method historically originates from the name of the Ancient Greek town of Delphi and an oracle (a future seer). In modern research methodology however, the *Delphi* method is considered to be one of the most accurate ways of obtaining a collective opinion and a quantitative evaluation of the priority sequence. The originators of the *Delphi* method (Dalkey, Helmer 1963; Dalkey 1969) provided a theoretical substantiation that the method is based on a technique, which enables the most accurate reconciliation of the opinions of experts regarding the issue being surveyed. The advantages of the *Delphi* method derive from its four characteristics: 1) the anonymity of the participants (Adler, Ziglio 1996); 2) the structured information flow (Bröchner 1990); 3) regular feedback (Helmer 1977); 4) the role of the facilitator (Huss 1988). A common pattern in the feedback given is ensured by arranging the inquiries of experts into several stages and processing of the results obtained from the inquiries by statistical methods (Fowles 1978). Ordinarily there are four stages in the survey: 1) compiling the list of forecasting factors (Dalkey 1969); 2) compiling a summary factor list (Fowles 1978); 3) a group factor estimate median, the upper and the lower quartile and the arguments on the reasons for the evaluation (Novak, Lorant 1978); 4) the designing of a new forecast on the basis of the list of identified factors, evaluations of a statistical groups and arguments (Sarin 1978). According to Delbecq *et al.* (1975), the most important factor in the survey process is that all the participants understand that the *Delphi* method, which most often includes more than one (and most often four stages), is the most suitable technique for the attainment of the surveyor's objectives. This means that the participation in each stage requires not only the consent and proper attitude of each expert, but also patience. When it is not properly explained to the experts that they are involved in a survey consisting of several stages, it is highly likely that their answers will become incomplete after several stages and the experts may become frustrated and lose interest (Ewing 1979). The respondents to the questionnaire should be well informed in the appropriate area (Hanson, Ramani 1988), but the literature (Armstrong 1978; Welty 1972) suggests that a high degree of expertise is not necessary. The minimum number of participants to ensure a good group performance is somewhat dependent on the study design. Experiments by Brockhoff (1975) suggest that groups as small as four can perform well under ideal circumstances. Before deciding whether or not the *Delphi* method should be used, it is very important to thoroughly consider the context within which the method is to be applied (Delbecq *et al.* 1975) and assess its advantages and disadvantages.

A number of questions need to be asked before making the decision to select or rule out the *Delphi* technique (Adler, Ziglio 1996): 1) what kind of group communication process is desirable in order to explore the problem at hand? 2) Who are the people with expertise of the problem and where are they located? 3) What are the alternative techniques available and what results can reasonably be expected from their application? Only when the above questions are answered can one decide whether the *Delphi* method is appropriate to the context in which it will be applied. Adler and Ziglio (1996) further claim that failure to address the above questions may lead to the inappropriate application of *Delphi* and discredit the whole creative effort. Authors in scientific literature also speak of disadvantages of the *Delphi* method. Sackman (1974) criticizes the method as being unscientific, claiming: 1) the scope of the survey and the questions related to the assessment under the *Delphi* method are clearly defined; 2) the traditional *Delphi* method is assessed in comparison with the professional standards applied to conventional opinion survey questionnaires, and the related research standards applicable to experiments with people; 3) the application of the *Delphi* method involves an assessment of the assumptions, principles and methodology used according to the method; 4) the analysis is completed by summarizing the findings and provision of the recommendations concerning the use of the *Delphi* method in the future. Martino (1978) underlines the fact that *Delphi* is a method of last resort in dealing with extremely complex problems for which there are no adequate models. Helmer (1977) states that sometimes reliance on intuitive judgment is not just a temporary expedient but in fact a mandatory requirement. Wissema (1982) underlines another very important quality of the Delphi method – when applying the method the participants are encouraged to communicate and be involved without permitting a certain social interactive behavior as would happen during a normal group discussion, which hampers the opinion forming process. Makridakis and Wheelright (1978) summarize the general complaints against the *Delphi* method in terms of: a) the low level reliability of judgments among experts and, therefore, the dependency of forecasts on the particular judges selected; b) the sensitivity of results to ambiguity in the questionnaire which is used for data collection in each round; and c) the difficulty in assessing the degree of expertise incorporated into the forecast. Martino (1978) lists major concerns about the *Delphi* method: 1) *Discounting the future*: future (and past) happenings are not as important as current ones; therefore, one may have a tendency to discount future events. 2) *The simplification urge*: experts tend to judge future events in isolation from other developments. A holistic view of future events in which change has had a pervasive influence cannot be visualised easily. At this point a cross-impact analysis is of some help. 3) *Illusory expertise*: some of the experts may be poor forecasters. Experts tend to be specialists and thus view the forecast in a setting, which is not the most appropriate one. 4) *Sloppy execution*: there are many ways of doing a poor job. The execution of the *Delphi* process may lose the required attention easily.

5) *Format bias*: it should be recognised that the format of the questionnaire may be unsuitable to some potential societal participants. 6) *Manipulation of* Delphi: the responses can be altered by monitors in the hope of moving the next round of responses in a desired direction.

According to Landeta (2006), the *Delphi* method has been used in science for more than half a century; thus it is time-tested and one of the most accurate techniques used in social sciences for assessing opinion, forecasting and making decisions on scarcely investigated (lacking information) problems. Having assessed the advantages and the disadvantages of the *Delphi* method for the purpose of the first stage of the empirical survey, i.e. the establishment of the criteria of the sustainable development of CE for the evaluation of creative industries, the author of the present paper chose the *Delphi* method as the underlying method for the present research and compiled a plan for the procedure of the expert survey (Fig. 3.2).

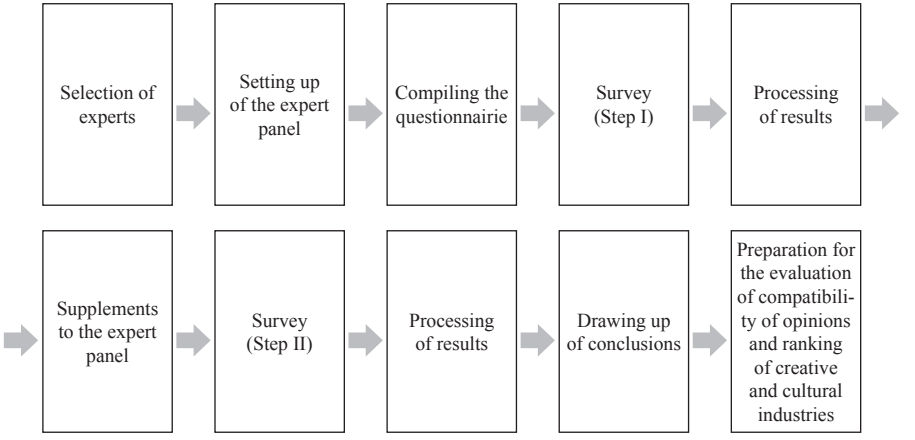


Fig. 3.2. Plan of the expertise procedures (source: author)

The experts were selected for the two projected group survey steps. The expert panel for the first step was composed of experts who have accumulated expertise in the area of economics, ecology, politics and culture, as well as representatives of non-creative industries (professionals) engaged in the horizontal evaluation of CE-related issues. A total of 14 experts were selected to make up the expert panel and were handed the questionnaire for Step 1 on 5–10 March 2014. The questionnaire was constructed on the basis of the list of criteria for the sustainable development of CE. The experts were requested to assess the criteria, i.e. to approve while making a reservation that the formulation of the criterion is incorrect or incomplete, where the criterion is biased or inappropriate in which case the experts were requested to note that accordingly with a note that the list should be supplemented, and offer other criteria to their choice. By the end of the term on March 10, 10 experts had expressed their opinion. On March 10 the experts were sent a reminder to take part in the

expert survey by March 11. By March 11 another two experts had expressed their opinions. Two experts did not respond to the invitation to take part in the survey or complete the questionnaire without presenting any reasons. Therefore, the group evaluation for the first step of the survey is considered sufficient. The information about the experts is presented in Annex A. The processed results taking into account the additional commentaries by the experts enabled to identify the changes of the criteria as compared to the initial list of the criteria.

Following Stage I of the expert examination the list of criteria was formulated based on the following logics:

1. The criteria of creative expression, knowledge sustainability, the innovativeness of operations, capital of ideas, knowledge capital, intangible raw materials and the development of technologies are all merged into a single criterion – knowledge capital;
2. The criteria of human resources, new jobs and innovative jobs are all merged into a single criterion – regional development;
3. The criteria of regional development, social inclusion, cooperation, fostering of values and community are merged into a single criterion – regional development;
4. The criteria of the promotion of innovations and renewal are merged into a single criterion – resilience;
5. The criteria of financial capital, intellectual property, and the creation of added value are retained;
6. A new criterion is introduced – communication. The list of selected criteria and their theoretical description is presented in Table 3.1.

Table 3.1. The list and the theoretical description of selected criteria (source: author)

No	Criteria	Description of the criterion	Direction of the criterion
1	Knowledge capital	Otherwise referred to as intellectual capital, designating the use of experience, information, knowledge, learning and skills for expert and abilities-based economic thinking. Knowledge capital is the principal component of human resources (Stewart, Ruckdeschel 1998).	+
2	Social capital	Social capital is an instantiated informal norm that promotes co-operation between individuals (Fukuyama 2001). An element of the enhancement of economic progress, encompassing such categories as lifestyle and quality, which determines the working style, management and organisation methods, the priorities of economic activities (Augustinaitis 2004).	+

End of Table 3.1

3	Regional development	The horizontal priority of the country defining and establishing the obligations of the State to ensure for its citizens the appropriate standards of social-economic environment, quality of life irrespective of the place of residence and embraces the themes of the basic infrastructure relevant for local communities, quality of the environment, the quality and the accessibility of public services, quality management and the development of a sense of community (EP 2014).	+
4	Resilience	The ability to restore the line of actions after some changes or stresses, or the ability to change the direction of action. Elasticity (Merriam Webster 2014).	+
5	Financial capital	The entirety of the capital goods intended to be acquired (or acquired) in monetary terms (Vainienė 2008), financial assets (Rutkauskas 2008).	+
6	Intellectual property	An intangible product of creative activity (Vainienė 2008). Objects of intellectual property are not material. The result of intellectual creative activity is, in all cases, related to the personality of the creator, the interrelation is determined by the basis of the intellectual creative activity – the creator's thoughts, ideas, and creators of objects of intellectual property have dual interests with respect to the objects – both material and immaterial (spiritual) (Stonkienė *et al.* 2009).	+
7	Creation of added value	The increase in the value of products and services at each stage of the production process (Vainienė 2008); the value of a product or services crated in the process of production, processing and marketing actions (Merriam Webster 2014).	+
8	Communication	A communication approach expresses the increasing dominance of information space in the modern world, when information, knowledge or creation as the ideal attributes of the public existence acquire a prevailing economic significance in the new communication structures (Augustinaitis 2010).	+

The completed first stage of the expert survey is followed by the second stage. The expert group for the second stage of the expert survey is made up of two groups of experts – 14 experts from Stage 1, and 10 additionally engaged experts representing creative industry sectors in Lithuania. The underlying criterion for the selection of experts, namely creative industry professionals, was that they had professional experience of not less than two years in a specific creative industry sector, and a comprehensive understanding of the problems, which exist in the Lithuanian creative industries sector. As a result 22 experts were selected and the

questionnaire for Stage 2 was circulated on 26–31 March 2014. The questionnaire was compiled on the basis of the list of criteria for the sustainable development of CE compiled as a result of Stage 1 of the expert survey. The experts were asked to evaluate the criteria submitted and assign the most appropriate scores to the criteria; with 1 being not important and 10 being very important. By the term established, 31 March, 17 experts had expressed their opinion. On 1 April a repeated reminder was sent to the experts inviting them to participate in the expert survey by 5 April. By the date established another three experts had expressed their opinion; therefore, the evaluation of 20 experts was sufficient for the second stage of the expert survey. The processing of the results of Stage 2 produced the following rankings in the expert survey:

Table 3.2. Expert evaluation of creative industries according to 8 criteria (10 – highest score and 1 – lowest score) (source: author)

Criteria	Creative and cultural industries									
	Sites of cultural value	Crafts	Traditional cultures	Visual arts	Scenic arts	Publishing	Audio visual arts	New medias	Creative services	Design
Knowledge capital	4	1	3	2	6	5	7	9	10	8
Social capital	2	1	6	5	4	3	9	7	10	8
Regional development	10	7	9	4–5	8	3	2	1	6	4–5
Resilience	2	1	3	4	5	7	6	8	10	9
Financial capital	6	1	2	3	4	5	10	9	7	8
Intellectual property	3	1	2	6	4	5	9	7	8	10
Creation of added value	2	1	3	5	4	6	8	7	10	9
Communication	3	1	2	4	5	6	9	7	8	10
General ranking	**3**	**1**	**2**	**4**	**5–6**	**5–6**	**8**	**7**	**10**	**9**
Total rankings VS indicator (total places according to each criterion)	**56**	**74**	**58**	**54.5**	**48**	**48**	**28**	**33**	**19**	**21.5**

The conclusions of the expert survey carried out according to the *Delphi* method are the following: experts prioritise new creative industries: 10–7 points were assigned to Creative services, Design, Audio-visual works and New media. Upon a consensus evaluation of the experts, lower scores were assigned to tradi-

tional creative industries: 1–4 points were assigned to Crafts, Traditional cultural expression, Sites of cultural value and Visual arts. The scenic arts and publishing received average scores (5–6). A conclusion may be drawn up that traditional cultural activities are being replaced by new creative activities.

3.2. The evaluation of the compatibility of group expert opinions obtained in the survey of the sustainable development of the Lithuanian creative economy, and ranking of creative industries

The list of criteria obtained as a result of the group expert examination creates the necessary preconditions for the ranking of creative industries as components for their sustainable development. According to Ginevičius and Podvezko (2008) multiple criteria evaluation methods have been increasingly frequently applied in theoretical surveys in recent years in addition to as solutions to practical problems, such methods by their nature being fairly universal. Baležentis and Baležentis (2011) suggested distinguishing between the following components of the multi-criteria evaluation model: 1) the identifying of objectives and establishing a system of the related indicators, establishing their materiality; 2) the formation and normalisation of a response matrix while applying multiple criteria decision making methods; 3) the interpretation of the results obtained and making decisions. According to the authors multiple criteria decision-making allows different alternative decisions to be evaluated with regard to a number of different objectives (criteria). Depending on the methods used such criteria may be either qualitative or quantitative. Furthermore, the criteria may be divided into objective and subjective criteria. Objective criteria are normally expressed by a quantitative value, whereas subjective criteria are most often qualitative. The compatibility of the opinions obtained by way of a group expert survey is assessed and creative industries are ranked according to a set of selected criteria on the basis of the analysis of sustainable development of the Lithuanian CE. For this purpose the following tasks were defined:

1. Formulate the objective for the assessment of the compatibility of the group expertise opinions.
2. Discuss the advantages and shortcomings of the assessment and the ranking method.
3. Select the assessment and ranking methods.
4. Perform the assessment and ranking.
5. Process the results.
6. Draw up conclusions from the evaluation and the ranking.

The objective of the multi-criteria evaluation is to rank creative industries according to selected criteria by applying the quantitative multiple criteria evaluation method. This stage of the expert evaluation, applying the *Delphi* method, could be considered to be one of the limitations of the survey, or as a shortcoming of the application of the multiple criteria evaluation method in view of the possible subjectivity of the expert group members.

In scientific literature the problems concerned with multi-criteria evaluations are defined as being based on two aspects: 1) examining infinite alternatives to solution sets (Multiple Objective Decision Making); 2) examining finite alternatives to solution sets (Multiple Attribute Decision Making). Different discretional optimisation methods were used to address the problems, such as SAW, TOPSIS, GV, VS, VIKOR, COPRAS, etc. (Ginevičius *et al. 2*008). In science the multiple criteria evaluation concept (following the Franklin's "blank page" system in the 18th century) was further elaborated by a number of authors, such as Charnes *et al.* (1955), Contini, Zionts (1968), Wallenius, Zionts (1973), Keeney, Raiffa (1976); they laid the foundations for the development of the relevant methods and expanded the possibilities for the application of the multiple criterion evaluation. Worthy of mention among Lithuanian researchers investigating the possibilities of the application of the multiple criterion method are Romualdas Ginevičius, Valentinas Podvezko, Edmundas Kazimieras Zavadskas, and among foreign scientists work has been done by Valerie Belton, Harold Benson, Joao Climaco, Kalyanmoy Deb, Matthias Ehrgott, Simon French, Raimo P. Hmlinen, Kaisa Miettinen, Masatoshi Sakawa, Serpil Sayin, Jaap Spronk, Theodor Stewart, and others. There are currently a considerable number of multi-criteria evaluation methods; however, their area of application in all cases is based on three major factors: 1) a check-list (multiple criteria benefit); 2) an analytical hierarchy process; 3) concordance. According to Munda (2004) in order to address any problems in modern social sciences it is important to continue increasing the empiric significance of economic and decision-making sciences by means of supplementing their models with even more realistic (and therefore more complex) assumptions. One of the most challenging areas for research efforts in the public economy is the attempt to introduce such criteria as political restrictions, interest groups or the effect of conspiracy on a broad scale (Laffont 2000). One of the most important arguments underlying the theory is the concept of social multicriteria assessment proposed as a social choice system, which could be applied for the purpose of addressing the complex problems of the present millennium. The foundations of the assessment have been laid down on the basis of complex system theory and philosophical concepts, such as reflexive complexity, post-normal science and incommensurability. Subsequently Munda (2005) developed the theory of the multi-criteria of sustainable development and claimed that sustainable development is a concept of several dimensions encompassing

social-economic, ecologic, technical and ethical prospects. For the sustainability policy to be efficient, the principal question, which needs to be answered, is that of whose sustainability is being investigated. The author proved that the multicriteria solution analysis is a sufficiently appropriate method for resolving sustainability-related conflicts both at the micro-analysis and macro-analysis levels. Another author, Triantaphyllou (2000), claims that the first action in solving any problem when applying multi-criteria decision making is to define a range of alternatives and the decision making criteria with respect to which the proposed alternative solutions will be assessed. Although the action itself is especially important, it is not easy to define using only a standard modelling procedure. The task is related to a creative rather than to a scientific method of science; therefore, the only and the most important task when solving any multi-criterion assessment task is to properly define the problem. The schematic presentation for multi-criteria evaluation is presented in Fig. 3.3.

The multi-criteria evaluation method enables a quantitative evaluation of any complex problem expressed by a number of indicators. The indicators are also advantageous in the sense that one aggregate indicator integrates indicators maximising and minimising in different dimensions, i.e. the indicators which in some cases grow when the situation of the phenomenon being examined improves and worsen in other situations (Ginevičius, Podvezko 2008). Such merging is feasible only where all indicators are turned dimensionless by way of normalisation, i.e. they are comparable with each other (Ginevičius, Podvezko 2007). In all cases the normalisation is performed by linking internally linking the values of, for instance, indicator *i* of the alternatives of the phenomenon being investigated (Ginevičius, Podvezko 2008).

The VS method was selected as appropriate for the purpose of the present paper having assessed the simplicity of the method and the purpose of the survey. According to Ginevičius and Podvezko (2008), "The values of the Vj criterion do not depend upon the method of normalisation of the initial data, or the transformation of their scale, or the ωi values of the weight of the indicators ($i = 1,\ldots, m$). However, an essential condition for the application of the method is an advance identification of the nature of the maximising and minimising indicators. Or, for example, the minimising indicators may be converted into maximising". For the purpose of conventional ranking, when all criteria are of equal weight, the VS method is a convenient method to use and does not require any special preparation of data. Should the criteria have weights in the case being examined (meaning that it is intended to continue the survey), the SAW method would be used, as it is specifically this method that facilitates an evaluation of weight-bearing criteria.

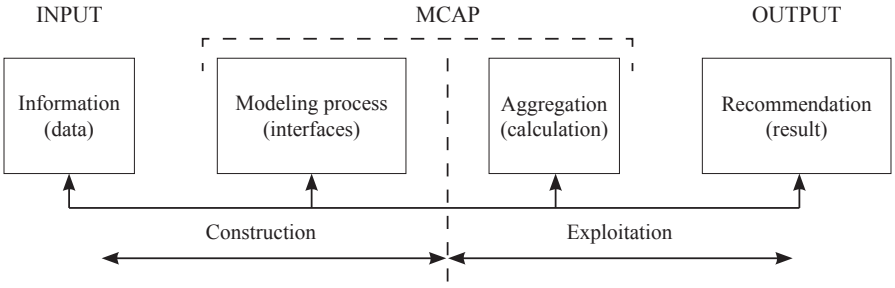


Fig. 3.3. Schematisation of multi-criteria evaluation (source: Guitouni, Martel 1998)

3.2.1. Analysis of compatibility of expert evaluations

Provided the specified requirements with respect to the selection of experts, the organisation of the survey and the assessment of results, a group expert evaluation is more reliable than individual evaluations. An evaluation by a group of experts may be considered sufficiently reliable only in the presence of sufficiently good compatibility of responses of the experts participating in the survey. Therefore the processing of statistical information received from experts should include an evaluation of the compatibility of the expert opinions and identify the reasons for any contradictions.

According to Rudzkienė (2014), the selection of the number of experts is determined by a known dependence. Fig. 3.4 shows the dependence of the accuracy of expert evaluation upon the number of experts.

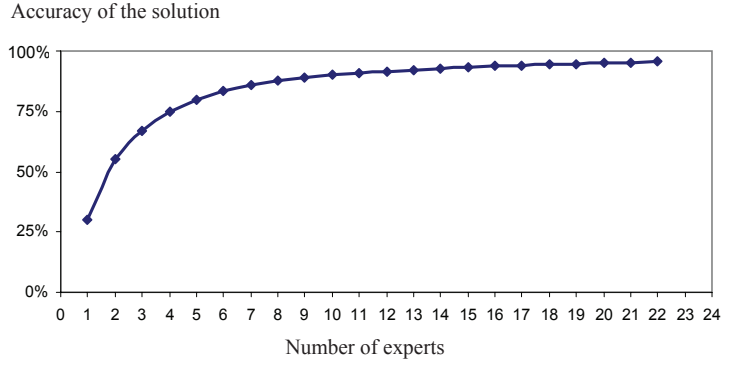


Fig. 3.4. The dependence of the standard deviation of expert evaluation upon the number of experts (source: Rudzkienė 2014)

The diagram in Fig. 3.4 shows that when the number of experts is higher than 7, the accuracy is higher than 90%, while where the number of the experts is further increased, the accuracy increases only marginally. Therefore, the optimal number of experts is 20 and this corresponds to an accuracy of 95%.

3.2.2. Dissemination of evaluations

An analysis of the compatibility of expert evaluation often uses a variation coefficient V, which defines the variability computed as a ratio between the mean square deviation and the arithmetic mean. Ordinarily the coefficient is expressed as a percentage:

$$V = \frac{\sigma}{x_{vid}} *100\% \quad (3.1)$$

Table 3.3. Expert evaluation variation coefficients (source: author)

Criterion	Creative industries									
	Sites of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
Knowledge capital	73%	97%	58%	62%	37%	44%	27%	31%	14%	33%
Social capital	69%	89%	52%	53%	54%	56%	38%	51%	21%	37%
Regional development	47%	66%	42%	42%	42%	44%	55%	64%	48%	56%
Resilience	83%	81%	65%	42%	40%	47%	40%	32%	21%	36%
Financial capital	61%	105%	65%	39%	30%	48%	36%	33%	41%	49%
Intellectual property	84%	67%	39%	37%	40%	50%	25%	24%	27%	22%
Added value creation	81%	83%	74%	45%	43%	41%	25%	28%	24%	35%
Communication	64%	87%	62%	51%	49%	44%	37%	43%	41%	40%
Overall rank	**70%**	**85%**	**57%**	**46%**	**42%**	**47%**	**35%**	**38%**	**30%**	**38%**

The biggest difference in the opinions of the experts for the purpose of ranking creative industries was recorded when assigning ranks to Crafts (85%) and Sites of cultural value (70%), and specifically when assessing financial and knowledge capital. The opinions of experts may differ; and in any case identical answers are not a basis for guarantee. Expert opinions were fairly unanimous when assessing Creative services (30%), Audio-visual works (35%), New media (38%) and Design (38%).

The distribution measurements constitute important characteristics of expert estimate distribution; however, when analysing the compatibility of the estimates, it is not sufficient to realise the variability of an attribute, it is also necessary to disclose the factors affecting the variability of each attribute.

3.2.3. Spearman correlation coefficients

The verification of the compatibility of the expert estimates is performed by means of rank correlation methods. The survey covered by the present paper employed the Spearman rank correlation coefficient calculation using the *RKWard* open code software. The yellow colour is used to designate high correlation (>0.70) and the red colour designates controversy (<-0.10). Thus the opinion of expert 8 was assessed as being the most controversial and the opinion of expert 9 was designated to be the most compatible with the opinions of the other experts.

3.2.4. Concordance coefficients

Concordance is the compatibility of expert opinions according to several objects (factors), which affect the final outcome (quality), i.e. an overall correlation coefficient for the group composed of *N* number of experts (20 in the case concerned). The coefficient may range from 0 to 1, and when the coefficient is equal to 1 this means that all the experts evaluated the attribute *X* equally, while when it is equal to zero it means that there is no link between the estimates received from different experts. The concordance coefficient is often calculated according to the formula proposed by Kendall:

$$W = \frac{12S}{m^2(n^3 - n)} \tag{3.2}$$

where

$$S = \sum_{i=1}^{n}(\sum_{j=1}^{m} x_{ij} - \frac{1}{2}m(x+1)m(n+1))^2 \tag{3.3}$$

x_{ij} – the estimate of expert x according to factor j, m – number of experts, n – number of factors.

The concordance coefficients of all 8 criteria are presented in Table 3.4. χ^2 criterion is used to establish whether the expert opinion compatibility is not of a random nature.

Table 3.4. Expert evaluation concordance coefficients and their compatibility (source: author)

Criterion	Concordance coefficient	χ^2	χ^2 table 0.005	χ^2 table 0.01
Knowledge capital	0.41	74.03	23.59	21.67
Social capital	0.16	28.30	23.59	21.67
Regional development	0.12	**21.59**	23.59	21.67
Resilience	0.30	53.97	23.59	21.67
Financial capital	0.18	32.86	23.59	21.67
Intellectual property	0.54	98.05	23.59	21.67
Added value creation	0.39	69.75	23.59	21.67
Communication	0.16	28.12	23.59	21.67

3.2.5. Conclusions of the group expert survey

The highest compatibility of expert opinions was obtained when evaluating intellectual property (0.54), knowledge capital (0.41) and the creation of added value; the largest differentiation in opinions was recorded with respect to regional development (0.12), social capital (0.16) and communication (0.16). The compatibility of the opinions according to all criteria was not of a random nature with a reliability level of 0.001, except for the evaluation of the criterion of regional development. The expert evaluations in respect to regional development do not meet the χ^2 criterion, neither for the 0.001 or the 0.5 reliability level ($21.59 < 23.59$ and $21.59 < 21.67$).

3.3. Possibilities of stochastic optimisation and the introduction of a quantitative sustainability for the purpose of the expansion of the possibilities for surveying creative economy

The present thesis paper seeks to systematise the currently emerging concept of the universally sustainable development (Rutkauskas 2012; Rutkauskas *et al.* 2013) and further expand the area for the application of the category. The author of the present paper is proposing a qualitative measurement component of sustainability exploring the reliability of the possibility for change in a condition, process or system. Along with the analysis of conversion the author, referring to the sustainable development solutions offered, seeks to explore and to evaluate the capacities of Lithuanian CI, while developing their dynamics and interaction, thus strengthening the potential of the national CI, and at the same time of the entire national economy.

For the purpose of the present research paper the author carried out an analysis of the capacities of CI to utilise investment and other development resources in view of the on-going attempts to introduce in the national industry a number of currently specifically efficient instruments, such as a strategic approach towards knowledge and social capital and intellectual property powers, regional development and value added creation, communicational universality, etc.

The prospects for CI are treated as stochastic developments or processes. Therefore the examination of such prospects required the utilisation of stochastically informative expertise and relied on the necessity and the possibilities of stochastic optimisation.

The purpose of the present thesis paper is to define the concept of universal sustainable development, and analyse the values based on the emergence of the new sustainability paradigm through cultural integration. The paper also presents

a survey of the core of the Lithuanian CE – CI, and proposes the introduction of a quality measure which would ensure the systemic character of a measurement of reliability (guarantee) of possibilities.

In view of intensifying globalisation the concept of a national sector and national industries is now disappearing. Europe is looking to develop a holistic strategic approach towards the creation of the European value chain ranging from infrastructure and raw materials to after-sale service and the sale of goods. In order to promote and foster the creation and growth of small and medium-sized enterprises it is specifically the CI companies that become vital for the formation of the EU's industrial policy. This transition to a sustainable economy offers an opportunity to strengthen the competitiveness of CI by introducing a quantitative sustainability measure (Rutkauskas 2000) ensuring a systemic character of the measurement of reliability (guarantee) of possibilities.

3.4. The formation of the adequate investment solution management portfolio for initiation of the sustainable development of the Lithuanian creative economy

The formation of a systemic approach or a systemic analysis model designed to ensure an optimal distribution of investment resources (Rutkauskas, Stankevičienė 2003) among different industries with a view to maximising the usage of the investment is a task of exceptional importance both for the sustainable development of CE and the designing of the universality sustainable strategy of development (Rutkauskas *et al.* 2011). According to Rutkauskas and Stasytytė (2011), in many cases a provision on the preservation of a quantitatively measured guarantee for certain economic, demographic and financial proportions can become a fundamental framework for the entire sustainable development nurturance. Based on the theory of the modern (efficient) portfolio (Markowitz 1952) examining the discretional time financial market model offering a formation of efficient limits of optimal portfolios with a view to obtaining a highest return accompanied by a specific level of risk. According to Markowitz (1952), the portfolio selection process may be divided into two stages. The first stage starts with observation and experience, and is completed by acquiring assurance concerning the possible guarantees for future actions. The second stage starts with directly related conviction about future actions and is completed with a selection of the portfolio. According to Markowitz (1959), for the purpose of the formation of a portfolio, the selection of suitable criteria depends on the type of the investor. However, there are some qualities common to all investors: 1) the desire to generate high returns; 2) the

desire to ensure the reliability, stability and clarity of the return. The Markowitz portfolio theory takes into consideration the behaviour of the optimising (Markowitz 1991). From the very appearance of the modern portfolio theory investment portfolio evaluation methods have been investigated by a number of foreign authors, such as Tobin (1958), Treynor (1965), Sharpe (1966), Merton (1972), Ross (1976), Chamberlain (1983), Owen and Rabinovitch (1983), Chunhachindaa *et al.* (1997), Rubinstein (2002), Mandelbrot (2004), Lo (2004), Briec *at al.* (2007), and others, as well as Lithuanian researchers, such as Rutkauskas (2006) and others. In the course of the past decade doctoral theses on the subject were defended in Vilnius Gediminas Technical University by Martinkutė (2006), Dzikevičius (2006), Stankevičienė (2007), Stasytytė (2011), Lapinskaitė (2013), *et al*. According to Elton and Gruber (1998), the portfolio theory is essentially an efficiently developed scientific paradigm. The search for a quantitative dialogue to define the sustainable development of CE relies on the adequate portfolio theory (Rutkauskas 2006). The principal components of the portfolio – risk, reliability and yield represent the condition of the possibilities of the portfolio.

The adequate investment portfolio enables a three-dimensional assessment of not only the return and the risk, but also the reliability criterion. In this case the interfaces between scholastic links are based on the interpretation of probabilistic phenomena where individual factors are treated as undefined, and a certain systematic pattern is envisaged in their sets. According to Rutkauskas (2006), the investment return probability should be defined on the basis of at least three parameters: a set of probable yields, the risk level of the profitability set and the reliability of each possibility. The adequate investment solution management portfolio enables the formation of portfolios yielding the return, risk and reliability compositions most favourable for the investor.

In the absence of a quantitative dependence of the model concerned, or even a sufficient statistical database it is necessary to refer to expert evaluations regarding the structuring of the development of CE with a view to ensuring the sustainability of not only CE, but of the entire country.

The results obtained from the expert survey may be directly used for deriving solutions for the universally sustainable development of CI.

Table 3.5 represent results of the expertise following 8 criteria of the CE sustainable development, 10 creative industries and 20 experts. Results are focused on median, mode, average, stdew, variation, sum, position, position median, position mode for further formation of adequate investment portfolio.

Table 3.5. Expert evaluation of creative industries according to 8 criteria (10 – highest score and 1 – lowest score) (source: author)

CI	Position average	Position median	Position mode
1	8	7–8	9
2	10	10	10
3	9	9	8
4	7	7–8	5
5	6	6	6
6	5	5	7
7	2	3	3–4
8	4	4	2
9	3	1	1
10	1	2	3–4

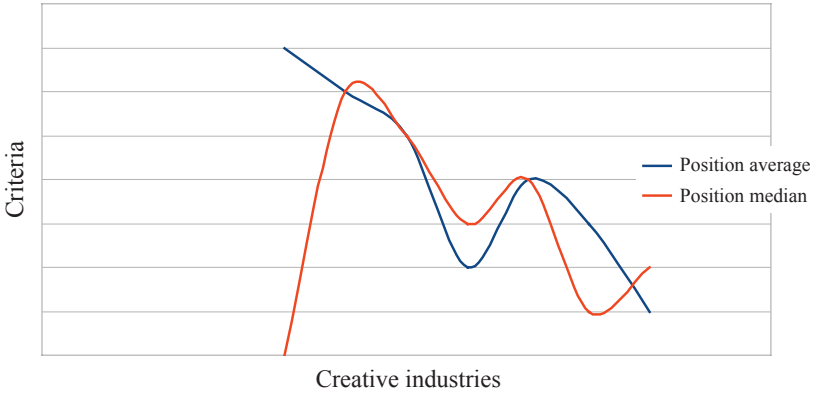


Fig. 3.5. Expert evaluation of creative industries according to 8 criteria position average and position median ratio (source: author)

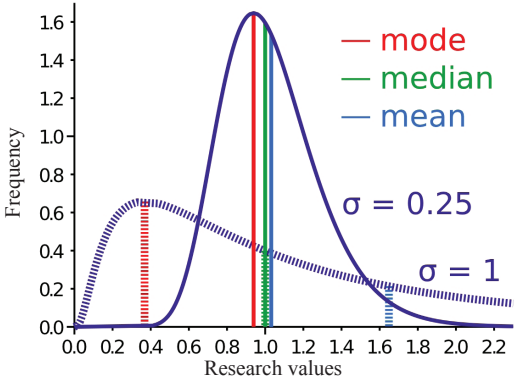


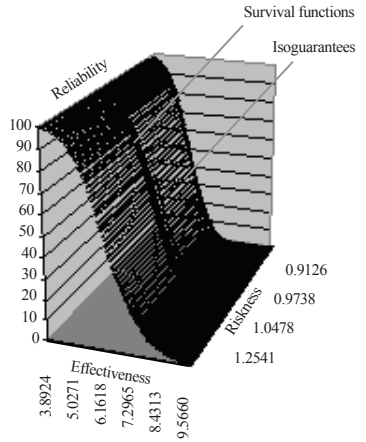
Fig. 3.6. Arithmetic mean (source: Memidex 2014)

Diagram in Fig. 3.5 grapchically represent differences between median and average also between position median and position average. In general, ranking diagrams are not informative enough; therefore differences between median, average and mode theoretically can be interpreted as in Fig. 3.5. Ratio between three-center characteristics (median, average, mode) show distribution direction on asymmetry and degree:

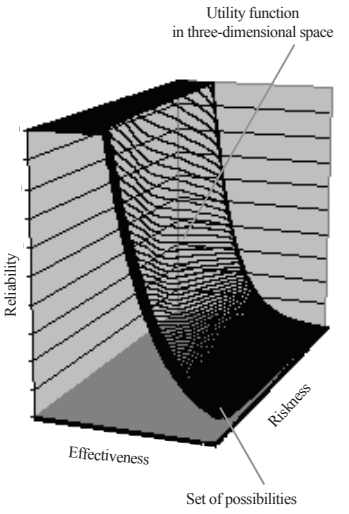
_ if value of indicator is _x = Me = Mo, there is symmetric distribution;
_ if _x > Me > Mo – positive skew;
_ if _x < Me < Mo – negative skew.

According to the extended option of expert evaluation as in Annex C, 160 estimates obtained with respect to each creative and cultural industry (8 criteria x 20 experts) were treated by the author as random observations. With reference to the estimates and using the adequate investment portfolio methodology (Rutkauskas 2006), the next step was to obtain an allocation of the optimal marginal investment unit between the solutions of the different industries. The conclusions were derived based on the views of the experts that a point refers to an evaluation of the ability of industry to efficiently use a resource designed for development for attaining a specific target. The results of the solutions are presented in Fig. 3.7, in which Section a) shows the efficiency surface, Section b) the adequate three-dimensional utility function, Section c) the geometrical point of tangency, and Section d) the specification of the proportional allocation of the investment unit among the industries.

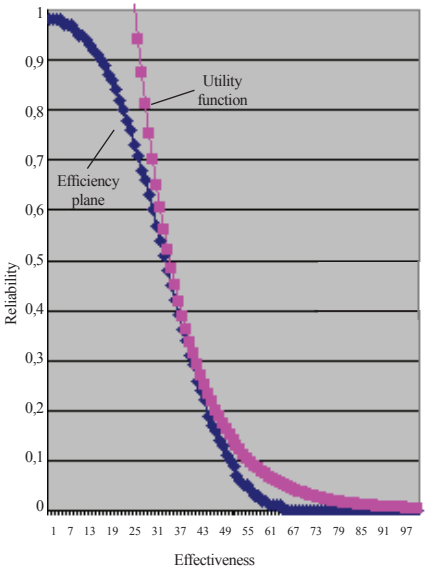
The expert evaluation in a ten point score system (10, 9, 8, 7, 6, 5, 4, 3, 2, 1) deserves a separate discussion, as it contains some secrets maybe even misunderstanding. First of all, a non-dimensional score, i.e. when it is not designated for what the score is assigned is meaningless. Therefore, prior to understanding the essence of scoring, it is necessary to understand what the scores are being assigned to. In the case discussed the experts were assigning the scores while assessing the ability of an industry to use the resources in such a way that the distributed investment unit would yield the maximum effect. A higher score assigned to a specific industry actually means that the industry is using the investment unit efficiently, thus making its contribution to the product of all CI together. Provided the score scale is adequately oriented towards the structure of the development of abilities according to the criterion being assessed, and then errors and deviations in using the ranking system directly to solve the task defined may be minimised. In cases where the structure of the expert scale is transformed linearly, i.e. by multiplying the possible values by a specific number, it is theoretically understandable that the linear transformation does not have to affect the expert evaluation values. But what would happen to the expert evaluations should the same experts use an entirely different expert scale structure? For the purpose of the experiment the author used the same expert score Table as in the evaluation described earlier, however with natural logarithms being used instead of the score values in natural numbers.



a)



b)

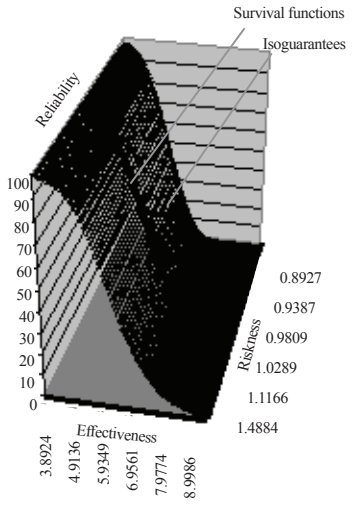


c)

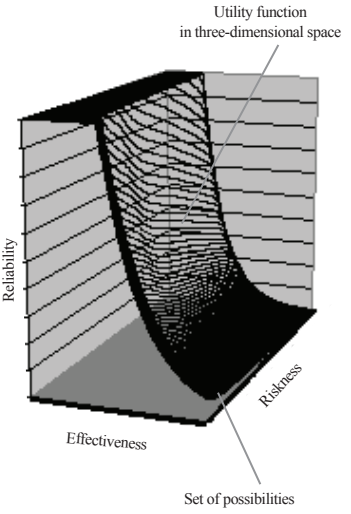
w1	0.0484
w2	0.0484
w3	0.1008
w4	0.1008
w5	0.0484
w6	0.1008
w7	0.1008
w8	0.0484
w9	0.3024
w10	0.1008

d)

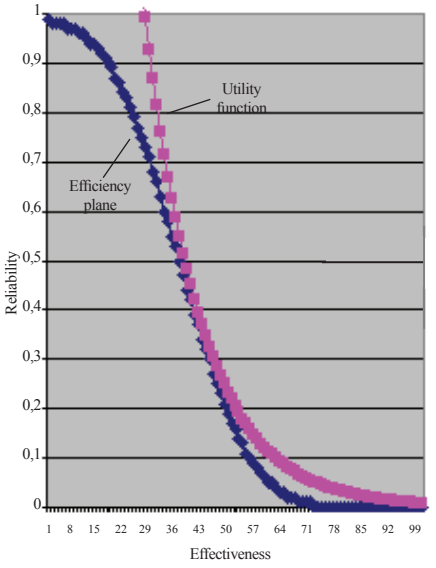
Fig. 3.7. Results of the optimisation solution using portfolio method: a) the efficiency surface; b) the adequate three-dimensional utility function; c) the geometrical point of tangency; d) the specification of the proportional allocation of the investment unit among the industries (source: author)



a)



b)



c)

w1	0.0484
w2	0.0484
w3	0.1008
w4	0.2016
w5	0.1008
w6	0.1008
w7	0.0484
w8	0.0484
w9	0.2016
w10	0.1008

d)

Fig. 3.8. Results of the optimisation solution according to new estimates: a) the efficiency surface; b) the adequate three-dimensional utility function; c) the geometrical point of tangency; d) the specification of the proportional allocation of the investment unit among the industries (source: author)

Fig. 3.8 shows the optimisation solution results where the stochastic optimisation problem parameters were assessed according to the estimates obtained in the new scale. The most efficient comparison of Fig. 3.7 and Fig. 3.8 could be performed with reference to the distribution of resources obtained in Section d). This example clearly demonstrates that the same estimates by experts being transformed into a different measurement scale yield different results. This may be acknowledged as evidence of a strong dependence of the generalising expert evaluation indicators upon the evaluation scale.

3.5. Conclusions of Chapter 3

1. The emergence and the formation of CI of Lithuania should be perceived as an appearance of a cluster of CE oriented towards the innovative national economy (whilst addressing both social, environmental, and economic growth issues, as well as the conceptualisation of culture).
2. A theoretically substantiated multi-criteria expediency of the cluster should become the basis for the efficient functional orientation of each element of the cluster, and, most importantly, a means for projecting a rational need for the use of investment and other limited resources. For that purpose not only an organisational structure as a union of comparable objects, but also a cluster of activities related by their functionality and the use of rational resources should come into being.
3. Fostering the methods as referred to in the previous item, the clusterization of CI would acquire attributes of an adaptive complex system with a possible further application to the system of theoretically substantiated and universally approved methods of analysis and management of development.
4. The regularities of the development of a cluster in CI organised in such a way could be treated as canons of the universally sustainable development, and as a system subjected to laws. An integrated cluster of knowledge, innovations and technologies would naturally develop into a system fostering the code for the development of the cluster.
5. The stage of the initial formation of a cluster in CI, both the emergence of the dependency system, and the formation of the guidelines for the strategic development, is related to a high level of uncertainty. There is a weighty argument supporting the idea that the stochastic optimisation methodology should serve for the ultimate disclosure of the existence of a cluster.

General conclusions

1. CE is an archetype of the global economy complementing and continuing development of knowledge and information society. CE integrates various types of knowledge, consumption, value and determines transformation and efficiency of contemporary economy. In view of the weakening of national industries through the development of CI, CE is now becoming the dominating phenomena of contemporary economy, which is based not on natural creativity of individuals, but on complex of creativity forms, encompassing creative class, creative city, creative identity perspectives. Contemporary digitalized society is described as creative society – it is the CI, which are the key driving force in this kind of society developing the innovative and technological potential.
2. CI (locations of cultural values, crafts, expression of traditional culture, visual arts, performing arts, publishing and printed media, audio-visual arts, new media, creative services, design) encompass activities based on individuals' talent and creative potential, definition of creativity in a practical point of view is directly related to use and understanding of knowledge, innovation and technology, but creative activity is oriented to archiving particular level of culture. Therefore directions of CE sustainable development is based not on traditional sustainable development understanding (economic, environment, social), but on updated view to sustainable development components (economic, ecology, politics, culture). The sustainable development concept

elaborated in the present thesis paper is oriented towards the emergence of the concept of universality while specifically identifying the concept of universal sustainability. This is further developed in two aspects. In the first, universality unfolds itself through the construction of identical categories, so that sustainability is equally perceived by all entities – regions, countries or global development. The second dimension targets the broadest possible community of those concerned with and responsible for sustainable development.

3. In following political and economic guidelines in relation to the formation of the EU's single market area and the definition of industrial competitiveness, Lithuania is seeking to implement the Europe 2020 strategic guidelines. These guidelines provide that the objectives of development are to boost economic growth and the creation of new jobs while maintaining and supporting a strong, diversified and competitive industrial basis and in turn offering Europe well-remunerated jobs and reducing environmental pollution. CI are referred to as an important factor in terms of economic and social innovations in other sectors. In view of intensifying globalization, the national sector and the concept of national industry are gradually disappearing, and the EU is seeking to create a holistic strategic approach to the creation of a European value chain ranging from infrastructure and raw materials to after-sales service or the provision of services. In terms of the promotion and fostering of self-employment and the creation and growth of small and medium-sized enterprises, it is specifically the CI companies that have become vital for the formation of the EU's industrial policy. This transition towards a sustainable economy offers a convenient opportunity to strengthen the competitiveness of Lithuanian CI.
4. Model of CE sustainable development presents recourses allocation logic for ensuring CE sustainable development, while direct impact is based on effective investment allocation using adequate investment solution model, indirect impact when from sustainability components criteria (knowledge capital, social capital, regional development, resilience, financial capital, intellectual property, added value creation, communication) shape spill-over effect, a positive indirect public intervention result when new behavioral models, new social structures, new product creation, innovation promotion is formed.
5. The expert evaluation of the criteria for the sustainable development of CI carried out within the framework of the present thesis paper, as well as the methodology for the adequate management of an investment solution portfolio, enable the formation of portfolios providing investors with the best composition of profitability, risk and reliability (locations of cultural values 0.0484, crafts 0.0484, expression of traditional culture 0.1008, visual arts 0.1008, performing arts 0.0484, publishing and printed media 0.1008, audio-visual arts 0.1008, new media 0.0484, creative services 0.3024, design 0.1008). In view

of the absence of the quantitative dependence of the model, or even a sufficient statistical database, this methodological approach provides the preconditions for referring to experts on the structure for the development of CE with a view to ensuring the sustainability of CI, as well as of the entire national economy. The expert evaluation results of the survey were used to obtain solutions for the universal sustainable development of CI. Specific actual definition of Lithuanian CI enables to evaluate allocation of investment both provide with allocation trends and extrapolation of practical data.

6. A comprehensive survey of the prospects for the development of CE and the proposal to allocate resource solutions based on the adequate portfolio model constituted the basis for the conclusion that, from the viewpoint of the global economy, CE is an inclusive junction of different economic types creating complex services while applying creativity and communication principles, implementing new service technologies in view of the communication between different stakeholders ranging from local communities to the integration of the global supply chain and global communication. The present thesis paper opens up research and practical prospects for the development of consolidation of CE in the modern socio-economic, cultural and technological environments, the identification of newly emerging needs, sustainable development possibilities, for the modern communication of innovations in creative services based on the state-of-the-art communications and media technologies, complex forms for the strengthening socio-techno-cultural interoperability, as well as for providing access to the integrated entrepreneurial methods taking into account the global changes and competitive conditions.
7. A possible continuation of the present thesis paper, while using the conceptual knowledge about the sustainable development of CE and the specific knowledge on the scholastic informative evaluation system for the allocation of resources, could be envisaged as further research into individual CI, creative society, or the sustainable development of supporting industries, the formation of recommendations on the allocation of investment with a view to planning financing for CE activities, the initiation of the expansion of the range of statistical ranges, the improvement of the legal base governing CI, and the integration of the survey conducted within the framework of the present thesis.

References

A Study on Creativity Index. 2004. Home Affairs Bureau, The Honk Kong Special Administrative Region Government.

Adler, M.; Ziglio, E. 1996. *Gazing into the Oracle: The Delphi Method and Its Application to Social Policy and Public Health*, Jessica Kingsley Publishers: Bristol, PA.

Adorno, T. W.; Bernstein, J. M. 1991. *The Culture Industry – Selected Essays on Mass Culture*, London: Routledge / translated and reprinted from Adorno, T., W. 1972. *Gesammelte Schriften*, Surhkamp Verlag.

Adorno, T. W.; Horkheimer, M. 2002. *Dialectic of Enlighment: Philosophical Fragments*, Stanford University Press: USA / translated and reprinted from Horkheimer, M. 1987. *Gesammelte Schriften: Dialektik der Aufklarung und Schriften 1940–1950*, Frankfurt am Main: Fishcher Verlag GmbH.

Agenda 21. Programme of Action for Sustainable Development. 2001. Ministry of Environment of the Republic of Lithuania. [online] [cited 4 March 2014]. Available from Internet: <http://www.am.lt/LSP/files/Agenda21.pdf>.

Agyeman, J. 2005. *Sustainable Communities and the Challenge of Environmental Justice*, New York University Press.

Agyeman, J.; Bullard, R. D.; Evans, B. 2003. *Just Sustainabilities – Development in an Unequal World*, Earthscan Publications Limited.

Albert, R. S., Runco, M. A. 1999. *A History of Research on Creativity*. In ed. Sternberg, R., J. 1999. *Handbook of Creativity*. New York: Cambridge University Press.

Altshuller, G. 1999. *The Innovation Algorithm: TRIZ, systematic innovation, and technical creativity*, Worcester, MA: Technical Innovation Center.

Amabile, T. M. 1996. *Creativity in context*. Westview Press.

Amabile, T. M. 1998. How to Kill Creativity. *Harvard Business Review* 76(5), 76– 87.

Amsterdam Declaration on Creative Industries. 2010. [online] [cited 14 September]. Available from Internet: < http:// europe-innova.eu/>.

An integrated Industrial Policy for the Globalisation Era. 2013. [online] [cited 8 December 2013]. Available from Internet: <http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/files/communication_on_industrial_policy_en.pdf>.

Anheier, H. K.; Isar, Y., R. 2008. *Cultures and Globalisation: The Cultural Economy*, Vol. 2. London: Sage Publications.

Apple, M. W. 1996. *Cultural Politics and Education*, Teachers College Press.

Araya, D.; Peters, M. A. 2010. *Education in the Creative Economy: Knowledge and Learning in the Age of Innovation*, Peter Lang.

Armstrong, J. S. 2001. *Principles of Forecasting: A Handbook for Researchers and Practitioners*, Springer.

Arndt, O.; Freitag, K.; Knetsch, F.; Sakowski, F.; Nimmrichter, R.; Kimpeler, S.; Wydra, S.; Baier, E. 2012. *The cultural and creative industries in the macroeconomic value added chain Impact chains, innovation, potentials*, Summary of an expert report compiled on behalf of the German Federal Ministry of Economics and Technology.

Augustinaitis, A. 2004. Contemporary knowledge structure, *Informacion sciences* 29: 31–45.

Augustinaitis, A. 2010. Creative knowledge in complex environments: substantialising, mediation and visualisation of creativity, *Philosophy. Sociology* 21(3), 189–202.

Australian Copyright Council. 2008. Making the Intangible Tangible, Price Waterhouse Coopers.

Bakhshi, H.; McVittie, E. 2009. Creative supply–chain linkages and innovation: Do the creative industries stimulate business innovation in the wider economy? *Innovation: Management, Policy & Practice* 11, 169–189 (Innovation Policy in the Creative Industries) doi: 10.5172/impp.11.2.169.

Baležentis, A.; Baležentis, T. 2011. Strategic management of sustainable rural development: mcdm methods and integrated assessment of lithuanian family farm efficieny, *Management theory and studies for rural business and infrastructure development* Research papers 1(25).

Banks, M.; O'Connor, J. 2009. After the creative industries. *International Journal of Cultural Policy* 15(4): 365–373.

Batey, M.; Furnham, A. 2006. Creativity, intelligence and personality: A critical review of the scattered literature, *Genetic, Social, and General Psychology Monographs* 132: 355–429.

Baum, S.; O'Connor, K.; Yigitcanlar, T. 2008. The implications of creative industries for

regional outcomes, *International Journal of Foresight and Innovation Policy* 5(1): 44–64.

Bauman, Z. 1991. *Modernity and Ambivalence*, Ithaca, N.Y.: Cornell University Press.

Bauman, Z. 1998. *Globalization: The Human Consequences*, New York: Columbia University Press.

Bauman, Z. 2000. *Liquid Modernity*, Cambridge: Polity.

Bauman, Z. 2007. *Consuming Life*, Cambridge: Polity.

Baumol, W.; Bowen, W. 1966. *Performing Arts, The Economic Dilemma: a study of problems common to theater, opera, music, and dance*, New York: Twentieth Century Fund.

Beck, J. L.; Chan, E.; Irfanoglu, A.; Papadimitriou, C. 1999. Multi–criteria optimal structural design univer uncertainty, *Earthquake engineering and structural dynamics* 28: 741–761.

Beghetto, R. A.; Kaufman, J. C. 2007. Toward a broader conception of creativity: A case for "mini–c" creativity, *Psychology of Aesthetics, Creativity, and the Arts* 1(2): 73–79, doi: 10.1037/1931-3896.1.2.73.

Bekerman, Z.; Kopelowitz, E. 2008. *Cultural Education – Cultural Sustainability: Minority, Diaspora, Indigenous and Ethno-Religious Groups in Multicultural Societies*, Routledge.

Belfiore, E. 2002. Art as a means of alleviating social exclusion: Does it really work? A critique of instrumental cultural policies and social impact studies in the UK, *International Journal of Cultural Policy* 8(1): 91–106, doi:10.1080/102866302900324658.

Berardo, K.; Deardorff, D. K. 2012. *Building Cultural Competence: Innovative Activities and Model*, Stylus Publishing.

Bernstein, L. 2005. *Capital Ideas: The Improbable Origins of Modern Wall Street*, John Wiley & Sons, Hoboken.

Bikhchandani, S.; Hirshleifer, D.; Welch, I. 1992. A Theory of Fads, Fashion, Custom, and Cultural Change as Informational Cascades, *Journal of Political Economy* 100(5): 992–1026.

Bilton, C. 2007. *Management and Creativity, From Creative Industries to Creative Management*, Blackwell Publishing.

Bilton, C. 2007. *Management and creativity: From creative industries to creative management*, Lavoiser.

Black, S. E.; Lynch, L. M. 2004. What's driving the new economy?: the benefits of workplace innovation, *The Economic Journal* 114(493): 2–38, doi: 10.1111/j.0013-0133.2004.00189.x.

Bontje, M.; Musterd, S. 2009. Creative industries, creative class and competitiveness: Expert opinions critically appraised, *Geoforum* 40(5): 843–852.

Boschma, R. A.; Fritsch, M. 2009. Creative Class and Regional Growth: Empirical Evidence from Seven European Countries, *Economic Geography* 85(4): 391–423.

Botwinick, J. 1967. *Cognitive Processes in Maturity and Old Age*, New York: Springer Publishing Co.

Briec, W.; Kerstens, K.; Jokung, O. 2007. Mean–Variance–Skewness Portfolio Performance Gauging: A General Shortage Function and Dual Approach, *Management Science* 53(1): 135–149.

Bröchner, J. 1990. Impacts of information technology on the structure of construction, *Construction Management and Economics* 8(2): 205–218, doi:10.1080/01446199000000017.

Brockhoff, K. 1975. "The performance of forcasting goups in computer dialogue and face-to-face discussion" in Linstone, H. A.; Turloff, M., (Ed.), *The Delphi method: Techniques and applications* 291–321, Reading, MA: Addison-Wesley.

Brundtland Commission. 1987. Report of the World Commission on Environment and Development, United Nations.

Cai, D. J., Mednick, S. A., Harrison E. M., Kanady, J. C., Mednick, S. C. 2009. REM, not incubation, improves creativity by priming associative networks, *Proceedings of the National Academy of Sciences USA* 106 (25): 10130–10134.

Calapez Gomes, A.; Dantas Souza, C. B. 2013. The Missing Link: A Critical Analysis of the Roots of Non-Cooperation, *Lusophone management and administration review* 1(1): 5–15.

Canadian Framework for Culture Statistics. 2001. [online] [cited 23 September 2010]. Available from Internet: <http://www.statcan.gc.ca/pub/81-595-m/81-595-m2004021-eng.pdf>.

Carter, C.; Steiner, L.; McLaughlin, L. 2013. *The Routledge Companion to Media and Gender*, Routledge.

Castells, M. 1996 2000. *The Rise of the Network Society. The Information Age: Economy, Society and Culture*, Vol. I. Cambridge, MA; Oxford, UK: Blackwell.

Castells, M. 2012. *Aftermath: the cultures of the economic crisis*, Oxford, UK: Oxford University Press.

Caves, R. 2002. *Creative Industries: Contracts Between Arts and Commerce*, Cambridge: Harvard University Press.

Chamberlain, G. 1983. A characterization of the distributions that imply mean–variance utility functions, *Journal of Economic Theory* 29: 185–201.

Chesbrough, H. W. 2003. *Open Innovation: The new imperative for creating and profiting from technology*, Boston: Harvard Business School Press.

Chesbrough, H. W.; Vanhaverbeke, W.; West, J. 2006. *Open innovation: Researching a new paradigm*, Oxford: Oxford University Press.

Chunhachindaa, P.; Dandapanib, K.; Hamidb, S.; Prakash, A. J. 1997. Portfolio selection and skewness: Evidence from international stock markets, *Journal of Banking and Finance* 21(2): 143–167.

Convention on the Protection and Promotion of the Diversity of Cultural Expressions. 2005. UNESCO. [online] [cited 20 September 2010]. Available from Internet: <http://portal.unesco.org/en/ev.php-URL_ID=31038&URL_DO=DO_TOPIC&URL_SECTION=201.html>.

Cooke, P. N; Lazzeretti, L. 2008. *Creative Cities, Cultural Clusters and Local Economic Development: Knowledge, creative industries and local economic development*. [online] [cited 25 September 2013]. Google Books access.

Creative Content. 2010. UNESCO. [online] [cited 12 April 2010]. Available from Internet: < http://unesco.org/>.

Creative Economy Report. 2008. USA: United Nations UNCTAD.

Creative Economy Report. 2010. USA: United Nations UNCTAD.

Creative Nation: Commonwealth Cultural Policy. 1994. [online] [cited 12 April 2010]. Available from Internet: <http://www.nla.gov.au>.

Cunningham, S. 2002. From cultural to creative industries: Theory, industry, and policy implications, *Media International Australia Incorporating Culture and Policy: Quarterly Journal of Media Research and Resources* 54–65.

Cunningham, S. 2004. The Creative Industries after Cultural Policy. A Genealogy and Some Possible Preferred Futures, *International Journal of Cultural Studies* 7(1): 105–115.

Cunningham, S. 2006. *What price a creative economy?* Currency House, Strawberry Hills, N.S.W.

Dacey, J. 1999. "Concepts of Creativity: A history" in Runco M. A.; Pritzer S. R. *Encyclopedia of Creativity* Vol. 1, Elsevier. ISBN 0-12-227076-2.

Dalkey, N. C. 1969. An experimental study of group opinion, *Futures* 1(5): 408–426.

Dalkey, N. C.; Helmer, O. 1963. An experimental application of the Delphi method to the use of experts, *Management Science* 9(3): 458–467.

Davidsson, P.; Honig, B. 2003. The role of social and human capital among nascent entrepreneurs, *Journal of Business Venturing* 18(3): 301–331.

Davis, H.; Scase, R. 2001. *Managing creativity: the dynamics of work and organization*. Lavoisier.

De Bono, E. 1967. *The Use of Lateral Thinking*. Intl Center for Creative Thinking.

De Vany, A. S. 2004. *Hollywood Economics: How Extreme Uncertainty Shapes the Film Industry*. USA: Psychology Press.

Delbecq, A. L.; Van de Ven, A. H.; Gustafson, D. H. 1975. *Group techniques for program planning*. Glenview, IL: Scott, Foresman, and Co.

Deuze, M. 2007. Convergence culture in the creative industries, *International Journal of Cultural Studies* 10(2): 243–263, doi: 10.1177/1367877907076793.

Dong, L.; Haruna, M. 2012. The Practice of Urban Renewal Based on Creative Industry: Experience from the Huangjueping Creative Industries in Chongqing – China, *Journal of Sustainable Development* 5(5): 101–110, doi: 10.5539/jsd.v5n5p101.

Donohoe, H. M.; Needham, R. D. 2006. Ecotourism: The Evolving Contemporary Definition, *Journal of Ecotourism* 5(3): 192–210, doi: 10.2167/joe152.0.

Dopfer, K.; Potts, J. 2014. *The New Evolutionary Economics*. Edward Elar Publishing.

Drake, G. 2003. 'This place gives me space': place and creativity in the creative indus-

tries, *Geoforum* 34(4): 511–524.

Dreeszen, C.; Brown, M.; Borrup, T. 2007. *Partners in Creative Economy Planning Workbook*. Arts extension Service.

Drucker, P. 1959. *Landmarks of Tomorrow.* New York: Harper & Brothers.

Drucker, P. 1967. *The Effective Executive*. New York: Harper & Row.

Duff, W. 2010 [1767]. *Human Intelligence*. Indiana University.

Dunn, T.; Holtz-Eakin, D. 2000. Financial Capital, Human Capital, and the Transition to Self-Employment: Evidence from Intergenerational Links, *Journal of Labor Economics* 18(2): 287–305.

Dzikevičius, A. 2006. *Trading portfolio risk management in banking*. Doctoral dissertation. Vilnius Gediminas Technical University. Vilnius: Technika.

Ehnert, I. 2009. *Sustainable Human Resource Management. A conceptual and exploratory analysis from a paradox perspective*. Springer.

Elton, E., J.; Gruber, M. J. 1998. *Modern Portfolio Theory, 1950 to Date. Working Paper Series*. New York University, Stern Business School, Department of Finance.

Enkel, E.; Gassmann, O. 2007. Driving Open Innovation in the Front End: the IBM Case, EURAM conference held in Paris 16–19 May 2007.

Ester, P. 2003. *Culture and sustainability: a cross-national study of cultural diversity and environmental priorities among mass publics and decision makers*. Dutch University Press.

Europe 2020. 2013. [online] [cited 20 September 2013]. Available from Internet: <http://ec.europa.eu/europe2020/index_en.htm>.

European Commision Joint Research Centre. 2013. Scientific support for growth and jobs: cultural and creative industries. [online] [cited 15 December 2013]. Available from Internet: <http://ec.europa.eu/dgs/jrc/index.cfm?id=3910&obj_id=4700&dt_code=EVN>.

European Commission. 2007. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions of 20 November 2007. A single market for 21st century Europe. [online] [cited 15 December 2013]. Available from Internet: <http://europa.eu/legislation_summaries/internal_market/internal_market_general_framework/l70004_en.htm>.

European Commission. 2013. Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions. Promoting cultural and creative sectors for growth and jobs in the EU. [online] [cited 29 September 2013]. Available from Internet: <http://ec.europa.eu/culture/our-policy-development/documents/communication-sept2012.pdf>.

European Competitiveness Report. 2013. [online] [cited 8 December 2013]. Available from Internet: <http://ec.europa.eu/enterprise/policies/industrial-competitiveness/competitiveness-analysis/european-competitiveness-report/index_en.htm>.

European Creative Industries Alliance (ECIA). 2013. [online] [cited 20 September 2013]. Available from Internet: <http://www.howtogrow.eu/ecia/>.

European Industrial Policy. 2013. [cited 8 December 2013]. Available from Internet: <http://ec.europa.eu/enterprise/policies/industrial-competitiveness/industrial-policy/>.

European Parliament resolution of 12 September 2013 on promoting the European cultural and creative sectors as sources of economic growth and jobs. 2013. [online] [cited 25 September 2013]. Available from Internet: <http://www.europarl.europa.eu/>.

European Parliament. 2014. Regional development committee. [online] [cited 17 March 2014]. Available from Internet: <http://www.europarl.europa.eu/committees/lt/regi/home.html>.

Eurostat. 2010. [online] [cited 20 Septemeber 2010]. Available from Internet: <http://epp.eurostat.ec.europa.eu/>.

Ewing, R. P. 1979. The uses of futurist techniques in issues management, *Public Relations Quarterly* 24(4): 15–18.

Feasibility study "Vilnius creative industries map". 2010. Vilnius.

Fill, C. 2009. *Marketing Communications* 5th Edition. Prentice Hall: Pearson Education Limited.

Fillis, I. 2001. Small firm internationalisation: an investigative survey and future research directions, *Management Decision* 39(9): 767–783.

Fiske, J. 1992. "The Cultural Economy of Fandom" in ed. Lewis, L., A. *The Adoring Audience.* London: Routledge, Vol. 1, Part 2, 30–49.

Flew, T. 2004. Beyond ad hocery: Defining Creative Industries, *Conference paper: Cultural Sites, Cultural Theory, Cultural Policy*, The Second International Conference on Cultural Policy Research, 23–26 January 2004, Wellington, New Zealand.

Flew, T. 2012. *The Creative Industries: Culture and Policy*. SAGE.

Flew, T. 2013. *Global Creative Industries*. John Wiley & Sons.

Florida, R. 2002. *The Rise of Creative Class*. 1st Edition. Basic Books.

Florida, R. 2005. *Cities and the Creative Class*. New York: Routledge.

Fowles, J. 1978. *Handbook of futures research*. Greenwood Press: Connecticut.

Frankea, N.; Shah, S. 2003. How communities support innovative activities: an exploration of assistance and sharing among end-users, *Research Policy* 32: 157–178.

Fukuyama, F. 1992. *The End of History and the Last Man*. Free Press.

Fukuyama, F. 2001. Social capital, civil society and development, *Third World Quaterly* 22(1): 7–20.

Garmann Johnsen, H. K.; Ennals, R. 2012. *Creating Collaborative Advantage. Innovation and Knowledge Creation in Regional Economies*. Gower Publishing.

Garnham, N. 2006. From cultural to creative industries. An analysis of the implications of the "creative industries" approach to arts and media policy making in the United Kingdom, *International Journal of Cultural Policy* 11(1): 15–29.

Geogr, J. E. 2008. Location, control and innovation in knowledge-intensive industries, *Journal of Economic Geography* 8(5): 699–725.

Ginevičius, R.; Podvezko, V. 2008. A feasibility study of multi–criteria methods' application to quantitative evaluation of social phenomena, *Business: theory and practice* 9(2): 81–87.

Ginevičius, R.; Podvezko, V. 2008. The problem of compatibility of various multiple criteria evaluation methods, Business: theory and practice 9(1): 73–80.

Ginevičius, R.; Podvezko, V. Some problems of evaluating multicriteria decision methods, *International Journal of Management and Decision Making* 8(5/6): 527–539.

Ginevičius, R.; Podvezko, V.; Raslanas, S. 2008. Evaluating the alternative solutions of wall insulation by multicriteria methods, *Journal of Civil Engineering and Management* 14(4): 217–226.

Graham, B. 2002. Heritage as knowledge: capital or culture? Urban Studies 39(5-6): 1003–1017, doi: 10.1080/00420980220128426.

Green Paper on the potential of cultural and creative industries. (2013). [online] [cited 16 September 2013]. Available from Internet: <http://europa.eu/legislation_summaries/culture/cu0006_en.htm>.

Grober, U. 2012. *Sustainability: A Cultural History*. Green Books: UK.

Grusec, J. E.; Hastings, P. D. 2007. *Handbook of Socialization: Theory and Research*. Guilford Press.

Guilford, J. P. 1971. *Analysis of Intelligence*. McGraw-Hill Education.

Guitouni, A.; Martel, J.-M. 1998. Tentative guidelines to help choosing an appropriate MCDA method, *European Journal of Operational Research* 109(2): 501–521.

Hall, P. 2000. Creative Cities and Economic Development, *Urban Studies* 37(4): 639–649.

Hansen-Lemme, B. 2003. *Development in Adulthood*. Kaunas: Poligrafija ir informatika.

Hanson, W. H.; and Ramani, N. 1988. Technology forecasting: a hydroelectric company experience, *Harvard Business School Press: Technology Management Publication* 1(3): 266–270.

Hartley, J. 2005. *Creative Industries*. Blackwell Publishing.

Hawkes, J. 2001. *The Fourth Pillar of Sustainability: Culture's Essential Role in Public Planning*. Common Ground.

Hearn, G.; Roodhouse, S.; Blakey, J. 2007. From value chain to value creating ecology: Implications for creative industries development policy, *International Journal of Cultural Policy* 13(4): 419–436.

Helmer, O. 1977. Problems in futures research: Delphi and causal cross-impact analysis, *Futures* 9(1): 17–31, doi.org/10.1016/0016-3287(77)90049-0.

Hesmondhalgh, D. 2007. *The Cultural Industries*. London: Sage Publications.

Holden, J. 2007. Publicly–funded culture and the creative industries. [online] [cited 20 September 2013]. Available from Internet: <http://bruford.ac.uk>.

Hotho, S.; Champion, K. 2011. Small businesses in the new creative industries: innovation as a people management challenge, *Management Decision* 49(1): 29–54.

Howkins, J. 2001. *The Creative Economy: How People Make Money from Ideas*. The Penguin Press.

Howkins, J. 2007. *The Creative Economy: How People Make Money from Ideas*. The Penguin Press.

Howkins, J. 2010. *Creative Ecologies: Where Thinking Is a Proper Job*. USA: First Transaction Publication.

Howkins, J. 2013. *The Creative Economy: How People Make Money from Ideas*. The Penguin Press.

Huss, W. R. 1988. A move toward scenario analysis, *International Journal of Forecasting* 4(3): 377–388, doi.org/10.1016/0169-2070(88)90105-7.

IDSA Industrial Designers Society of America. 2010. [online] [cited 16 September 2010]. Available from Internet: < http://www.idsa.org/>.

Ihab, H. 1977. "Prometheus as Performer: Toward a Postmodern Culture?" in Benamou, M.; Caramello, C. *Performance in Postmodern Culture*. Madison, Wisconsin: Coda Press.

Integrated art, science, education and business complex program "Lithuanian national creative and cultural industries" Feasibility Study. 2008. Vilnius.

Investing In Creative Industries. 2010. UK: Local Government Association.

Ivcevic, Z. 2009. Creativity map: Toward the next generation of theories of creativity, *Psychology of Aesthetics, Creativity, and the Arts* 13(1): 17–21, doi: 10.1037/a0014918.

Jack, G. 2002. After Cultural Economy, *Ephemera: Critical Dialogues on Organization* 2(3): 263–276.

Jacobs, D. 2013. *The Cultural Side of Innovation: Adding Values*. Routledge.

Jacobs, M. 1999. "Sustainable development as a contested concept" in: Dobson, Andrew, (ed.) *Fairness and Futurity: Essays on Environmental Sustainability and Social Justice*. Oxford University Press, Oxford, 21–45.

Jayne, M. 2005. Creative industries: the regional dimension? *Environment and Planning C: Government and Policy* 23(4): 537–556.

Kačerauskas. T. 2013. Creative and cultural industries: philosophical, sociological and communication aspects, *Philosophy. Sociology* 24(3): 112–120.

KEA European Affairs. 2013. [online] [cited 8 December 2013]. Available from Internet: <http://www.keanet.eu/>.

KEPA Klaipėda economical development agency. 2010. [online] [cited 20 September 2010]. Available from Internet: <http://www.kepa.lt>.

Klingmann Architects and Brand Consultants. 2010. [online] [cited 30 April 2014]. Available from Internet: < http://klingmann.tumblr.com/>.

Klüver, H. 2010. Europeanization of Lobbying Activities: When National Interest Groups Spill Over to the European Level, *Journal of European Integration* 32(2): 175–191.

Kourtit, K.; Nijkamp, P.; Lowik, S; Van Vught, F.; Vulto, P. 2011. From islands of innovation to creative hotspots, *Regional Science Policy & Practice* 3(3): 145–161.

Kozbelt, A.; Beghetto, R. A.; Runco, M. A. 2010. „Theories of Creativity“ in Kaufman J. C. and Sternberg R. J. *The Cambridge Handbook of Creativity*. Cambridge University Press.

Kumar, S. 2002. *Methods for community participation: a complete guide for practitioners*. Sage Publications.

Ladrech, R. 2010. *Europeanization and National Politics*. Palgrave Macmillan.

Landeta, J. 2006. Current validity of the Delphi method in social sciences, *Technological Forecasting and Social Change* 73(5): 467–482, doi.org/10.1016/j.techfore.2005.09.002.

Landry, C. 2000. *The Creative City: A Toolkit for Urban Innovators.* London: Earthscan Publications.

Landry, C. 2006. *The Art of City Making.* London: Earthscan Publications.

Lapinskaitė, I. 2013. *Optimal allocation of investments for company's sustainable development*. Doctoral dissertation. Vilnius Gediminas Technical University. Vilnius: Technika.

Lash, S; Urry, J. 1994. *Economies of Sign and Space.* London: Sage Publications.

Lash, S. ; Urry, J. 1993. *Economies of Signs and Space*. Sage Publications.

Leadbeater, C. 2010. Two faces of open innovation. [online] [cited 12 April 2010]. Available from Internet: <http://www.openbusiness.cc>.

Leonard, D. 1995. *Wellsprings of knowledge: building and sustaining the sources of innovation*. Boston: Harvard Business School Press.

Lithuania 2030. 2013. [online] [cited 22 November 2013]. Available from Internet: <http://www.lrkm.lt>.

Lo, A. W. 2004. The Adaptive Market Hypothesis, *The Journal of Portfolio Management* 30(5): 15–29.

Lööf, H.; Heshmati, A. 2002. Knowledge capital and performance heterogeneity: A firm–level innovation study, *International Journal of Production Economics* 76(1): 61–85.

Lubbers, R.; Morales, P. 2001. The Earth Charter: Global Ethics for the Twenty–first Century. Institutional Issues Involving Ethics and Justice. [online] [cited 22 February 2014]. Available from Internet: <http://s3.amazonaws.com/academia.edu.documents/30854711/E1-37-05-21.pdf?AWSAccessKeyId=AKIAJ56TQJRTWSMTNPEA&Expires=139885-2739&Signature=b8WpR3BEsUd4D6QGi50BnF8GE%2BQ%3D&response-content-disposition=inline>.

Madridakis, S.; Wheelwright, S. C. 1978. *Interactive Forecasting: Univariate and Multivariate Methods*. 2nd Edn, Holden-Day, San Francisco.

Mandelbrot, B.; Hudson, R. L. 2004. *The Misbehavior of Markets – A Fractal View of Financial Turbulence*. New York: Basic Books.

Marcuse, H. 2002. *One-Dimensional Man – Studies in the Ideaology of Advanced Industrial Society*. London: Routledge Classics / orig. 1964 UK: Routledge & Kegan Paul.

Markowitz, H. 1952. Portfolio Selection, *The Journal of Finance* 7(1): 77–91.

Markowitz, H. 1959. *Portfolio Selection: efficient diversification of investments*. Cowles

Foundation for Research in Economics at Yale University. New York: John Wiley & Sons.

Markowitz, H. 1991. Foundations of Portfolio Theory, *The Journal of Finance* 46(2): 469–477.

Markusen, A. 2006. Urban development and the politics of a creative class: evidence from a study of artists, *Environment and planning* 38(10): 1921–1940.

Martinkutė, R. 2006. *Selection and management of investment strategies' portfolio*. Doctoral dissertation. Vilnius Gediminas Technical University. Vilnius: Technika.

Martino, J. P. 1983. *Technology Forecasting for Decision Making*. Elsevier Science Publishing, New York.

Matheson, B. 2006. A culture of creativity: design education and the creative industries, *Journal of Management Development* 25(1): 55–64.

Mažeikis. G. 2008. Spektaklio industrijos, iškeliančios ir paslepiančios kitą, *Athena* 4: 211–219.

McRobbie, A. 1994. *Postmodernism and Popular Culture*. New York: Routledge.

Melnikas B., Jakubavičius A., Strazdas R. 2000. *Innovation management*. Vilnius: Technika.

Merriam Wester. 2014. Resilience. [online] [cited 17 March 2014]. Available from Internet: <http://www.merriam-webster.com/dictionary/resilience>.

Merton, R. 1972. An analytic derivation of the efficient portfolio frontier, *Journal of Financial and Quantitative Analysis* 7: 1851–1872.

Metcalfe, J. S. 1998. *Evolutionary Economics and Creative Destruction*. USA: Psychology Press.

Ministry of Culture of the Republic of Lithuania. 2013. [online] [cited 22 November 2013]. Available from Internet: <http://www.lrkm.lt>.

Ministry of Science and Education of the Republic of Lithuania. 2011. [online] [cited 15 April 2011]. Available from Internet: <http://www.smm.lt>.

Moeran, B.; Pedersen, J. S. 2011. *Negotiating Values in the Creative Industries: Fairs, Festivals and Competitive Events*. Cambridge University Press.

Mokyr, J. 1990. *The Lever of Riches: Technological Creativity and Economic Progress*. Oxford University Press.

Munda, G. 2004. Social multi–criteria evaluation: Methodological foundations and operational consequences, *European Journal of Operational Research* 158(3): 662–677, doi. org/10.1016/S0377-2217(03)00369-2.

Munda, G. 2005. Multiple Criteria Decision Analysis and Sustainable Development, *International Series in Operations Research & Management Science* 78: 953–986, doi.10.1007/0-387-23081-5_23.

Musgrave, R. 1957. A Multiple Theory of Budget Determination, *Finanzarchiv, New Series* 25(1): 33–43.

Nelson, G. L. 2009. *Sustainability 2009: the next horizon*. American Institute of Physics.

Nelson, G. L. 2011. *Sustainable Development – the Cultural Perspective: Concepts – Aspects – Examples*. Edition Sigma.

Neves, E. 2010. Bringing down the city walls: new open innovation for new open cities. [online] [cited 12 April 2010]. Available from Internet: <http://urbact.eu/>.

Nieto, C. C.; Neotropica, F. 1997. Toward a holistic approach to the ideal of sustainability, *Phil & Tech* 2(2): 41–48.

Nonaka, I; Konno, N. 1998. The concept of „Ba". Building a foundations for knowledge creation, *California Management Review* l40(3): 53–67.

Nonaka, I. 1991. The knowledge–creating company, *Harvard Business Review* 69(Nov–Dec): 96–104.

Novak, E.; Lorant, K. 1978. A method for the analysis of interrelationships between mutually connected events: a cross–impact method, *Technological Forecasting and Social Change* 12(2–3): 201–212.

Oakley, K. 2004. Not So Cool Britannia. The Role of the Creative Industries in Economic Development, *International Journal of Cultural Studies* 7(1): 67–77.

Oakley, K. 2006. Include Us Out – Economic Development and Social Policy in the Creative Industries, *Cultural Trends* 15(4): 255–273.

Osborn, A. 1948. *Your Creative Power*. Scribner.

Owen, J.; Rabinovitch, R. 1983. On the class of elliptical distributions and their applications to the theory of portfolio choice, *Journal of Finance* 38: 745–752.

Parmentier, G.; Mangematin, V. 2014. Orchestrating innovation with user communities in the creative industries, *Technological Forecasting and Social Change* 83: 40–53, doi. org/10.1016/j.techfore.2013.03.007.

Perry-Smith, J. E.; Shalley, C. E. 2003. The Social Side of Creativity: A Static and Dynamic Social Network Perspective, *ACAD Manage Review* 28(1): 89–106, doi10.5465/ AMR.2003.8925236.

Porter, M. E. 1990. *The Competitive Advantage of Nations. London: Macmillan.*

Porter, M. E. 1998. Clusters and the New Economics of Competition, *Harvard Business Review* Dec: 77–90.

Porter, M. E. 2000. Location, Competition, and Economic Development: Local Clusters in a Global Economy, *Economic Development Quaterly* 14(1): 15–21, 33–40.

Porter, M. E. 1998. *On Competition*. Boston: Harvard Business School.

Potts, J. 2011. *Creative Industries and Economic Evolution*. Edward Elgar Publishing.

Potts, J.; Cunningham, S.; Hartley, J.; Ormerod, P. 2008. Social network markets: a new definition of the creative industries, *Journal of Cultural Economics* 32(3): 167–185.

Pratt, A. C. 2004. The Cultural Economy A Call for Spatialized 'Production of Culture' Perspectives, *International Journal of Cultural Studies* 7(1): 117–128.

Raspea, O.; Van Oort, F. 2006. The Knowledge Economy and Urban Economic Growth, *European Planning Studies: Innovation Clusters* 14(9): 1209–1234, doi: 10.1080/09654310600933322.

Renzulli, J. S. 2005. *What Makes Giftedness? And How Can We Develop Gifts and Talents In Young People?* Wegz Zur Begabungsforduerung: Vienna, Austria.

Resource Accounts 2000–01. 2001. UK: DCMS.

Rogers, M.; Bruen, M.; Maystre, L.–Y. 2000. *Multi–Criteria Evaluation Methods in Methods and Applications in Engineering and Infrastructure Investment*. Springer US, doi10.1007/978-1-4757-5057-7_2.

Romer, P. 2009. *New Growth Theory: Creativity*. Free World Academy.

Ronan, C. A. 1983. *The Cambridge Illustrated History of the World's Science*. Cambridge University Press.

Rubavičius, V. 2012. Postmodern commodification: Marx and Heidegger's concept frames, *Problemos* 70: 149–159.

Rubinstein, M. 2002. Markowitz's "Portfolio Selection": A Fifty-Year Retrospective, *The Journal of Finance* 57(3): 1041–1045.

Rudzkienė, V. 2014. *Research methods*. Lecture material. Mykolas Romeris University.

Runco, M. A. 2010. Insight for Creativity, Expression for Impact, *Creativity Research Journal* 8(4): 377–390, doi:10.1207/s15326934crj0804_4.

Rushton, M. 2013. *Creative Communities: Art Works in Economic Development*. Brookings Institution Press.

Rutkauskas A. V.; Sūdžius V.; Mackevičius V. 2008. *Business finance: system, structure and elements*. Vilnius: Technika.

Rutkauskas, A. V; Stankevičienė, J. 2003 Formation of an investment portfolio adequate for stochasticity of profit possibilities, *Journal of Business Economics and Management* 4(1): 3–12.

Rutkauskas, A. V; Stasytytė, V. 2011. Optimal portfolio search using efficient surface and three-dimensional utility function, *Technological and economic development of economy* 17(2): 291–312.

Rutkauskas, A. V. 2000. Formation of adequate investment portfolio for stochasticity of profit possibilities, *Property management* 4(2): 100–115.

Rutkauskas, A. V. 2006. Adequate investment portfolio anatomy and decisions, applying imitative technologies, *Economics* 75: 52–76.

Rutkauskas, A. V. 2012. Using Sustainability Engineering to Gain Universal Sustainability Efficiency, *Sustainability* 4:1135–1153, doi:10.3390/su4061135.

Rutkauskas, A. V.; Račinskaja, I.; Kvietkauskienė, A. 2013. Integrated knowledge, innovation and technology cluster as a self-regulating complex system, *Business, Management and Education* 11(2): 294–314.

Rutkauskas, A. V.; Stasytytė, V. With sustainability engineering to sustainability efficiency, *The 7th international scientific conference "Business and Management 2012": selected papers* 173–184.

Rutkauskas, A. V.; Stasytytė, V.; Lapinskaitė, I. 2011. Sustainabilities Portfolio as System to Envisage and Manage Universal Sustainability. 1st World Sustainability Forum.

[online] [cited 16 July 2014]. Available from Internet: < file:///C:/Users/user/Downloads/wsf_657_manuscript.pdf >.

Sackman, H. 1974. *Delphi critique; expert opinion, forecasting, and group process*. Lexington Books.

Salim, F. N. 2011. *Cultural Sustainability and Changing Worldview*. Common Ground Publishing Pty, Limited.

Santagata, W. 2004. *Material, intangible and tangible cultural heritage Cultural assets for the economic development*. UNDP, Cultural projects for develompent, Nicosia.

Santagata, W. 2006. Cultural Districts and Their Role in Developed and Developing Countries, *Handbook on the Economics of Art and Culture* 1: 1101–1119.

Sarin, R. K. 1978. A sequential approach to cross–impact analysis, *Futures* 10(1): 53–62.

Scharpf, F. W. 1994. Community and autonomy: Multi–level policy–making in the European Union, *Journal of European Public Policy* 1(2): 219–242.

Schlosberg, D. 2013. Theorising environmental justice: the expanding sphere of a discourse, *Environmental Politics* 22(1): 37–55, doi:10.1080/09644016.2013.755387.

Schumpeter, J. 1975 [1942]. *Capitalism, Socialism and Democracy*. *Part: Creative Destruction*. New York: Harper.

Scott, A. 2000. *The Cultural Economy of Cities: Essays on the Geography of Image-Producing Industries*. London: Sage Publications.

Seltzer, K.; Bentley, T. 1999. *The Creative Age-Knowledge and Skills for the New Economy*. Demos.

Sharpe, W. F. 1966. Mutual Fund Performance, *The Journal of Business* 39(1): 119–138.

Simonton, D. K. 1999. *Origins of genius: Darwinian perspectives on creativity*. Oxford University Press.

Simonton, D. K. 2003. Scientific creativity as constrained stochastic behavior: The integration of product, person, and process perspectives, *Psychological Bulletin* 129(4): 475–494, doi.10.1037/0033-2909.129.4.475

Smith, A. 1776. An Inquiry into the Nature and Causes of the Wealth of Nations 1 (1 ed.). London: W. Strahan. [online] [cited 20 September 2013]. Google Books access.

Smith, A. 1982 [1759]. *Theory of Moral Sentiment. The Glasgow edition of the Works and Correspondence of Adam Smith*. Oxford University Press, 1: 184–185.

Sontag, S. 1964. Notes on Camp. *Partisan Review* / reprinted 1978. *Against Interpretation*. New York: Delta.

Spangenberg, J. 2001. Investing in sustainable development: the reproduction of manmade, human, natural and social capital, *International Journal of Sustainable Development* 4(2): 184–201.

Speck, L. W. 2006. *Technology, Sustainability, And Cultural Identity*. Edizioni Press, Incorporated.

Stankevičienė, J. 2007. *Integrated assets and liabilities portfolio management*. Doctoral

dissertation. Vilnius Gediminas Technical University. Vilnius: Technika.

Stankevičienė, J.; Sviderskė, T.; Miečinskienė, A. 2014. Dependence of sustainability on country risk indicators in EU Baltic Sea region countries, *Journal of business economics and management* 15(4): 646–663.

Stasytytė, V. 2011. *Investment portfolio decision support system*. Doctoral dissertation. Vilnius Gediminas Technical University. Vilnius: Technika.

State News (Valstybės žinios). (2007). No. 39–1460.

State News (Valstybės žinios). 2006. No. 112–4273.

Sternberg, R., J. 1999. *Handbook of Creativity*. New York: Cambridge University Press.

Stewart, T.; Ruckdeschel, C. 1998. Intellectual capital: The new wealth of organizations, *Performance Improvement* 37(7): 56–59, doi: 10.1002/pfi.4140370713.

Stonkienė, M.; Atkočiūnienė, Z. O.; Matkevičienė, R. 2009. *Copyrights in science communication*. Vilnius: Vilnius University printing house.

Stryker, S.; Owens, J. T.; White, R. W. 2000. *Self, identity, and social movements*. University of Minnesota press.

Tatarkiewicz, W. 1980. *A History of Six Ideas: an Essay in Aesthetics*. The Hague: Martinus Nijhoff.

The Economy of Culture in Europe. 2006. KEA European Affairs. [online] [cited 16 September]. Available from Internet: < http:// keanet.eu/>.

The EU Single Market. 2013. [online] [cited 15 December 2013]. Available from Internet: <http://ec.europa.eu/internal_market/index_en.htm>.

The Private Sector and the Enforcement of IP Rights. 2003. World Intellectual Property Organization.

Throsby, D. 1994. The Production and Consumption of the Arts: A View of Cultural Economics, Journal of Economic Literature, *American Economic Association* 32(1): 1–29.

Throsby, D. 2001. Capitale culturale e identità urbana, *Economia della Cultura, Società editrice il Mulino* 2: 159–166.

Throsby, D. 2010. *The Economics of Cultural Policy*. New York: Cambridge University Press.

Throsby, D.; Winter, G. 1979. *The Economics of the Performing Arts*. New York, St. Martin's Press.

Tidd, J. 2006. *Innovation models*. London: Imperial College.

Tidd, J.; Bessant, J. 2009. *Managing innovation. Integrating technological, market and organizational change*. John Willey.

Tobin, J. 1958. Estimation of relationships for limited dependent variables, *Econometrica. The Econometric Society* 26(1): 24–36.

Toby, B. 2011. Petty, William. *Oxford Dictionary of National Biography*. Oxford University Press, doi:10.1093/ref:odnb/22069.

Totterdill, P.; Ennals, R. 2014. *Workplace Innovation. The Challenge for Public Policy*.

Gower Publishing.

Towards a Framework of Universal Sustainability Goals as Part of a Post-2015 Agenda. 2013. Discussion Paper. Civil society reflection group on global development perspectives. [online] [cited 30 April 2014]. Available from Internet: < http://library.fes.de/pdf-files/iez/10075.pdf >.

Towse, R. 1997. *Cultural Economics: The Arts, the Heritage and the Media Industries, Cheltenham, UK and Lyme*. USA: Edward Elgar.

Towse, R. 2001. *Creativity, Incentive and Reward, Cheltenham, UK and Northampton, MA*. USA: Edward Elgar Publishing.

Towse, R. 2003. *A Handbook of Cultural Economics.* UK: Edward Elgar Publishing Limited.

Towse, R.; Handka, C. 2013. *Handbook on the Digital Creative Economy*. Edward Elgar Publishing Publishing.

Treynor, J. L. 1965. How to Rate Management of Investment Funds, *Harvard Business Review* 43: 63–75.

Triantaphyllou, E. 2000. *Multi-criteria Decision Making Methods: A Comparative Study*. Springer US, doi.10.1007/978-1-4757-3157-6_2.

Trigger, B. 1998. *Sociocultural Evolution: Calculation and Contingency (New Perspectives on the Past)*. Blackwell Publishers.

United Nations Educational, Scientific and Cultural Organization UNESCO. 2010. [online] [cited 12 September 2010]. Available from Internet: <http://unesco.org/>.

Universal Declaration on Cultural Diversity. 2001. UNESCO. [online] [cited 16 September 2010]. Available from Internet: <http://unesdoc.unesco.org/images/0012/001271/127160m.pdf>.

Uricchio, W. 2004. Beyond the Great Divide Collaborative Networks and the Challenge to Dominant Conceptions of Creative Industries, *Cultural Studies* 7(1): 79–90. doi: 10.1177/1367877904040607.

Vaidhyanathan, S. 2003. *Copyrights and copywrongs: The rise of intellectual property and how it threatens creativity*. New York University.

Vainienė, R. 2008. Dictionary of Economic Terms. Vilnius: Tyto alba.

Veblen, T. 1915 [1899]. *Theory of the Leisure Class: An Economic Study of Institutions*. The Macmillan Company. London. [online] [cited 20 September 2012]. Google Books access.

Wallas, G. 1926. *Art of Thought*. [online] [cited 20 September 2012]. Google Books access.

Wang, J. 2004. The Global Reach of a New Discourse: How Far Can „Creative Industries" Travel, *International Journal of cultural Studies* 7(1): 9–19.

Wasserman, S.; Faust, K. 1994. *Social Network Analysis in the Social and Behavioral Sciences: Methods and Applications*. Cambridge University Press.

Wellman, B.; Haythornthwaite. 2008. *The Internet in everyday life*. Blackwell Publishers.

Welty, G. 1972. Problems of Selecting Experts for Delphi Exercises, *Academy of Management Journal* 15(1): 121–124.

Wilson, E. O. 1999. *Consilience: The Unity of Knowledge*. Vintage.

Wissema, J. G. 1982. Trends in Technology forecasting, *R&D Management* 12(1): 27–36.

World Conference on Science. 1999. UNESCO. [online] [cited 16 September 2010]. Available from Internet: <http://www.unesco.org/science/wcs/>.

World Economic Forum. 2014. Global Competitiveness. [online] [cited 26 February 2014]. Available from Internet: <http://www.weforum.org/issues/global-competitiveness>.

World Heritage Convention. 2010. UNESCO. [online] [cited 16 September 2010]. Available from Internet: < http://whc.unesco.org/>.

World Knowledge Competitiveness Index. 2014. [online] [cited 26 February 2014]. Available from Internet: <http://www.cforic.org/pages/wkci.php>.

World Tourism Organization. 2010. [online] [cited 20 September 2010]. Available from Internet: <http://www.unwto.org/>.

Yu, G.; Horan, R.; Mamas, M.; Weisshaar, B. 2004. Recovering Creativity: For Personal Evolution, Industry, and Society, *Journal of Youth Studies* 7(2): 14.

Zeki, S. 2001. Artistic creativity and the brain, *Essays on Science and Society* 293(5527): 51–52, doi: 10.1126/science.1062331.

List of scientific publications by the author on the topic of the dissertation

Rutkauskas, A. V.; Levickaite, R.; Maknickiene, N. 2014. Creative economy: search for universally sustainable development possibilities in the context of Lithuanian creative and cultural industries, *Asian Journal of Business and Management* 2(4): 246–257.

Levickaite, R. 2012. Theoretical and practical perspectives on creative economy (Selected cases), *Business and Management'12*: 669–674 (ISI Proceedings).

Levickaite, R. 2012. Interlinks of cultural and creative economies through creative products and services, *Science – Future of Lithuania* 4(3): 256–261.

Valevicius, M.; Levickaite, R. 2011. Lighting of cultural heritage as a tool to exibit historical architectural values in the context of creative industries (The case of Ukmerge), *Limes* 4(2): 162–176.

Stankeviciene, J.; Levickaite, R.; Braskute, M.; Noreikaite, E. 2011. Creative ecologies: developing and managing new concepts of creative economy, *Business, Management and Education* 9(2): 277–294.

Levickaite, R. 2011a. Four approaches to the creative economy: general overview, *Business, Management and Education* 9(1): 81–92.

Levickaite, R. 2011. Creative industries: classification systems and models in the context of creative economy of the 21st century, *Science – Future of Lithuania* 3(2): 21–27.

Levickaite, R.; Reimeris, R.; Zemaitis, E. 2011. Social environment formation of creative industries community on the principles of informal learning and open innovations: open innovation forum "I, idea" case, *Philosophy. Sociology* 22(2): 162–176 (ISI Web of Science).

Levickaite, R. 2011b. City festival – a traditional cultural expression of the creative industries (the case of international contemporary dance festival "New Baltic Dance"), *Limes* 4(1): 36–53.

Levickaite, R.; Reimeris, R. 2011. A pentagon of creative economy, *Coactivity: Communication* 19(1): 83–91.

Summary in Lithuanian

Įvadas

Problemos formulavimas

Šiandienėje Europoje kūrybinės visuomenės kūrimas – vienas iš strateginių prioritetų siekiant konkurencingumo globalizacijos sąlygomis. Medijų pasaulyje kūrybinių produktų kūrimo modeliai leidžia integruoti mokslą, kultūrą ir technologijas į tinklines daugiapakopes pridėtinės vertės kūrimo grandines globalioje rinkoje. Tradicinės kultūros transformavimas į kūrybos ekonomikos tvariosios plėtros paradigmą yra esminis veiksnys didinant kūrybinių industrijų vaidmenį pasaulinių rinkų sanklodoje, plėtojant naujus kūrybos ekonomikos sektorius ir įprasminant juos šiuolaikiškais kūrybinių bendruomenių, klasterių, centrų, laboratorijų organizavimo bei ekonominio pagrindimo modeliais. Kūrybinių veiklų ir struktūrų daugiakultūrės integracijos ir skvarbos į socialinius procesus ekonominių procesų tyrimas leidžia moksliškai pagrįsti veiksmingus požiūrius į kūrybos produktų rinką, suformuoti ekonominiu požiūriu pagrįstą kiekybinio tyrimo metodologiją, kurios taikymas sietinas su kūrybos ekonomikos tvariosios plėtros modeliavimu.

Kultūra tampa inovacinių idėjų pagrindu, kūrybinių produktų, socialinių struktūrų plėtotės veiksniu. Kultūros plėtra ir kultūrinių aplinkų formavimas yra svarbiausia kūrybinės bei inovacinės veiklos sąlyga, sukurianti vis didesnę pridėtinę vertę šiuolaikinėje eko-

nomikoje. Kultūra – tai sąlyga kurti ekonominius kūrybinės veiklos modelius pasaulinėje rinkoje, vystant vis naujus kūrybos ekonomikos sektorius ir įprasminant juos ekonomikos teorijomis. Jeigu šiuolaikinė visuomenė apibūdinama kaip kūrybos visuomenė, tai kūrybinės industrijos yra jų svarbiausia varomoji jėga, kuri papildo ir pratęsia žinių ekonomikos inovacinį ir technologinį potencialą.

Kūrybinių veiklų, verslo veiklos rūšių ir struktūrų integracija su kūrybinių produktų kūrimu, plėtra ir skvarba į visus socialinius ekonominius procesus leidžia sukurti globalias kūrybos ekonomikos ir kūrybos produktų rinkas, kurios grindžiamos kompleksinių ekonominių sprendimų gebėjimais, sudėtingų komunikacinių struktūrų modeliais ir tinklais, naujaisiais mokslinės analitikos, ekonometrijos ir socialinio tyrimo būdais, ekonominiais naujųjų medijų ir tarptautiniais kūrybinių inovacijų komercializavimo mechanizmais.

Kūrybos ekonomikos tyrimų poreikis tiesiogiai parodo ES kūrybos ekonomikos strateginę projekciją Lietuvoje, formuojant bendrą europinę kūrybos ekonomikos rinką. Tai atsispindi Lietuvos prioritetinėse mokslinių tyrimų ir eksperimentinės plėtros (MTEP), inovacijų raidos kryptyje „įtrauki ir kūrybinga visuomenė“ bei Jungtinėse tyrimų programose (JTP), ir, pirmiausia, Švietimo ir mokslo ministerijos planuose įgyvendinti kūrybinių ir kultūrinių industrijų JTP. Tokių tyrimų vykdymas skatintų tyrimus šioje šakoje, didintų kūrybos ekonomikos plėtrai skiriamas valstybines ir ES lėšas, skatintų dar didesnį kūrybinių industrijų sektoriaus augimą. Kultūros ministerijos duomenimis 2014–2020 m. ES programavimo laikotarpiu Lietuvoje bus įsteigtas Kūrybinių industrijų slėnis, kuris rūpinsis, kad kūryba, mokslas ir pramonė kurtų bendrus projektus. Kūrybinės industrijos Lietuvoje sudaro 5,6 proc. šalies bendrojo vidaus produkto (BVP). Inovacijos, technologijos, modernūs sprendiniai visuomenei, verslui ir valstybiniam sektoriui nebestebina nieko, tačiau kalbėti apie mokslo, meno ir verslo sintezę kūrybinių industrijų kontekste – vis dar sudėtinga.

Kūrybinių industrijų, kurios sudaro kūrybos ekonomikos branduolį, analizės metodų taikymas yra kokybinio pobūdžio. Kūrybos ekonomikos kiekybinių mokslinių tyrimų poreikis tiesiogiai siejamas su Lietuvos kūrybos ekonomikos tyrimų indėliu formuojant europietišką industrinę politiką ir kūrybinių industrijų rinką. Formuojant kūrybos ekonomikos tvariosios plėtros modelį kyla poreikis rasti ir pritaikyti metodus šiam tikslui įgyvendinti.

Atsižvelgiant į problematikos aktualumą, formuojama mokslinio darbo problema – kūrybos ekonomikos plėtros modeliavimas naudojantis investicijų portfeliu kaip išteklių tikslinio paskirstymo priemone, kuri užtikrina kūrybos ekonomikos tvarumą.

Darbo aktualumas

Kūrybos ekonomikos tvariosios plėtros mechanizmai globalizacijos sąlygomis yra vienas iš inovatyviausių, mažai tyrinėtų ekonomikos objektų, kuris tampa vienu svarbiausių besiformuojančio holistinio žinojimo praktinio taikymo traukos centru. Svarbiausia šio darbo mokslinio tyrimo idėja yra ištirti kūrybos ekonomikos tvariosios plėtros paradigmą, atsižvelgiant į globalizacijos iššūkius ir kūrybos ekonomikos raidos tendencijas pasaulyje.

Darbe ištiriami kūrybos ekonomikos tvariosios plėtros kriterijai, modeliuojama kūrybos ekonomikos tvarioji plėtra pasinaudojant investicijų portfeliu kaip išteklių tikslinio paskirstymo priemone, kuri užtikrina kūrybos ekonomikos plėtros tvarumą; taikomi instrumentai kūrybos ekonomikos tvariosios plėtros problemoms spręsti ir kiekybiškai įvertinti kūrybinių industrijų plėtrą, aprobuotą Lietuvos pavyzdžiu; pritaikomi kiekybiniai tyrimai, kurių integravimas į kokybinės prigimties tyrimų sritį reikalauja konceptualių ir pagrįstų sprendimų.

Tyrimų objektas

Kūrybos ekonomikos tvarioji plėtra – naujas ekonomikos archetipas, panaudojant investicijų portfelį kaip išteklių tikslinio paskirstymo ir tvarumo užtikrinimo priemonę.

Darbo tikslas

Sudaryti kiekybine analize grindžiamą kūrybos ekonomikos tvariosios plėtros modelį, naudojantis investicijų portfeliu kaip tiksline išteklių paskirstymo priemone.

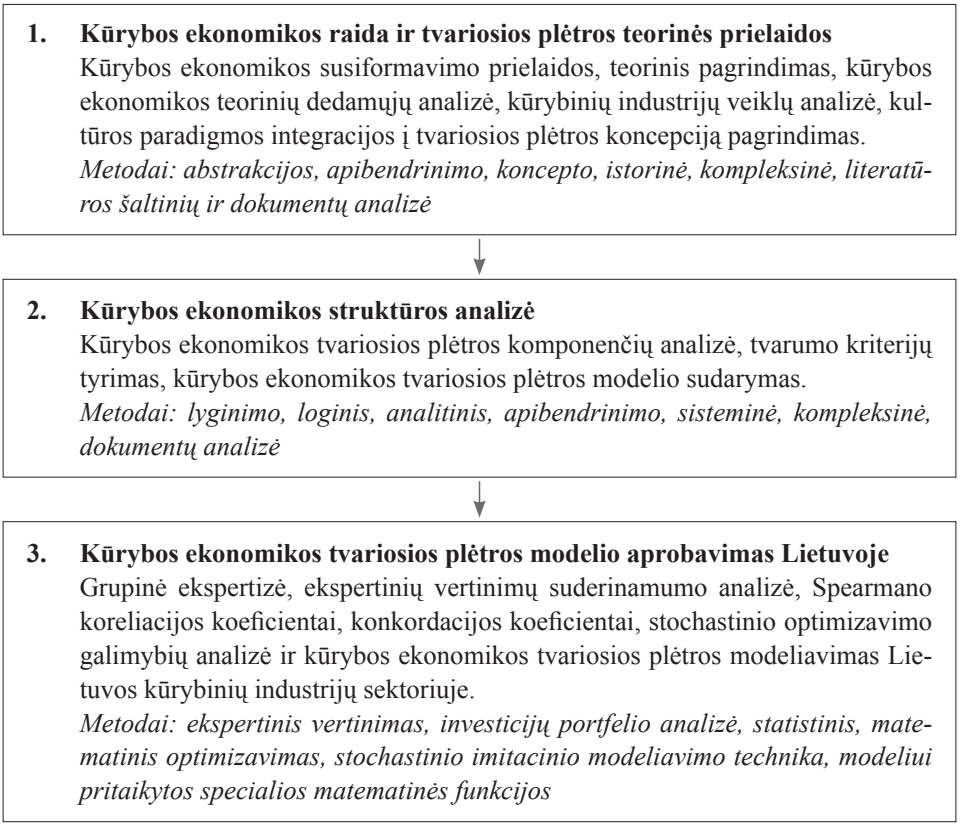
Darbo uždaviniai

Darbo tikslui pasiekti darbe keliami šie uždaviniai:

1. Atlikti kūrybos ekonomikos teorinę meta-analizę – išanalizuoti ištakas, raidą, pateikti sąvokų traktuotę kiekybiniam dialogui aktualia prasme, ištirti universaliojo tvarumo prielaidas kūrybos ekonomikos plėtrai.
2. Pateikti kūrybos ekonomikos plėtros ekonomikos kontekste modelius, įvardyti kūrybos ekonomikos kontekstą strategijoje „Europa 2020“, remiantis pasirinktų šalių atvejais atlikti lyginamąją kūrybos ekonomikos plėtotės analizę.
3. Remiantis mokslinės literatūros šaltinių analize pateikti kūrybos ekonomikos tvariosios plėtros kriterijus kūrybinių industrijų vertinimui ir kūrybos ekonomikos tvariosios plėtros modelio sudarymui.
4. Vykdyti Lietuvos kūrybinių industrijų tyrimo grupinę ekspertizę.
5. Sudaryti kūrybos ekonomikos tvariosios plėtros adekvatųjį investicijų portfelio modelį remiantis stochastinio optimizavimo galimybėmis ir patikrinti jį Lietuvos sąlygomis.

Tyrimų metodika

Darbas priskirtinas tarpdalykinių tyrimų sričiai. Siekiant įgyvendinti darbe išsikeltus uždavinius taikomi tokie tyrimų metodai: abstrakcijos, lyginimo, loginis, analitinis, apibendrinimo metodai; koncepto, istorinė, sisteminė, kompleksinė, dokumentų analizė. Empiriniuose tyrimuose naudojamas ekspertinio vertinimo metodas, investicijų portfelio analizė, statistinis, matematinis optimizavimo metodas, stochastinio imitacinio modeliavimo technika, modeliui pritaikytos specialios matematinės funkcijos.



S.1 pav. Teorinės analizės ir taikytų tyrimo metodų schema (šaltinis: autorė)

Mokslinis naujumas

Rengiant disertaciją gauti ekonomikos mokslui nauji rezultatai:

1. Sukurtas ir aprobuotas kūrybos ekonomikos tvariosios plėtros modelis, grindžiamas moksliniais šaltiniais, strateginės reikšmės dokumentais ir kūrybinių industrijų praktinio įprasminimo elementais.
2. Susistemintas tvariosios plėtros konceptas, nustatyti tvarumo kriterijai ir išplėtota šios kategorijos taikymo sritis kūrybos ekonomikos tyrimams.
3. Suformuotos kūrybos ekonomikos tvariosios plėtros kryptys, kurios traktuojamos kaip stochastiniai įvykiai, perspektyvos nagrinėjimui reikalaujantys pasitelkti stochastiškai informatyvios ekspertizės nuostatas ir stochastinio optimizavimo galimybes.
4. Gauti tyrimų rezultatai gali būti naudojami kuriant mokslinį pagrindą kūrybos ekonomikos tvariosios plėtros problematikai plėtoti. Šis darbas gali būti naudingas tarpdalykinių mokslų tikslams plėtojant kiekybinių sprendimų galimybių taikymą kūrybos ekonomikos tvarumo tyrimams.

Darbo rezultatų praktinė reikšmė

Sukurtas kiekybine analize grindžiamas kūrybos ekonomikos tvariosios plėtros modelis suformuoja šias tyrimo praktinio pritaikymo kryptis:

1. Naudojantis šiuo modeliu galima padidinti investicijų į Lietuvos kūrybinių industrijų sektorius efektyvumą.
2. Sukurtas modelis ir moksliškai pagrįsta jo motyvacija sudaro sąlygas į kūrybos ekonomikos veiklas įtraukti daugiau suinteresuotų šalių.
3. Darbo rezultatų sklaida gali būti naudojama mokslo institucijose, tiriančiose kūrybos ekonomikos tvariosios plėtros problemas, taip pat valdžios ir viešosiose institucijose, atsakingose už kūrybingumo ir inovacijų valstybės politikos formavimą ir strateginę plėtrą.
4. Sukurtas modelis suteikia galimybes plėtoti ištirtus kriterijus kūrybos ekonomikos tvariosios plėtros praktiniam taikymui skatinant Lietuvos kūrybinių produktų konkurencingumą.
5. Atliktas kūrybos ekonomikos tvariosios plėtros tyrimas sudaro sąlygas integruotis į ES kūrybos ekonomikos tyrimus, tarptautines mokslinio bendradarbiavimo programas ir taikomuosius projektus.

Ginamieji teiginiai

1. Kūrybos ekonomikos tvariąją plėtrą sudaro ekonomikos, ekologijos, politikos ir kultūros komponentės, iš kurių kylantys kiekybiniais sprendimais įvertinti tvarumo kriterijai suformuoja pagrindą tiksliniam išteklių paskirstymui kūrybinėms industrijoms.
2. Kūrybos ekonomikos tvarioji plėtra gali būti traktuojama kaip stochastiniai įvykiai, kurių nagrinėjimas reikalauja pasitelkti stochastiškai informatyvios ekspertizės nuostatas ir stochastinio optimizavimo galimybes.
3. Sukurtas kūrybos ekonomikos tvariosios plėtros modelis remiasi tiesioginiu ir netiesioginiu poveikiu ekonomikos plėtrai: tikslinio išteklių paskirstymo tiesioginis poveikis atsiranda išteklius paskirstant adekvačiojo investavimo portfelio modeliu, o netiesioginis poveikis, išteklius paskirstant kiekybiniais sprendimų metodais, lemia naujų elgsenos modelių, naujų socialinių struktūrų susiformavimą, naujų produktų kūrimą ir inovacijų skatinimą.
4. Išteklių paskirstymo tvarumas yra užtikrinamas adekvačiojo investavimo sprendimų portfelio sudarymu, kurio pagrindu pagrindžiama kūrybos ekonomikos tvariosios plėtros argumentacija, kad intensyvėjant globalizacijai nacionalinio sketoriaus ir industrijų svarba mažėja, o perėjimas į tvariąją ekonomiką sudaro sąlygas kūrybinių industrijų stiprinimui.

Darbo rezultatų aprobavimas

Kūrybos ekonomikos tvariosios plėtros modeliavimas aprobuotas Lietuvos pavyzdžiu. Disertacijos tema paskelbta 10 mokslinių straipsnių. 1 mokslo žurnale *ISI Web of Scien-*

ce, 1 – *ISI Proceedings* duomenų bazėse, 6 – recenzuojamuose Lietuvos mokslo žurnaluose, 1 – recenzuojamame užsienio mokslo žurnale, 1 – recenzuojamoje respublikinės konferencijos medžiagoje. Disertacijos eiga ir rezultatai pristatyti 4 tarptautinėse mokslo konferencijose, 8 respublikinėse mokslo konferencijose, 3 apskritojo stalo akademinėse diskusijose, 4 doktorantų moksliniuose seminaruose.

Disertacijos struktūra

Disertaciją sudaro įvadas, trys skyriai, bendrosios išvados, naudotos literatūros ir autorės publikacijų disertacijos tema sąrašai, santrauka lietuvių kalba. Darbo apimtis yra 145 puslapiai, kuriuose pateikta 3 formulės, 13 paveikslų ir 14 lentelių. Disertacijoje remtasi 303 literatūros šaltiniais.

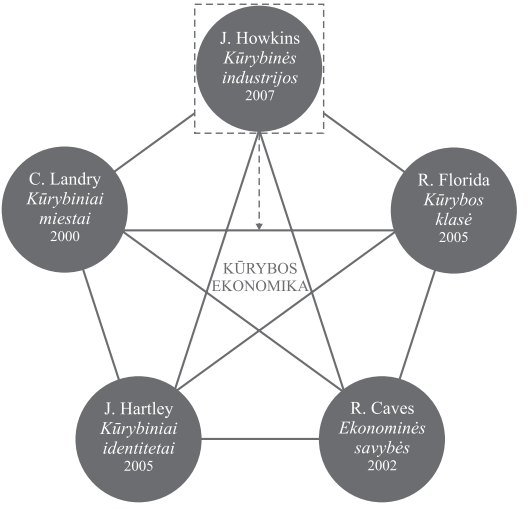
1. Kūrybos ekonomikos raida ir tvariosios plėtros teorinės prielaidos

Terminas *kūrybos ekonomika* moksliniuose šaltiniuose pradėtas minėti nuo 2001 m., kai prof. Johnas Howkinsas savo knygoje „Kūrybos ekonomika“ išanalizavo santykį tarp kūrybingumo ir ekonomikos.

Kūrybos ekonomika remiasi daugiau idėjų nei fiziniu kapitalu. Jos plėtotės pagrindas – informacijos ir naujųjų medijų turinio kūryba. Naujasis informacinis turinys ir skaitmeninės technologijos atveria naujas erdves ir mažina išlaidas. Kūrybos ekonomika pasižymi savybe vartoti informaciją, taip pat kurti naują ir nuosavą informacijos turinį. Kita savybė – augantis interaktyvumo poreikis, kai kūrybos produkto kūrėjas ir jo vartotojas yra susaistomi tarpusavyje sąveikaujančiais saitais. Pirmojo skyriaus tikslas – apžvelgti mokslinės literatūros šaltinius ir kūrybos ekonomikos raidą, išanalizuoti kūrybos ekonomikos plėtrą pasirinktose šalyse, aptarti teorines kūrybinių industrijų klasifikavimo sistemas ir modelius, apžvelgti tvariosios plėtros teorines prielaidas.

Kūrybos ekonomikos dedamosios pagal priimtą skirstymą yra kūrybinės industrijos, kūrybos klasė, kūrybiniai miestai, kūrybiniai identitetai, kūrybos ekonomikos ekonominės savybės (S.2 pav.). Šie penki kūrybos ekonomikos teorijos atributai sąveikauja tiek atskirai tarpusavyje, tiek visi bendrai, kurdami idėjų, kūrybingumo, vaizduotės ir kūrybinių inovacijų visumą. Šiame darbe apibrėžiamas tyrimų laukas remiasi kūrybinių industrijų analize kūrybos ekonomikos tvariosios plėtros kontekste.

Išnagrinėjus mokslinius šaltinius, darytina išvada, kad per beveik du dešimtmečius kūrybinių industrijų sąvoka ir samprata, politinė struktūra, ideologinis valdymas ir indėlis į šalių ekonomiką kito. Kūrybinės industrijos per šį laikotarpį išsiplėtė už menų sferos (kultūrinių industrijų) ribų ir priartėjo prie potencialiai komercinės veiklos, sudarydamos kūrybos ekonomikos branduolį.



S.2 pav. Adaptuota autorės, Kūrybos ekonomikos penkiakampis (šaltinis: Levickaitė, Reimeris 2011)

Kūrybos ekonomika – XXI a. naujosios ekonomikos plėtros forma, grindžiama ne paprastu, utilitarinius poreikius tenkinančiu vartojimu, o sudėtingu, simboliniu vartojimu ir aukštesnių socialinių poreikių tenkinimu. Kūrybos ekonomikoje susilieja darbas, poilsis, laisvalaikis, naujosios medijos, technologiniai, socialiniai, kultūriniai poreikiai, o kūrybos ekonomikos samprata išgyvena teorines paieškas ir yra besiformuojanti sąvoka, grindžiama kūrybiniu kapitalu, gebančiu kurti ekonominį augimą ir plėtrą.

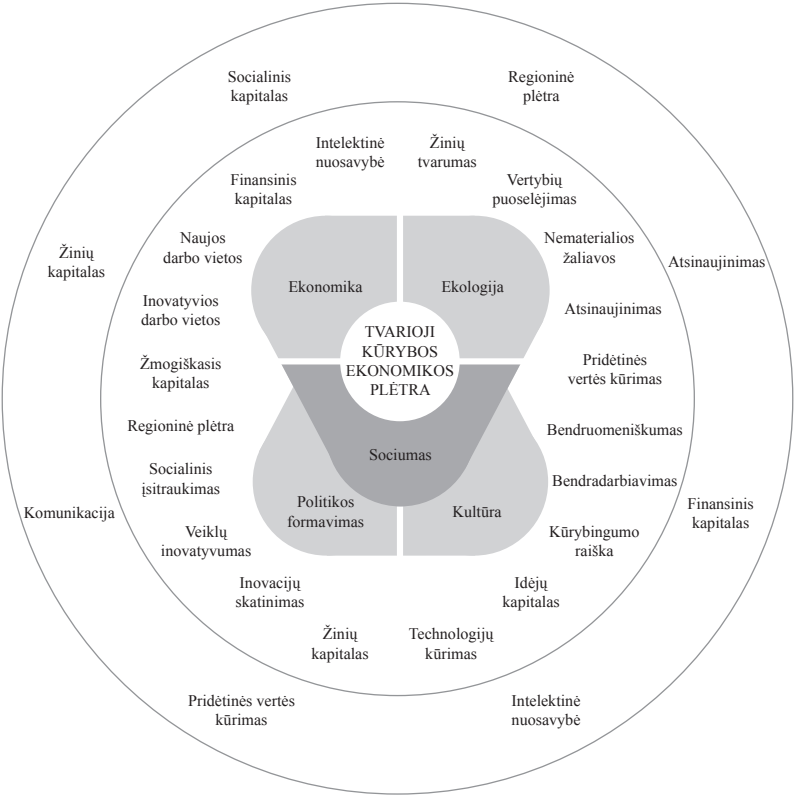
Atlikta mokslinių šaltinių analizė leidžia teigti, kad kūrybos ekonomikos teoriniai tyrimai suformavo du požiūrius – klasikinis istorinis požiūris teigia, kad kūrybos ekonomika išaugo iš kultūros ekonomikos, o kūrybos ekonomikos rezultatas yra kūrybiniai produktai. Naujasis šiuolaikinis požiūris teigia, kad kūrybiškumas yra holistinio proceso, apimančio daugybę šiuolaikinių ekonominių, inovacinių, socialinių, aplinkosaugos ir kt. veiksnių, pagrindas.

Apibendrinus mokslinę literatūrą, darytina išvada, kad kūrybos ekonomikos plėtotės pagrindas yra kultūra, kaip tvariosios plėtros elementas, skirta šiuolaikinės visuomenės kompleksiškumui apibrėžti ir integruoja daugiadalykes kompetencijas. Kultūrinės įvairovės suvaldymas per kūrybinių industrijų veiklas sukuria prielaidas užtikrinti kūrybos ekonomikos tvariąją plėtrą.

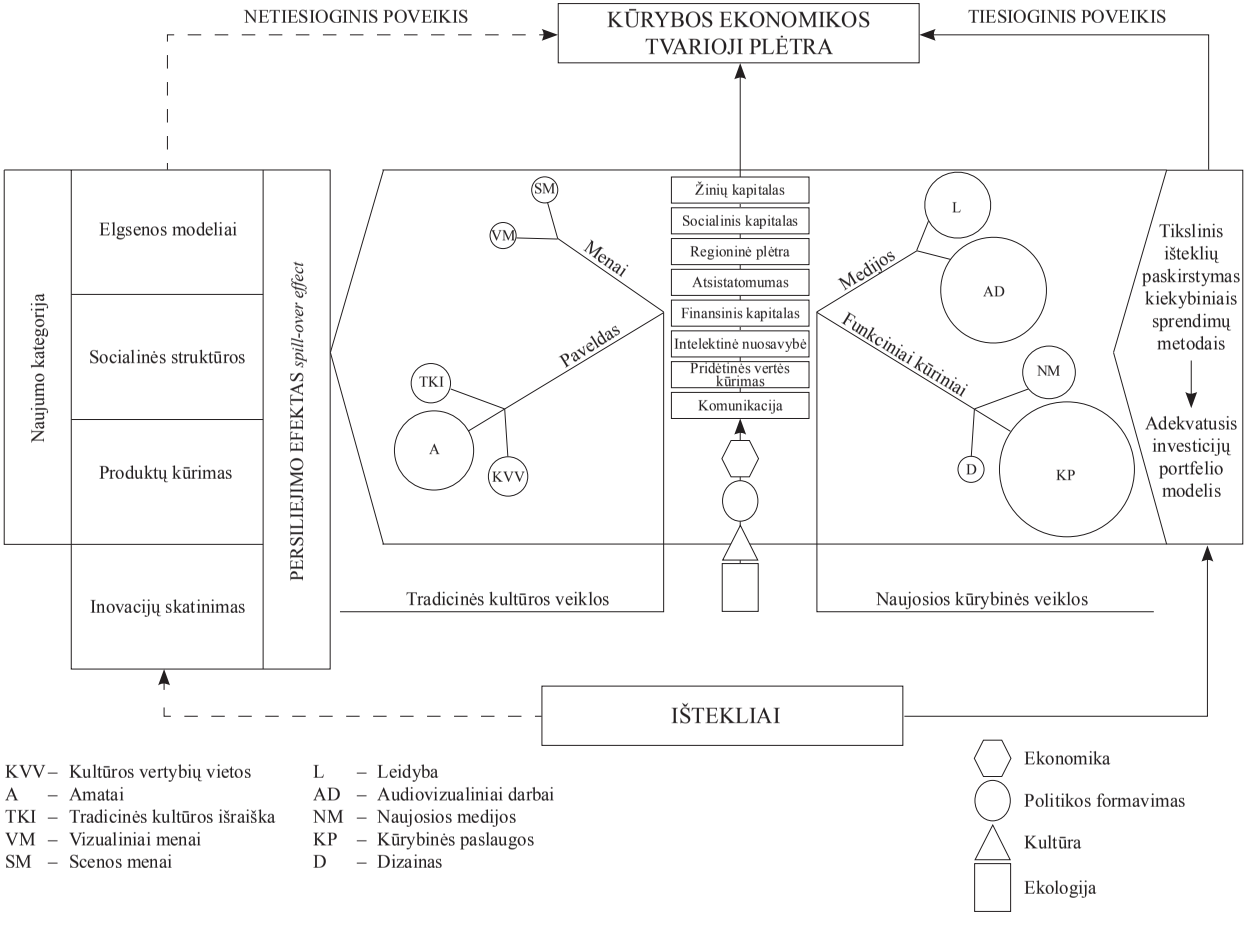
Apibendrinus universaliojo tvarumo sampratos įžvalgas, galima daryti išvadą, kad tvarumas yra sietinas su integruota ateities vizija, o tvariosios plėtros elementas – kultūra – skirtas postmoderniosios visuomenės kompleksiškumui apibrėžti, kuris aiškina kultūrinę įvairovę kaip daugiadalykių kompetencijų rezultatą ir kaip pamatinį naujosios tvariosios plėtros elementą. Universalaus tvarumo konceptas, įtraukiantis kultūros elementą, išreiškia tęstinumo matą, kuriam aktualus ilgalaikiškumas, holistiškas ir integruotas požiūris.

2. Kūrybos ekonomikos struktūros analizė

Pastarąjį dešimtmetį kūrybinių industrijų svarba buvo pripažinta aukščiausiu ES lygmeniu. 2013 m. rugsėjo 12 d. Europos Parlamentas (EP) paskelbė rezoliuciją, skatinančią Europos kūrybinių industrijų sektorių plėtrą, kuri darytų poveikį ekonominiam augimui ir naujų darbo vietų kūrimui. ES kultūrinė įvairovė ir lemiamas veiksnys, kad kūrybinės industrijos sudaro dinamiškiausią ekonominį sektorių Europoje. Šios industrijos, kaip teigiama rezoliucijoje, įdarbina 7 mln. darbuotojų tuometinėje ES-27, kasmet sudaro vis didesnę dalį BVP ir auga greičiau nei kiti ekonomikos sektoriai. Kūrybinės industrijos yra socialinės ir teritorinės sanglaudos svertas, kertinis kūrybingumo ir inovacijų veiksnys su įvairiais teigiamais efektais verslui, ekonomikai ir visuomenei. Siekdama užtikrinti tinkamą verslo aplinką, skatinančią kūrybinio verslo plėtrą ir kūrybinį verslumą, EK 2010 m. balandžio mėn. išleido reglamentą „Green Paper on the potential of cultural and creative industries“, kuris paskatino visos Europos bendradarbiavimą tarp organizacijų ir individų. Naujųjų ES programų (po 2013 m.), ypač naujosios Kūrybinės Europos programos ir Sanglaudos politikos priemonių, kontekste atsižvelgiant į strategiją „Europa 2020“, EK siūlo naujas priemones kūrybinių industrijų potencialo atvėrimui, įprasminant universalaus tvarumo siekį.



S.3 pav. Kūrybos ekonomikos tvariosios plėtros komponentės (šaltinis: autorė)



S.4 pav. Kūrybos ekonomikos tvariosios plėtros modelis (šaltinis: autorė)

Tradicinis tvariosios plėtros suvokimas apima tris komponentes – aplinką, ekonomiką, socialinį aspektą. Disertacijoje remtasi Jungtinių Tautų Aplinkos ir plėtros konferencijoje (Rio de Žaneiras 1992) priimtu veiksmų planu „Darbotvarkė 21“ ir atnaujintu požiūriu į tvariosios plėtros komponentes – ekonomiką, ekologiją, politiką ir kultūrą. Autorė, sudarydama kūrybos ekonomikos tvariosios plėtros teorinį modelį, mokslinėje literatūroje išskyrė 20 kūrybos ekonomikos tvariosios plėtros kriterijų (sudarytų remiantis keturiomis tvariosios plėtros komponentėmis – ekonomika, ekologija, politika ir kultūra) (S.3 pav.).

Visi išvardyti kriterijai sudaro prielaidas sudaryti kūrybos ekonomikos modelį tvariosios plėtros aspektu ir tolimesniam tyrimui pasitelkti kūrybinių industrijų sektorius, kurie kaip minėta anksčiau, yra kūrybos ekonomikos branduolys.

Kūrybinės industrijos pagal savo prigimtį yra skirstomos į tradicinės kultūros veiklas ir naująsias kūrybines veiklas. Modelio tikslas – atskleisti išteklių paskirstymo logiką kūrybos ekonomikos tvariajai plėtrai užtikrinti (S.4 pav.). Išteklių paskirstymo tiesioginis poveikis remiasi tikslinio išteklių paskirstymo kiekybiniais sprendimų metodais, o iš keturių tvarumo komponenčių (ekonomikos, ekologijos, politikos, kultūros) kylančių tvariosios plėtros kriterijų yra išgaunamas ir netiesioginis poveikis, kuris sukelia persiliejimo efektą (angl. *spill-over effect*) – teigiamą netiesioginę viešosios intervencijos pasekmę, todėl susiformuoja nauji elgsenos modeliai, naujos socialinės struktūros, kuriami nauji produktai ir skatinamos inovacijos.

Naudojantis autorės pateiktu modeliu yra siekiama ištirti, kaip kūrybos ekonomikos tvariosios plėtros kriterijai daro įtaką atskirų kūrybinių industrijų evoliucijai. Nustatyti kriterijai – tai kryptys, pagal kurioms skiriamą dėmesį yra daromas poveikis investicijoms į kūrybines industrijas. Taigi empirinio tyrimo siekis yra numatyti, kaip paskirstyti veiksnių plėtrą, kad jų efektas būtų didžiausias bendrajai kūrybos ekonomikos egzistencijai.

Postmoderniosios visuomenės perėjimas į tvariąją ekonomiką ir holistinio strateginio požiūrio į europietiškos ekonominės vertės grandinės kūrimą paskatos leidžia siekti ilgalaikio konkurencingumo. Teoriškai pagrįstas daugiakriteris kūrybos ekonomikos klasterio tikslingumas turėtų tapti efektyvios funkcinės orientacijos pagrindu ir – kas ypač svarbu – investicinių ir kitų ribotų išteklių racionalaus poreikio numatymo priemone. Turėtų susiformuoti ne tik sava organizacinė struktūra, kaip panašių objektų sąjunga, bet funkcionalumu ir racionalių išteklių panaudojimu susietų veiklų klasteris.

Antrame skyriuje išanalizuoti kitų šalių kūrybos ekonomikos plėtros atvejai leidžia daryti prielaidas, kad strateginės kūrybos ekonomikos plėtros politikos vykdymas suteikia ne tik ekonominę gerovę, bet skatina socialinę įtrauktį, bendruomenės tamprumą, profesionalų geografinę koncentraciją. Kūrybos ekonomikos prioritetų išsibarstymas nesutelkia šalies kūrybinių industrijų potencialo ir neišnaudoja jo remiamųjų industrijų veiklose. Kūrybinės industrijos analizuotuose atvejuose gali būti įvardytos kaip naujosios industrijos fenomenas.

Kūrybinių industrijų struktūrinės analizės modeliai leidžia suvokti kaip galima panaudoti kūrybines industrijas platesnėse standartinės pramoninės klasifikacijos sistemose, taikomose šalių ekonomikoje. Jungtinės Karalystės (UK) Kultūros, medijų ir sporto departamento (DCMS) modelis įvardija naująją ekonomiką, grindžiamą kūrybingumu, ino-

vacijomis globalioje konkurencinėje aplinkoje. Simbolinių tekstų modelis „aukštuosius“ ir „rimtuosius“ menus traktuoja kaip socialinių ir politinių viršūnių sferą, todėl dėmesys sutelkiamas į populiariąją kultūrą, kuri yra idėjų, perspektyvų, požiūrių, vaizdinių visuma. Koncentrinių ratų modelis yra grindžiamas nuomone, kad būtent kultūrinių produktų kultūrinė vertė suteikia šioms pramonės šakoms aiškiausias jų skiriamąsias savybes. Pasaulinės intelektinės nuosavybės organizacijos (WIPO) autorių teisių modelis analizuoja industrijas, kurios tiesiogiai ar netiesiogiai susijusios su autorių darbų kūryba, gamyba, statymu, rodymu ir platinimu. Struktūrinės analizės modeliai sudaro prielaidas kūrybinių industrijų sričių loginei klasifikacijai atsižvelgiant į tiriamąsias reiškinio struktūrines savybes.

Antrame skyriuje pateiktas sukurtas kūrybos ekonomikos tvariosios plėtros modelis įprasmina tikslą atskleisti išteklių paskirstymo logiką kūrybos ekonomikos tvariajai plėtrai užtikrinti. Išteklių paskirstymo tiesioginis poveikis remiasi tikslinio išteklių paskirstymo kiekybiniais sprendimų metodais, o iš ekonomikos, ekologijos, politikos ir kultūros tvarumo komponenčių kylančių tvariosios plėtros kriterijų yra sulaukiama netiesioginio poveikio, sukeliančio persiliejimo efektą, t. y. teigiamą netiesioginę viešosios intervencijos pasekmę.

Sukurto modelio pagrindas sudaro prielaidas tyrimui, kaip tvariosios plėtros kriterijai daro įtaką atskirų kūrybinių industrijų evoliucijai. Teorijoje išskirti kriterijai – tai kryptys, pagal kurioms skiriamą dėmesį yra daromas poveikis kūrybinėms industrijoms ir nurodo empirines gaires, kaip paskirstyti veiksnių plėtrą, kad jų efektas būtų didžiausias bendrajai kūrybos ekonomikos egzistencijai.

3. Kūrybos ekonomikos tvariosios plėtros modelio aprobavimas

Trečiame skyriuje, pasitelkiant kiekybinius sprendimo metodus, sprendžiamas investicijų į kūrybines industrijas tvarumo uždavinys. Kūrybos ekonomikos tyrimo metodologija reikalauja išskirtinės tyrimų metodų dermės dėl šių priežasčių: 1) kūrybos ekonomikos reiškinio kompleksinių ekonomikos srities tyrimų nebuvimo; 2) nerasto kiekybinio dialogo kūrybos ekonomikos problematikai analizuoti; 3) kūrybos ekonomikos dedamųjų įvairialypės prigimties. Keliamas empirinio tyrimo tikslas – kaip paskirstyti tvarumo veiksnių, darančių įtaką atskirų industrijų evoliucijai, plėtrą, kad jų bendrosios egzistencijos efektas būtų didžiausias. Šiame darbe kūrybos ekonomikos tvariosios plėtros sprendimų aprobavimui Lietuvos atveju yra pasitelkiami kiekybiniai sprendimų metodai – *Delphi* struktūruota komunikacinė technika paremta ekspertų apklausa, grupinės ekspertizės nuomonių suderinamumo vertinimas, kūrybinių ir kultūrinių industrijų rangavimas pagal pasirinktus kriterijus, pagal VS metodą, investicijų portfelio sudarymas adekvačiojo portfelio modeliu. Sudarydama kūrybos ekonomikos teorinį tvariosios plėtros modelį tyrimo autorė mokslinėje literatūroje išskyrė 20 kūrybos ekonomikos tvariosios plėtros kriterijų (aptarta antrame skyriuje), sudarytų remiantis keturiomis tvariosios plėtros komponentėmis – eko-

nomika, ekologija, politika ir kultūra. Ekspertizės tikslas – atlikti ekspertinį vertinimą išskirtų kriterijų analizei, kurios pagrindu bus atliekamas investicijų į kūrybinių industrijų sektorius vertinimas.

Delphi metodu atliktos ekspertizės išvados yra šios: ekspertai pirmenybę teikia naujosiom kūrybinėm industrijom: 10–7 balų gavo kūrybinės paslaugos, dizainas, audiovizualiniai darbai ir naujosios medijos. Bendru ekspertų vertinimu mažesnius įverčius gavo tradicinės kūrybinės industrijos: 1–4 balais įvertinti amatai, tradicinės kultūros išraiška, kultūros vertybių vietos ir vizualiniai menai. Viduriniais balais (5–6) įvertinti scenos menai ir leidyba. Galima daryti išvadą, kad naujosios kūrybinės veiklos išstumia tradicines kultūros veiklas.

Grupinės ekspertizės metu gautų kriterijų sąrašas sudaro prielaidas Lietuvos kūrybos ekonomikos tvariosios plėtros dedamųjų – kūrybinių industrijų – rangavimui. Daugiakriterio vertinimo tikslas – taikant kiekybinį daugiakriterio vertinimo metodą, suranguoti kūrybines industrijas pagal pasirinktus kriterijus. Ekspertinio vertinimo etapas *Delphi* metodu galėtų būti laikomas vienu iš tyrimo ribotumų ir daugiakriterio vertinimo metodo taikymo trūkumų dėl galimo ekspertinės grupės nuomonės subjektyvumo. Šiame darbe atliekamam tyrimui yra pasirinktas VS metodas, įvertinus metodo naudojimo paprastumą ir tyrimo tikslą. Paprastam rangavimui, kai visi kriterijai vienodo svorio, VS yra patogus naudoti metodas, nereikalaujantis specialaus duomenų paruošimo. Jeigu kriterijai tiriamuoju atveju turėtų svorius (tai yra numatomas ateityje planuojamo tyrimo tęstinumas), būtų naudojamas Paprastas svorių sudėjimo metodas (SAW), nes kaip tik jis padeda įvertinti svorius turinčius kriterijus.

Ekspertinių vertinimų suderinamumo analizė. Laikantis tam tikrų reikalavimų atrenkant ekspertus, organizuojant apklausą ir vertinant rezultatus, ekspertų grupės įvertinimas yra patikimesnis už individualius vertinimus. Ekspertų grupės veiklos vertinimas gali būti laikomas pakankamai patikimu tik esant geram apklaustų ekspertų atsakymų suderinamumui. Todėl statistinis informacijos, gautos iš ekspertų, apdorojimas turėtų apimti ekspertų nuomonės suderinamumo įvertinimą ir prieštaringumo priežasčių nustatymą. Ekspertų skaičiaus parinkimą lemia žinoma priklausomybė. Kai ekspertų skaičius didesnis nei 7, tikslumas didesnis nei 90 proc., ir toliau didinant ekspertų skaičių, tikslumas didėja labai nežymiai. Todėl 20 ekspertų yra optimalus ekspertų skaičius, atitinkantis 95 proc. tikslumą.

Vertinimų sklaida. Ekspertinių įverčių suderinamumo analizėje dažnai taikomas variacijos koeficientas V, apibūdinantis kintamumą, apskaičiuojamą kaip vidutinio kvadratinio nuokrypio ir aritmetinio vidurkio santykį. Jis paprastai išreiškiamas procentais:

$$V = \frac{\sigma}{x_{vid}} *100\% \qquad \text{(S.1)}$$

Ranguojant kūrybines industrijas labiausiai išsiskyrė ekspertų nuomonės suteikiant rangus amatams (85 proc.) ir kultūros vertybių vietoms (70 proc.) ypač vertinant finansinį ir žinių kapitalą. Specialistų nuomonės gali skirtis, be to, vienodi atsakymai nėra laidavimo pagrindas. Vertinant kūrybines paslaugas (30 proc.), audiovizualinius darbus (35 proc.),

naująsias medijas (38 proc.) ir dizainą (38 proc.) ekspertų nuomonė yra pakankamai vieninga. Sklaidos matai yra svarbios ekspertų įverčių pasiskirstymo charakteristikos, tačiau, analizuojant vertinimų suderinamumą, nepakanka žinoti požymio kintamumą, taip pat būtina visapusiškai atskleisti veiksnius, darančius įtaką kiekvieno požymio kintamumui.

Spirmano (Spearman) koreliacijos koeficientai. Ekspertinių nuomonių suderinamumui tikrinti taikomi ranginės koreliacijos metodai. Šiame darbe taikytas Spirmano ranginės koreliacijos koeficiento skaičiavimas naudojant *RKWard* atvirojo kodo programą. Didelė koreliacija >0,70, prieštaringumas <-0,10. Atlikus tyrimą, matoma, kad labiausiai prieštaringa 8 eksperto nuomonė, o labiausiai suderinta su visais – 9 eksperto.

Konkordancijos koeficientai. Konkordancija – ekspertų nuomonių suderinamumas pagal keletą objektų (veiksnių), kurie daro įtaką vienam galutiniam rezultatui (kokybei), t. y. bendras ranginės koreliacijos koeficientas grupei, sudarytai iš *n* ekspertų (tiriamuoju atveju – 20). Šis koeficientas gali kisti nuo 0 iki 1, jo lygybė vienetui reiškia, kad visi ekspertai vienodai įvertino pagal požymį X, o lygybė nuliui – kad sąsajos tarp įverčių, gautų iš įvairių ekspertų, nėra. Konkordancijos koeficientas dažnai apskaičiuojamas pagal formulę, kurią pasiūlė Kendalas (Kendall):

$$W = \frac{12S}{m^2(n^3 - n)} \tag{S.2}$$

Čia

$$S = \sum_{i=1}^{n}(\sum_{j=1}^{m} x_{ij} - \frac{1}{2}m(x+1)m(n+1))^2 \tag{S.3}$$

X_{ij} – i-tojo eksperto įvertis pagal j-tąjį veiksnį, m – ekspertų skaičius, n veiksnių skaičius.

Visų 8 kriterijų vertinimų konkordancijos koeficientai pateikti S.1 lentelėje. Siekiant nustatyti, ar ekspertų nuomonių suderinamumas nėra atsitiktinio pobūdžio, taikomas χ^2 kriterijus.

S.1 lentelė. Ekspertinių vertinimų konkordancijos koeficientai ir jų patikimumas (šaltinis: autorė)

Kriterijus	Konkordancijos koeficientas	χ^2	χ^2 lentelė, 0,005	χ^2 lentelė, 0,01
Žinių kapitalas	0,41	74,03	23,59	21,67
Socialinis kapitalas	0,16	28,30	23,59	21,67
Regioninė plėtra	0,12	**21,59**	23,59	21,67
Atsinaujinimas	0,30	53,97	23,59	21,67
Finansinis kapitalas	0,18	32,86	23,59	21,67
Intelektinė nuosavybė	0,54	98,05	23,59	21,67
Pridėtinės vertės kūrimas	0,39	69,75	23,59	21,67
Komunikacija	0,16	28,12	23,59	21,67

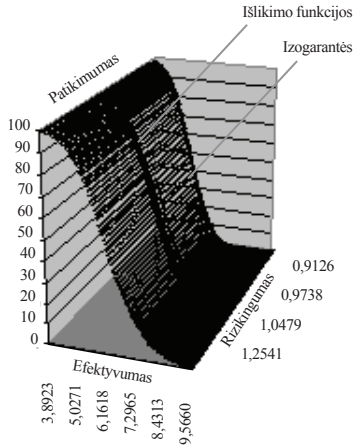
Ekspertinio vertinimo išvados. Labiausiai ekspertų nuomonės sutapo vertinant intelektinę nuosavybę (0,54), žinių kapitalą (0,41) ir pridėtinės vertės kūrimą (0,39). Labiausiai išsiskyrė nuomonės, vertinant regioninę plėtrą (0,12), socialinį kapitalą (0,16) ir

komunikaciją (0,16). Visų kriterijų vertinimo nuomonių suderinamumas nėra atsitiktinio pobūdžio 0,001 patikimumo lygiui išskyrus Regioninės plėtros kriterijaus vertinimą. Ekspertiniai vertinimai vertinant regioninę plėtrą netenkina Chi^2 kriterijaus nei 0,005, nei 0,01 patikimumo lygiams (21,59>23,59 ir >21,67).

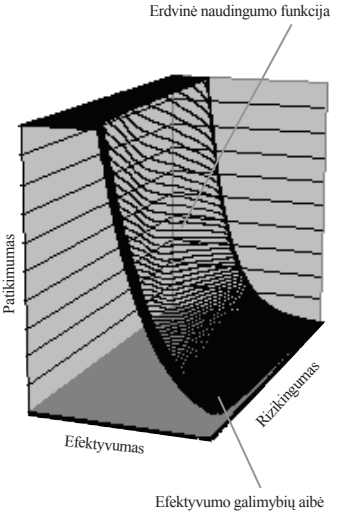
Stochastinio optimizavimo galimybės ir tvarumo kiekybinio mato įvedimas kūrybos ekonomikos tyrimų galimybėms plėsti. Disertaciniame darbe siekiama sisteminti besiformuojančios universaliai tvariosios plėtros konceptą ir plėtoti šios kategorijos taikymo sritį. Siūlomas tvarumo sampratos kiekybinio matavimo komponentas, nagrinėjantis būsenos, proceso ar sistemos kaitos galimybės patikimumą. Naudojantis tvariosios plėtros sprendimais atlikta Lietuvos kūrybinių industrijų galimybių analizė, ugdant jų dinamiką ir sąveiką, stiprinant kūrybinių šalies industrijų, o kartu ir visos ekonomikos potencialą. Atlikta kūrybinių industrijų gebėjimų efektyviai naudoti investicinius ar kitokius plėtros išteklius analizė, kai šalies industrijoje siekiama įdiegti dabar ypač efektyvias priemones: žinių ir socialinio kapitalo bei intelektinės nuosavybės galios, regioninės plėtros ir pridėtinės vertės kūrimo strategiją, komunikacinį universalumą ir pan. Kūrybinių industrijų perspektyvos traktuojamos kaip stochastiniai įvykiai ar procesai, o tai pareikalavo perspektyvos nagrinėjimui pasitelkti stochastiškai informatyvios ekspertizės nuostatas ir stochastinio optimizavimo būtinumą ir galimybes.

Adekvačiojo investavimo sprendimų valdymo portfelio sudarymas Lietuvos kūrybos ekonomikos tvariajai plėtrai užtikrinti. Remiantis šiuolaikine (efektyviojo) portfelio teorija, kuri nagrinėja diskrečiojo laiko finansų rinkos modelį, kuris siūlo optimalių portfelių efektyvių ribų formavimą, siekiant didžiausios grąžos lydimos tam tikro rizikos lygio. Kaip teigia Haris Markas Markowitz‘as (Harry Mark Markowitz) (1952), portfelio pasirinkimo procesas gali būti dalijamas į dvi pakopas. Pirmoji pakopa prasideda stebėjimu ir patyrimu ir baigiasi įsitikinimu apie įmanomas ateities veiksmų garantijas. Antroji pakopa prasideda tiesiogiai susijusiais įsitikinimais apie ateities veiksmus ir baigiasi portfelio pasirinkimu. Kaip teigia Markowitz‘as (1959), sudarant portfelį, tinkamų kriterijų pasirinkimas priklauso nuo investuotojo tipo. Tačiau yra dvi visiems investuotojams bendros savybės: 1) norima aukštos grąžos; 2) norima grąžos patikimumo, stabilumo ir aiškumo. Ieškant kiekybinio dialogo kūrybos ekonomikos tvariajai plėtrai įvardyti, pasitelkiama adekvačiojo portfelio teorija, kurio dedamosios – rizika, patikimumas ir pelningumas – atvaizduoja portfelio galimybių būseną. Adekvatusis investicijų portfelis leidžia trimačiu aspektu vertinti ne tik grąžą ir riziką, bet ir patikimumo kriterijų. Šiuo atveju stochastinių ryšių sąsajos remiasi tikimybiniu reiškinių aiškinimu, kai atskiri faktai yra traktuojami kaip neapibrėžti ir jų aibėse matyti tam tikras sistemiškumas. Investicijos grąžos galimybės turėtų būti apibendrinamos bent trimis parametrais: galimų pelningumų aibe, pelningumo aibės rizikingumu ir kiekvienos galimybės patikimumu. Adekvatusis investavimo sprendimų valdymo portfelis leidžia suformuoti portfelius, duodančius geriausias investuotojui pelningumo, rizikos ir patikimumo kompozicijas.

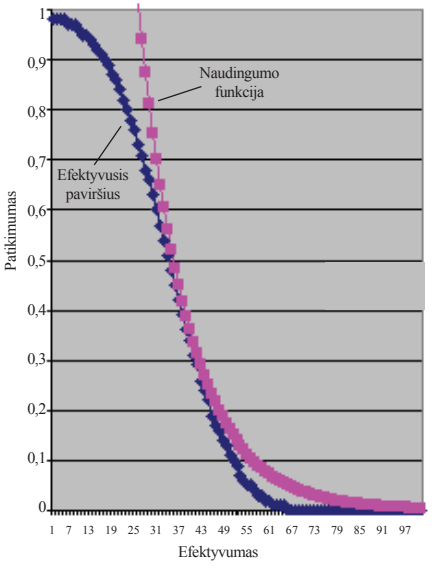
Neturint minėto modelio kiekybinės priklausomybės ar net pakankamos statistinės duomenų bazės būtina pasitelkti ekspertinius vertinimus apie kūrybos ekonomikos plėtros struktūrizavimą, siekiant tiek kūrybinių industrijų, tiek šalies ekonomikos tvarumo.



a)



b)

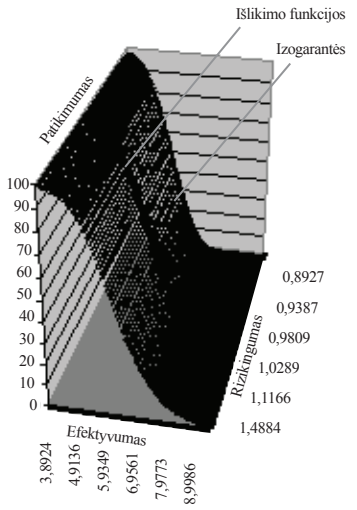


c)

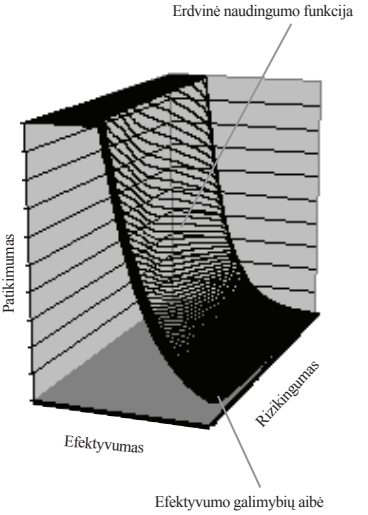
w1	0,0484
w2	0,0484
w3	0,1008
w4	0,1008
w5	0,0484
w6	0,1008
w7	0,1008
w8	0,0484
w9	0,3024
w10	0,1008

d)

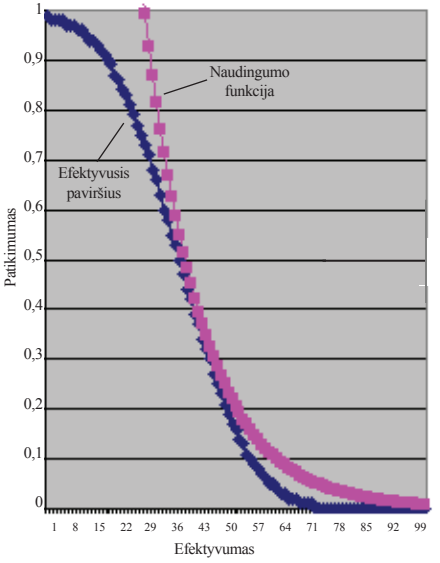
S.5 pav. Sprendinio rezultatai pasinaudojant adekvataus investicijų portfelio metodika: a) efektyvių sprendinių paviršius; b) adekvati trimatė naudingumo funkcija; c) geometrinis sprendinio lietimosi momentas; d) proporcijos, kokiomis turi būti padalintas investicinis vienetas tarp industrijų (šaltinis: autorė)



a)



c)



b)

w1	0,0484
w2	0,0484
w3	0,1008
w4	0,2016
w5	0,1008
w6	0,1008
w7	0,0484
w8	0,0484
w9	0,2016
w10	0,1008

d)

S.6 pav. Optimizacinio sprendinio rezultatai pagal naujus įverčius: a) efektyvių sprendinių paviršius; b) adekvati trimatė naudingumo funkcija; c) geometrinis sprendinio lietimosi momentas; d) proporcijos, kokiomis turi būti padalintas investicinis vienetas tarp industrijų (šaltinis: autorė)

Gauti ekspertinio vertinimo rezultatai gali būti tiesiogiai panaudoti kūrybinių industrijų tvariosios plėtros sprendimams gauti.

Pagal išplėstinį ekspertų vertinimų variantą, naudojantis tuo, kad kiekvienai kūrybinei industrijai buvo gauta 160 įverčių (8 kriterijai x 20 ekspertų), kurie darbe buvo traktuojami kaip atsitiktiniai stebėjimai ir pagal juos, pasinaudojant adekvataus investicijų portfelio metodika, buvo gautas optimalaus ribinio investicinio vieneto paskirstymas tarp skirtingų industrijų uždavinių sprendimų. Buvo taikyta ekspertų nuostata, kad balo dydis – tai industrijos gebėjimo efektyviai panaudoti plėtotei skirtus išteklius tam tikram tikslui pasiekti, įvertinimas. Sprendimo rezultatai pateikti S.5 paveiksle, kuriame a) dalyje pateikiamas efektyvių sprendinių paviršius (angl. – *efficiency surface*), b) dalyje adekvati trimatė naudingumo funkcija, c) dalyje – geometrinis sprendinio lietimosi momentas (angl. – *point of tangency*), d) dalyje – išvardijimas, kokiomis proporcijomis turi būti padalintas investicinis vienetas tarp industrijų.

Bedimensinis balas, t. y. kai neįvardijama už ką jis skiriamas, neturi prasmės. Norint žinoti, ką reiškia įvertinimas balais, reikia tiksliai suvokti, už ką suteikiami balai. Nagrinėjamu atveju ekspertai balus skyrė vertindami kūrybinės industrijos galimybę taip naudotis skiriamais ištekliais, kad paskirstytas investicinis vienetas duotų didžiausią efektą. Aukštesnis balas konkrečiai industrijai reiškia, kad ji efektyviai naudoja investicinį vienetą tuo pačiu įnešdama indėlį į visų kūrybinių industrijų produktą kartu. Jeigu balų skalė yra adekvačiai orientuota į gebėjimų pagal vertinamą kriterijų kaitos struktūrą, tada paklaida tiesiogiai naudoti rangavimo sistemą iškeltam uždaviniui spręsti gali būti minimizuota. Jeigu ekspertinės skalės struktūra transformuojama tiesiškai, pvz., galimas reikšmes padauginame iš tam tikro skaičiaus ar panašiai, tai ir teoriškai suprantama, kad tiesinės transformacijos neturi daryti įtakos ekspertinių įverčių reikšmėms. Tačiau kaip nutiktų su tais pačiais ekspertų vertinimais, jeigu tie patys ekspertai naudotų visiškai kitą ekspertinės skalės struktūrą. Eksperimentui buvo pasirinkta ta pati ekspertinių įverčių lentelė kaip jau aprašytame vertinime ir vietoj balų reikšmių natūraliais skaičiais buvo naudojami jų natūriniai logaritmai.

S.6 paveiksle pateikti optimizacinio sprendimo rezultatai, kai stochastinio optimizavimo uždavinio parametrai buvo įvertinti pagal naujoje skalėje turimus įverčius. Norint palyginti S.5 paveiksle ir S.6 paveiksle pateiktus rezultatus, atliekame pagal d) dalyje gautus išteklių paskirstymus tarp atskirų industrijų. Čia akivaizdžiai matosi, kad tie patys ekspertų įverčiai transformuoti į kitą matavimo skalę, duoda skirtingus rezultatus. Tai yra įrodymas, kad nuo vertinimo skalės priklauso apibendrinantys ekspertinio vertinimo rodikliai.

Bendrosios išvados

1. Kūrybos ekonomika – tai globalios ekonomikos archetipas, papildantis ir pratęsiantis žinių ir informacinės visuomenės plėtrą. Kūrybos ekonomika integruoja skirtingus žinojimo, vartojimo, vertybių tipus ir lemia šiuolaikinės ekonomikos transformaciją

ir efektyvumą. Silpstant nacionalinės industrijos svarbai, kūrybos ekonomika per kūrybinių industrijų plėtrą, tampa šiuolaikinės ekonomikos reiškiniu, kurio pagrindas yra ne prigimtinis individo kūrybingumas, o kūrybingumo formų kompleksas, susiejantis kūrybos klasės, kūrybinių miestų, kūrybinės tapatybės perspektyvas. Šiuolaikinė skaitmenizuota visuomenė yra apibūdinama kaip kūrybinė visuomenė. Kūrybinės industrijos yra šios visuomenės tipo svarbi varomoji jėga, plėtojanti inovacinį ir technologinį ekonomikos potencialą.

2. Kūrybinės industrijos (kultūros vertybių vietos, amatai, tradicinės kultūros išraiška, vizualiniai menai, scenos menai, leidyba, audiovizualiniai darbai, naujosios medijos, kūrybinės paslaugos, dizainas) apima individo talentu ir kūrybiniu gebėjimu pagrįstas veiklas, kūrybos sąvoka praktinės veiklos požiūriu tiesiogiai siejasi su žinių, inovacijų ir technologijų suvokimu bei naudojimu, tačiau kūrybinė veikla orientuojasi ir į tam tikro kultūros lygmens pasiekimą. Todėl kūrybos ekonomikos tvariosios plėtros kryptys remiasi ne tradiciniu tvariosios plėtros suvokimu (ekonomika, ekologija, sociumas), bet atnaujintu požiūriu į tvariosios plėtros komponentes (ekonomika, ekologija, politikos formavimas, kultūra). Išplėtota kūrybos ekonomikos tvariosios plėtros koncepcija yra orientuota į universalumo sąvokos perspektyvą įvardijant universalaus tvarumo sampratą, kuri plėtojasi dviem aspektais – pirma, universalumas atsiskleidžia per tokių pačių kategorijų konstravimą, antra, skatinama orientacija į tvariąja plėtra suinteresuotas šalis.
3. Lietuva, sekdama politinėmis ir ekonominėmis gairėmis formuojant ES industrinio konkurencingumo prioritetus, siekia įtvirtinti „Europa 2020“ strategijos gairėse numatytas nuostatas, kad ekonominės plėtros tikslai yra skatinti ekonomikos augimą ir naujų darbo vietų kūrimą išlaikant ir remiant stiprų, įvairų, konkurencingą industrinį pagrindą Europoje siūlant gerai apmokamas darbo vietas ir mažinant aplinkos užterštumą. Kūrybinės industrijos yra svarbus ekonominių ir socialinių inovacijų kituose sektoriuose veiksnys. Intensyvėjant globalizacijai nacionalinio sektoriaus svarba silpnėja, o ES politikos formavimas siekia holistinio strateginio požiūrio į ekonominės vertės sukūrimą, pradedant infrastruktūra, žaliavomis ir baigiant paslaugomis po paslaugos ar prekės pardavimo. Skatinant savęs įdarbinimą, smulkių ir vidutinių įmonių kūrimą ir augimą, kūrybos ekonomikos sprendimai tampa vis svarbesni formuojant ES industrinę politiką. Perėjimas į tvariąją ekonomiką yra sąlyga pasinaudoti galimybėmis stiprinti Lietuvos kūrybines industrijas.
4. Kūrybos ekonomikos tvariosios plėtros modelis atskleidžia išteklių paskirstymo logiką kūrybos ekonomikos tvariajai plėtrai užtikrinti, kai išteklių paskirstymo tiesioginis poveikis yra grindžiamas tiksliniu išteklių paskirstymu adekvačiojo investavimo sprendimų modeliu, o iš tvarumo komponenčių suformuotų tvariosios plėtros kriterijų (žinių kapitalas, socialinis kapitalas, regioninė plėtra, atsistamomumas, finansinis kapitalas, intelektinė nuosavybė, pridėtinės vertės kūrimas, komunikacija) yra išgaunamas ir netiesioginis poveikis, kuris sukelia persiliejimo efektą – teigiamą netiesioginę viešosios intervencijos pasekmę, kai susiformuoja nauji elgsenos modeliai, naujos socialinės struktūros, kuriami nauji produktai ir skatinamos inovacijos.

5. Disertaciniame darbe atliktas ekspertinis kūrybos ekonomikos tvariosios plėtros kriterijų vertinimas ir adekvačiojo investavimo sprendimų valdymo portfelio metodologija leidžia suformuoti portfelius, investuotojui duodančius geriausias pelningumo, rizikos ir patikimumo kompozicijas (kultūros vertybių vietos 0,0484, amatai 0,0484, tradicinės kultūros išraiška 0,1008, vaizduojamieji menai 0,1008, scenos menai 0,0484, leidyba 0,1008, audiovizualiniai menai 0,1008, naujosios medijos 0,0484, kūrybinės paslaugos 0,3024, dizainas 0,1008). Stochastinės optimizacijos metodologija kūrybos ekonomikos tvariajai plėtrai tirti sudarė sąlygas kūrybos ekonomikos tvariosios plėtros modelio aprobavimui ir universaliai efektyvios funkcinės orientacijos perspektyvos sukūrimui. Konkretus faktinės Lietuvos kūrybinių industrijų būklės nustatymas suteikia galimybes ne tik įvertinti investicijų paskirstymą, bet ir numatyti paskirstymo tendencijas, ekstrapoliuoti praktinius duomenis.
6. Disertacinis darbas atveria mokslines ir praktines perspektyvas plėtoti kūrybos ekonomikos tvariąją plėtrą šiuolaikiškose socialinėse ekonominėse, kultūrinėse bei technologinėse aplinkose, identifikuoti naujai besirandančius poreikius, tvariosios plėtros galimybes, moderniai komunikuoti kūrybinių paslaugų inovacijas, grįstas naujomis komunikacijos ir žiniasklaidos technologijomis, kompleksinėmis didėjančios sociologinės techninės ir kultūrinės sąveikos formomis, atverti prieigą prie integruotų antreprenerišku metodų atsižvelgiant į globaliųjų pokyčių ir konkurencijos sąlygas. Metodiškai pagrįstas pragmatinės ekonomikos ir industrijų sąsajų naudojimas yra tikslingas, nes šiuolaikinės analizės ir sprendimų metodų adekvatumas yra išbandomas pragmatinėse situacijose ir tik tada metodai adaptuojami iš ant kultūros pamato konstruojamose kūrybinėse industrijose.
7. Galimas disertacinio darbo tęstinumas – naudojantis konceptualiosiomis kūrybos ekonomikos tvariosios plėtros ir specifinėmis stochastiškai informatyvaus įvertinimo sistemos išteklių paskirstymui žiniomis, galima toliau plėtoti atskirų kūrybinių industrijų, kūrybos visuomenės, remiančiųjų industrijų tvariosios plėtros teorinius ir praktinius tyrimus, formuoti investicijų paskirstymo rekomendacijas planuojant finansavimą kūrybos ekonomikos veikloms, inicijuoti statistinių duomenų spektro praplėtimą, tobulinti kūrybines industrijas reglamentuojančią teisinę bazę, integruoti disertacinio darbo tyrimus į visuomenės švietimo sritis.

Annexes[1]

Annex A. Expert survey information

Annex B. Spearman rank correlation calculation

Annex C. Estimate of reciprocal coherency for investigated criteria

Annex D. The co-authors' agreements to provide published material in the thesis

Annex E. Copies of scientific publications by the author on the topic of the dissertation

[1] The annexes are available in the CD attached to the dissertation

Annex A. Expert survey information

Table A.1. Adjustment of the criteria after the initial evaluation by the experts (source: author)

No	Criteria identified in scientific literature (initial list of criteria)	Expert evaluation at Step 1* * *the language has not been corrected*	Adjustment of the criteria after Step 1 of the expert evaluation
1	Creative expression (Runco 2010; Beghetto, Kaufman 2007)	✓ Problem: how to measure creative expression? ✓ Appropriate, however, the problem is how to evaluate it in quantitative terms (where is the evaluation algorithm?) ✓ What is being pursued – economic benefit, self-realisation as a hobby, or the attraction of attention to oneself, and what balance is possible.	Merged with 4, 9, 10, 13, 16
2	Human capital (Davidsson, Honig 2003; Dunn, Holtz-Eakin 2000)	✓ A conventional term is "human resources".	Merged with 5, 18 The term is replaced by "human resources".
3	Regional development (Jayne 2005; Hall 2000)	✓ I can't perceive this concept as a criterion. However, where the DEVELOPMENT concept in the theoretical model of sustainable development of CE, in the economic context the "regional development" criterion could be used.	Merged with 8, 14, 15, 17
4	Sustainable knowledge (WEF 2014; WKCI 2014; Garmann Johnsen, Ennals 2012)	✓ The criterion is of a different level in relation to other criteria. The criterion is derivative and should be rejected. ✓ Appropriate, only the question of how it can be assessed in quantitative terms (what is the evaluation algorithm). ✓ I do not understand it whatsoever.	Merged with 1, 9, 10, 13, 16 The concept "knowledge sustainability" abandoned
5	New jobs (Dunn, Holtz-Eakin 2000)	✓ Could be part of the criterion "regional development". ✓ Only of innovative technologies.	Merged with 2, 18 To be related to innovative technologies
6	Financial capital (Dunn, Holtz-Eakin 2000; WKCI 2014)	✓ May be part of the criterion "Regional development". ✓ For innovations, not for some old things (potatoes).	To be related to the assignment to innovations

Continuation of Table A.1

7	Development of technologies (Potts *et al.* 2008; Caves 2002; Deuze 2007)	✓ Appropriate, to be merged to 9. Innovativeness of operations.	
8	Social involvement (Stryker *et al.* 2000; Kumar 2000)	✓ Replace the wording with the term "Social inclusion".	Merged with 3, 14, 15, 17 Concept replaced by "social inclusion"
9	Innovativeness of operations (Berardo, Deardorff 2012; Frankea, Shah 2003)	✓ Overlaps with creative expression. ✓ Replace the concept with "Innovations". ✓ Could be merged with 7. Development of technologies.	Merged with 1, 4, 10, 13, 16 Concept replaced by "Innovations"
10	Capital of ideas (Howkins 2001; Bernstein 2005)	✓ Overlaps with creative expression. ✓ How can it be measured? ✓ The criterion is overly vague, I suggest it should be specified and merged with others or refused. ✓ I do not understand how this criterion may be measures or evaluated.	Merged with 1, 4, 13, 16
11	Intellectual property (Howkins 2001; Bilton 2007; Vaidhyanathan 2003)	✓ I can't feel the weight (as of a criterion), unless it is joined with the "capital of ideas" to be used as a result of intellectual work; however, there is still a question – can every idea be recorded and acquire a legal basis?	
12	Creation of added value (Arndt *et al.* 2012; Hearn *et al.* 2007)		

Continuation of Table A.1

13	Knowledge capital (WKCI 2014; Graham 2002; Lööf 2002; Garmann Johnsen, Ennals 2012)	✓ Problem: demarcation of the capital of ideas and the knowledge capital – maybe they should be merged as a single criterion covering both aspects? ✓ Coincides with intellectual property. ✓ Knowledge or knowing – in what way it is different from the capital of ideas? ✓ What is the difference between the sustainability of knowledge and the knowledge capital? Capital meaning that it has already been accumulated? So what is in that case the sustainability of knowledge?	Merged with 1, 4, 9, 10, 16
14	Cooperation (Garmann Johnsen, Ennals 2012; Uricchio 2004)	✓ To supplement and specify the wording.	Merged with 3, 8, 15, 17
15	Fostering of values (Moeran, Pedersen 2011; Yu *et al.* 2004)	✓ How to measure? ✓ Innovations. ✓ The formulation should be specified.	Merged with 3, 8, 14, 17 To be related to the category of innovations
16	Intangible raw materials (Santagata 2004; Australian Copyright Council 2008)	✓ Doubles the intellectual property. ✓ Raw materials of information or knowledge? ✓ I suggest it should be replaced by "intangible recourses". ✓ This criterion should be abandoned or merged with the "Capital of ideas" or "knowledge capital" ✓ Are those really raw materials? May be rather intangible asset?	Merged with 1, 4, 9, 10, 13 Replaced by "intangible resources"
17	Community (Parmentier, Mangematin 2014)	✓ Coincides with "cooperation". ✓ I think it partly overlaps with the "cooperation" criterion. A successful cooperation between several areas may develop communality.	Merged with 3, 8, 14, 15
18	Innovative jobs (Totterdill, Ennals 2014; Black, Lynch 2004)	✓ Merges with 7 and 9. I do not agree with the idea that innovative jobs necessarily promote creativity. Creative ideas do not visit any other than the one sitting under the tree.	Merged with 2, 5

End of Table A.1

19	Promotion of innovations (Garmann Johnsen, Ennals 2012)	✓ Overly general, many of the criteria mentioned earlier could be incorporated under the criterion "promotion of innovations". ✓ Does not need to be promoted, as today everybody screams that without innovations in the modern world you are last in line. Do not need to be promoted as innovations appearing rapidly, and the pace will continue to increase, as soon as lack of a natural, old fashioned creative expression is realised. There must be at least a minimum balance retained.	Merged with 20
20	Renewal (Dong, Haruna 2012)	✓ I suggest the terms be supplemented and specified.	Merged with 19

Table A.2. Additional commentaries provided by the experts (source: author)

Expert No	Additional commentaries provided by the experts* * *the language has not been corrected*
1	I suggest recalling the creativity indices defined by R.Florida, which could be translated into the appropriate criteria: boiler, bohema, talent, gay, the aggregate diversity index (merging the gay, bohema and boiler indices), and an aggregate creativity index (consolidating all the indies). Besides, there could also be such indices and criteria as emigrants, self–murderers, happiness, and involvement in social networks, urbanisation, etc. indices and criteria. The problem with many of them is that they are difficult to measure or define.
2	I suggest designing some hierarchy of indicators as they currently overlap or supplement each other.
3	In my opinion the criteria are appropriate. A question arises though as to the possibility of objectively evaluating some of them, e.g. creative expression and the idea capital. However, if the answer may be found in scientific literature, then it is all–excellent.

Continuation of Table A.2

4	The human, idea and intangible raw materials aspect, in my view, presupposes the "talent" as a definition phenomenon in the modern economy. According to Florida (2002) three main preconditions of growth are identified – the 3 Ts (talent, technologies and tolerance); however, the ideas of the author are have been criticised for being overly straightforward and an overly "macro" approach in which there is no place left for the individual. On the other hand, I still think that the three criteria I mentioned in one way or another merge into one joint criterion – the "talent" criterion; in other words the criteria represent human capital in general – an object for competition among regions. The development of technologies, innovativeness of operations and knowledge capital are, in my opinion, coherent to the extent that they form a sufficiently integrated structure, which could be defined through the local intellectual infrastructure. In other words, if this infrastructure is operating efficiently, it will be attracting the talent criterion to the specific location. Sustainability of knowledge could be also assigned to this group. I am not really much of an expert, but these criteria specifically define the Silicon valley and Finland as a smart country. A distinction between jobs and the creation of innovative jobs seem to me the most reasonable out of all criteria being discussed. In viewed in terms of the development of urbanistic-economic development, we understand that the transformation of a "pole" into "mega polis" (e.g. cities in 19th c. England) was caused in the first place by the appearance of new qualitative criteria; however, a qualitative growth presupposes a quantitative growth too. It is also true that quality has always been a catalyst, and therefore I suggest that if the criteria are going to be grouped in some way, those two criteria should be in separate segments. To summarise I would like to say that my understanding may not be fully relevant in a wider economic context since my background knowledge is from the area of urban development; therefore, I can't really offer any new criteria to be introduced, only it seems to be that some criteria could be merged, and then later, if necessary, broken down in diagrams or the text.
5	CONVERGENCE of technologies (Nano-BIO-Info-Cogno-Eco-Eco), rather than integration. Ecological nature of economy (Ecological economy)
6	Maybe a new criterion could be "identification of needs", although it is difficult to think of something to supplement
7	
8	
9	I suggest including a criterion from the area of communications and media

End of Table A.2

10	I suggest that the number of the criteria should be reduced while being logically grouped; now some criteria are overlapping, are defined in an overly minute manner, my proposal is to merge the criteria as shown below, although other arrangements are possible too: 1+4+9+10+13+16 2+5+18 3+8+14+1517 19+20
11	Missing criteria to the ecology and politics components.
12	

Table A.3. Information about the experts (source: author)

Expert No	Expertise of the expert as self-assessed according to the four components of sustainable development – economics, ecology, politics and culture	Sector represented by the expert	Area represented by the expert	Experience (in years)
1	Culture	Public (State)	Publishing	10
2	Economics – 20%, ecology – 10%, politics – 40%, culture – 30%	Public (State)	Higher education policy	n/a
3	Economics - 30%, politics – 70%	Private (Business)	Technological business, Technology business, higher education and studies, innovation and entrepreneurship support areas	3, 10, 7
4	Culture – 60%, politics (specialised as a heritage discourse, but integrated and reflecting the general geopolitical paradigms) – 15%, economics – 15%, ecology – 10%	Public (State)	Cultural heritage, urban research	2
5	LIVE NATURAL SCIENCES – 60%; ecology –10%; politics – 10%; economics – 10%; culture – 10%	Public (State)	Bioinformation technologies, biocibernetics	52
6	Culture – 70%, politics – 15%, economics – 10%, ecology – 5%	Other	Culture-creation	20
7	Economics 15%, ecology – 10%, politics – 15%, culture – 60%	Public (State)	Culture research	10
8	Politics – 50%; economics 50%	Public (State)	Tourism policy	8

End of Table A.3

9	Economics – 30%, politics – 30%, culture – 30%, ecology – 10%	Private (Business)	Research in social sciences and humanities	38
10	Ecology – 90%, politics – 10%	Public (State)	Higher education	15
11	Economics – 40%, culture –30%, ecology – 20%, politics – 10%	Public (State)	Marketing	10
12	n/a	Public (State)	Communication and information	7

Annex B. Spearman rank correlation calculation

Table B.1. Spearman rank correlation calculation (source: author)

Coef-ficient	1	2	3	4	5	6	7	8	9	10
1	1	0.3170732	0.06079055	0.5902168	0.4924035	-0.445122	0.3394511	-0.180429	0.01215811	0.4620082
2	0.3170732	1	0.6322218	0.4740083	0.8206725	-0.0945122	0.8562731	-0.5107058	0.8328306	0.8024353
3	0.06079055	0.6322218	1	-0.2073209	0.6606061	0.08510678	0.804893	-0.1158558	0.7333333	0.369697
4	0.5902168	0.4740083	-0.2073209	1	0.3170791	-0.5259963	0.1717791	-0.6717791	0.225614	0.5000093
5	0.4924035	0.8206725	0.6606061	0.3170791	1	-0.1641345	0.7805023	-0.3597628	0.8060606	0.4909091
6	-0.445122	-0.0945122	0.08510678	-0.5259963	-0.1641345	1	-0.01529059	0.3975554	0.08510678	-0.04863244
7	0.3394511	0.8562731	0.804893	0.1717791	0.7805023	-0.01529059	1	-0.3128834	0.7317209	0.7134279
8	-0.180429	-0.5107058	-0.1158558	-0.6717791	-0.3597628	0.3975554	-0.3128834	1	-0.4634232	-0.2012233
9	0.01215811	0.8328306	0.7333333	0.225614	0.8060606	0.08510678	0.7317209	-0.4634232	1	0.4181818
10	0.4620082	0.8024353	0.369697	0.5000093	0.4909091	-0.04863244	0.7134279	-0.2012233	0.4181818	1
11	0.3567073	0.4939024	0.2553203	0.2538238	0.2796366	0.3292683	0.6391467	-0.009174355	0.2735575	0.7598819
12	0.328269	0.8571468	0.4787879	0.4695209	0.830303	0	0.7012325	-0.3902512	0.8181818	0.6727273
13	0.09726489	0.3708224	0.3939394	0.1036605	0.5393939	-0.5714312	0.3353721	-0.04268372	0.4424242	0.1393939
14	0.2370832	0.5835893	0.7575758	-0.2317116	0.7090909	0.3890595	0.7622093	-0.03048837	0.5757576	0.3818182
15	-0.1890244	0.1890244	0.7598819	-0.6422048	0.3586643	0.07926829	0.5382288	0.2477076	0.334348	-0.03039528
16	-0.04878049	625	0.6747752	-0.103976	0.4741663	0.4878049	0.6941928	-0.2385332	0.6383008	0.4012177
17	0.5106407	0.6930123	0.4787879	0.2682977	0.7939394	-0.1641345	0.804893	-0.4573256	0.5151515	0.4787879
18	0.08231707	0.8597561	0.4194548	0.56881	0.4984825	-0.195122	0.5963331	-0.7370065	0.6808542	0.662617
19	0.3221899	0.8875421	0.7333333	0.2622	0.6969697	-0.1215811	0.9329442	-0.4573256	0.6484848	0.7575758
20	0.3987805	0.435591	0.6055301	0.009230813	0.446502	0.4386586	0.6123106	-0.07692344	0.4159196	0.4526184

End of Table B.1

Coef-ficient	11	12	13	14	15	16	17	18	19	20
1	0.3567073	0.328269	0.09726489	0.2370832	-0.1890244	-0.04878049	0.5106407	0.08231707	0.3221899	0.3987805
2	0.4939024	0.8571468	0.3708224	0.5835893	0.1890244	625	0.6930123	0.8597561	0.8875421	0.435591
3	0.2553203	0.4787879	0.3939394	0.7575758	0.7598819	0.6747752	0.4787879	0.4194548	0.7333333	0.6055301
4	0.2538238	0.4695209	0.1036605	-0.2317116	-0.6422048	-0.103976	0.2682977	0.56881	0.2622	0.009230813
5	0.2796366	0.830303	0.5393939	0.7090909	0.3586643	0.4741663	0.7939394	0.4984825	0.6969697	0.446502
6	0.3292683	0	-0.5714312	0.3890595	0.07926829	0.4878049	-0.1641345	-0.195122	-0.1215811	0.4386586
7	0.6391467	0.7012325	0.3353721	0.7622093	0.5382288	0.6941928	0.804893	0.5963331	0.9329442	0.6123106
8	-0.009174355	-0.3902512	-0.04268372	-0.03048837	0.2477076	-0.2385332	-0.4573256	-0.7370065	-0.4573256	-0.07692344
9	0.2735575	0.8181818	0.4424242	0.5757576	0.334348	0.6383008	0.5151515	0.6808542	0.6484848	0.4159196
10	0.7598819	0.6727273	0.1393939	0.3818182	-0.03039528	0.4012177	0.4787879	0.662617	0.7575758	0.4526184
11	1	0.4984825	-0.2006088	0.4255339	0.00304878	0.4512195	0.4255339	0.2652439	0.5167197	0.6472514
12	0.4984825	1	0.4424242	0.5030303	0.06079055	0.3586643	0.6	0.6200637	0.6121212	0.4036867
13	-0.2006088	0.4424242	1	0.03030303	0.437692	-0.2127669	0.2363636	0.1945298	0.2484848	-0.3119397
14	0.4255339	0.5030303	0.03030303	1	0.6018265	0.7841982	0.7212121	0.2492413	0.6848485	0.7584417
15	0.00304878	0.06079055	0.437692	0.6018265	1	0.3993902	0.3708224	-0.05487805	0.4255339	0.2085929
16	0.4512195	0.3586643	-0.2127669	0.7841982	0.3993902	1	0.5045616	0.5182927	0.6990914	0.684062
17	0.4255339	0.6	0.2363636	0.7212121	0.3708224	0.5045616	1	0.437692	0.7818182	0.4281526
18	0.2652439	0.6200637	0.1945298	0.2492413	-0.05487805	0.5182927	0.437692	1	0.765961	0.2024578
19	0.5167197	0.6121212	0.2484848	0.6848485	0.4255339	0.6990914	0.7818182	0.765961	1	0.5198996
20	0.6472514	0.4036867	-0.3119397	0.7584417	0.2085929	0.684062	0.4281526	0.2024578	0.5198996	1

Annex C. Estimate of reciprocal coherency for investigated criteria

Table C.1. Knowledge capital criterion matrix for estimate of reciprocal coherency (source: author)

Experts	1 criterion: Knowledge capital									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	2	1	4	6	7	5	10	8	9	3
2	2	1	3	6	5	4	7	9	10	8
3	2	1	3	5	4	6	7	8	9	10
4	10	1	2	3	9	4	5	8	7	6
5	4	1	5	2	6	3	7	10	9	8
6	3	10	5	1	4	2	6	9	8	7
7	4	1	2	3	6	5	7	10	9	8
8	8	7	10	4	5	9	3	1	6	2
9	10	1	3	2	5	4	6	8	7	9
10	6	2	1	3	5	10	7	4	8	9
11	1	2	5	3	9	6	10	4	8	7
12	10	1	2	3	4	9	5	6	7	8
13	9	1	2	4	3	5	6	7	10	8
14	1	3	2	4	5	6	8	10	7	9
15	2	3	6	1	4	5	8	10	9	7
16	1	4	8	2	9	3	5	7	10	6
17	4	3	2	1	5	6	9	10	8	7
18	2	1	4	10	3	5	6	8	9	7
19	5	4	6	3	2	1	7	8	9	10
20	3	1	4	7	6	5	10	8	9	2
Median	3.5	1	3.5	3	5	5	7	8	9	7.5
Mode	2	1	2	3	5	5	7	8	9	8

End of Table C.1

Average	4.2857 14286	2.4285 71429	3.9047 61905	3.6666 66667	5.2857 14286	5.1904 7619	6.9523 80952	7.6666 66667	8.4285 71429	7.1904 7619
Stdew	3.2425 73934	2.3145 50249	2.2339 37374	2.1984 84326	1.9272 48223	2.2049 72735	1.8021 15159	2.3094 01077	1.1212 23821	2.3583 69089
Variation	0.7566 00584	0.9530 50103	0.5721 05913	0.5995 86634	0.3646 14529	0.4248 11261	0.2592 08345	0.3012 26227	0.1330 26555	0.3279 85105
Sum	90	51	82	77	111	109	146	161	177	151
Position	7	10	8	9	5	6	4	2	1	3
Position median	7–8	10	7–8	9	5–6	5–6	4	2	1	3
Position mode	8–9	10	8–9	7	5–6	5–6	3–4	2	1	3–4

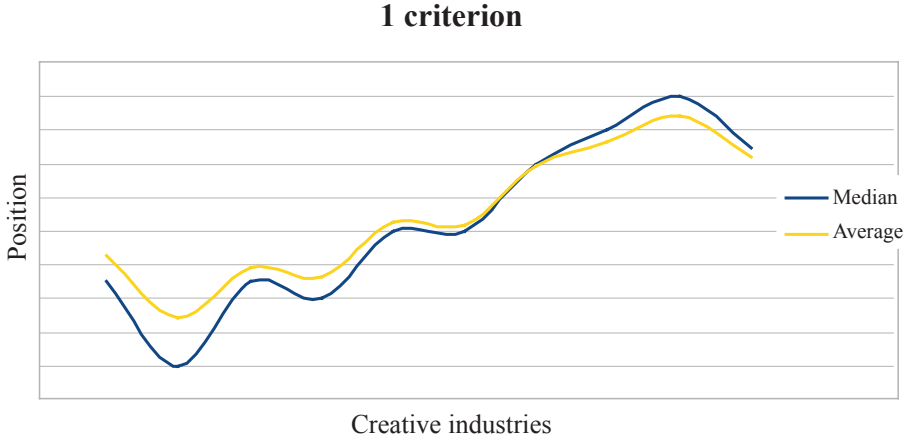


Fig. C.1. Knowledge capital criterion median and average position (source: author)

Table C.2. Social capital criterion matrix for estimate of reciprocal coherency (source: author)

Experts	2 criterion: Social capital									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	2	1	6	7	5	8	9	4	10	3
2	7	8	10	9	5	1	3	2	6	4
3	6	2	10	7	1	4	3	9	8	5
4	1	9	8	10	2	3	7	4	6	5
5	5	1	4	3	2	6	7	10	8	9
6	7	4	9	5	10	3	6	1	8	2
7	2	1	5	3	4	9	10	6	8	7
8	5	10	6	3	4	8	2	1	9	7
9	10	1	7	3	9	2	6	4	8	5
10	2	1	8	9	6	3	7	4	10	5
11	1	2	4	3	9	5	10	6	7	8
12	9	1	2	6	3	10	4	8	5	7
13	8	1	5	7	9	4	10	2	6	3
14	7	6	5	1	2	3	8	9	10	4
15	1	10	2	3	8	5	4	9	7	6
16	1	2	6	5	4	3	10	9	8	7
17	3	2	1	5	7	8	9	10	4	6
18	5	4	1	10	3	2	6	7	8	9
19	1	4	3	6	5	2	7	8	9	10
20	3	2	5	1	4	6	10	7	8	9
Median	4	2	5	5	4.5	4	7	6.5	8	6
Mode	1	1	5	3	4	3	10	4	8	5
Average	4.3	3.6	5.35	5.3	5.1	4.75	6.9	6	7.65	6.05

End of Table C.2

Stdew	2.9753 37221	3.2183 68335	2.7582 4124	2.8116 29982	2.7318 78089	2.6532 00649	2.6337 88546	3.0435 43641	1.6311 11988	2.2589 00524
Variation	0.6919 38889	0.8939 91204	0.5155 5911	0.5304 96223	0.5356 6237	0.5585 68558	0.3817 08485	0.5072 57274	0.2132 17253	0.3733 71987
Sum	86	72	107	106	102	95	138	120	153	121
Position	9	10	5	6	7	8	2	4	1	3
Position median	8–9	10	5–6	5–6	7	8–9	2	3	1	4
Position mode	9–10	9–10	3–4	7–8	5–6	7–8	1	5–6	2	3–4

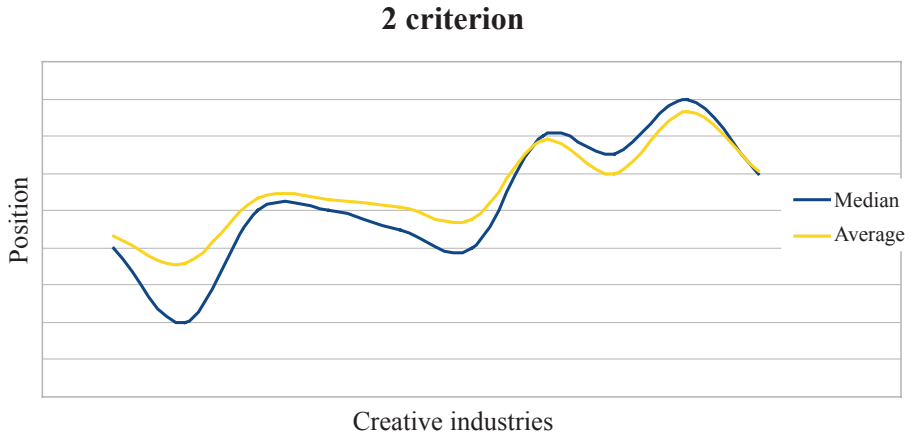


Fig. C.2. Social capital criterion median and average position (source: author)

Table C.3. Regional develompent criterion matrix for estimate of reciprocal coherency (source: author)

Experts	3 criterion: Regional development									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	9	8	10	4	5	7	6	2	1	3
2	9	10	8	6	7	5	4	2	3	1
3	9	2	10	3	4	5	1	6	7	8
4	10	2	1	9	8	3	7	6	5	4
5	10	9	8	6	7	5	3	1	2	4
6	9	10	8	4	5	2	3	1	7	6
7	10	1	9	7	8	6	4	3	5	2
8	9	2	10	7	8	6	5	1	4	3
9	8	7	9	1	10	2	3	6	5	4
10	9	7	10	4	6	8	3	2	5	1
11	1	2	9	7	5	6	10	3	8	4
12	9	3	7	4	1	10	2	5	6	8
13	10	2	3	8	4	6	7	1	5	9
14	1	3	2	4	5	6	8	9	10	7
15	6	3	8	5	1	2	4	7	9	10
16	1	10	9	8	7	6	2	3	4	5
17	1	10	2	3	5	6	7	4	9	8
18	10	9	8	7	6	1	4	3	2	5
19	6	1	4	2	3	5	7	8	9	10
20	10	6	9	5	8	4	1	7	3	2
Median	9	4.5	8	5	5.5	5.5	4	3	5	4.5
Mode	9	2	8	4	5	6	4	1	5	4
Average	7.35	5.35	7.2	5.2	5.65	5.05	4.55	4	5.45	5.2

End of Table C.3

Stdew	3.4530 68811	3.5284 55753	3.0017 53873	2.1667 34142	2.3457 68867	2.2118 10404	2.4809 80282	2.5546 65495	2.6252 8194	2.8946 41147
Variation	0.4698 0528	0.6595 2444	0.4169 1026	0.4166 79643	0.4151 80331	0.4379 82258	0.5452 70392	0.6386 66374	0.4817 03108	0.5566 61759
Sum	147	107	144	104	113	101	91	80	109	104
Position	1	4	2	6.5	3	8	9	10	5	6.5
Position median	1	7–8	2	5–6	3–4	3–4	9	10	5–6	7–8
Position mode	1	9	2	6–7	4–5	3	8	10	4–5	6–7

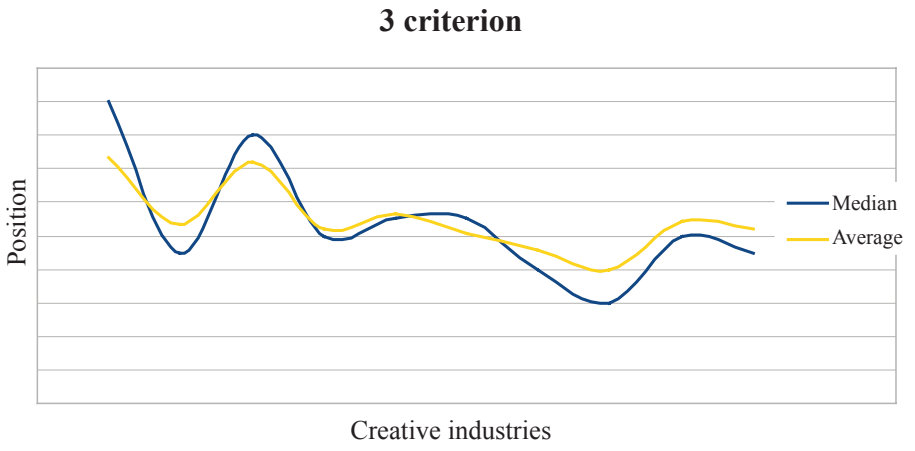


Fig. C.3. Regional development criterion median and average position (source: author)

Table C.4. Resilience criterion matrix for estimate of reciprocal coherency (source: author)

Experts	4 criterion: Resilience									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	PPublishing and printed media	Audio-visual arts	New media	Creative services	Design
1	5	1	3	7	6	2	4	8	9	10
2	1	2	3	4	5	6	7	8	9	10
3	9	2	10	1	3	4	5	6	7	8
4	8	2	1	7	6	10	3	9	5	4
5	10	1	9	3	4	5	6	8	7	2
6	2	1	8	4	3	9	5	7	6	10
7	2	1	4	5	3	6	8	7	9	10
8	3	8	2	4	5	10	6	9	7	1
9	10	2	3	4	5	1	6	7	9	8
10	2	1	4	10	9	3	7	6	8	5
11	1	2	6	4	7	5	9	3	10	8
12	10	6	1	4	3	7	2	5	8	9
13	1	2	3	4	7	5	6	10	9	8
14	1	3	2	4	5	6	8	9	10	7
15	7	6	8	3	4	10	1	2	5	9
16	2	1	6	3	4	5	8	9	10	7
17	3	2	1	4	5	8	9	10	6	7
18	3	6	4	7	2	1	5	9	8	10
19	2	1	3	4	5	7	8	10	9	6
20	1	2	9	5	10	7	3	4	6	8
Median	2.5	2	3.5	4	5	6	6	8	8	8
Mode	1	2	3	4	5	5	6	9	9	10
Average	4.15	2.6	4.5	4.55	5.05	5.85	5.8	7.3	7.85	7.35
Stdew	3.4530 68811	2.1126 18729	2.9109 59328	1.9324 10548	2.0384 46261	2.7772 57261	2.3078 81234	2.3418 39133	1.6311 11988	2.6212 69279

End of Table C.4

Variation	0.8320 64774	0.8125 45665	0.6468 79851	0.4247 05615	0.4036 52725	0.4747 44831	0.3979 10558	0.3207 99881	0.2077 84967	0.3566 35276
Sum	83	52	90	91	101	117	116	146	157	147
Position	9	10	8	7	6	4	5	3	1	2
Position mediana	9	10	8	7	6	4–5	4–5	1–2–3	1–2–3	1–2–3
Position mode	10	9	8	7	5–6	5–6	4	1–2	1–2	3

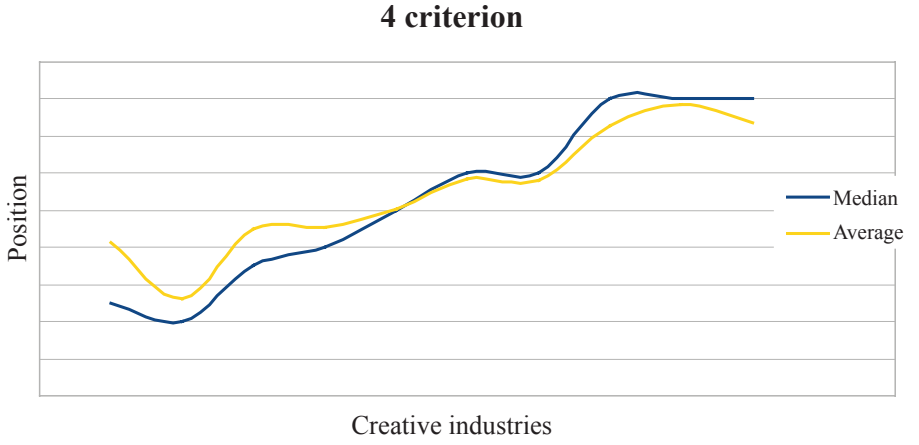


Fig. C.4. Resilience criterion median and average position (source: author)

Table C.5. Financial capital criterion matrix for estimate of reciprocal coherency (source: author)

Experts	5 criterion: Financial capital									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	10	3	4	7	5	8	9	6	1	2
2	8	1	2	3	4	5	6	7	10	9
3	5	1	10	6	3	4	2	7	8	9
4	10	1	2	3	4	5	9	7	6	8
5	5	1	3	4	6	2	10	9	8	7
6	10	9	8	7	6	5	4	3	2	1
7	7	1	2	4	5	6	10	9	3	8
8	9	10	8	7	5	6	4	3	2	1
9	3	1	4	6	5	2	10	7	8	9
10	8	1	2	5	3	10	9	6	7	4
11	1	2	8	3	9	4	10	5	7	6
12	10	3	1	4	2	7	5	6	8	9
13	9	1	2	3	5	6	10	8	7	4
14	3	1	5	4	6	2	8	10	9	7
15	1	2	4	3	5	10	6	7	8	9
16	9	10	8	7	6	5	3	2	4	1
17	2	1	3	4	5	6	9	10	7	8
18	3	2	5	9	4	1	6	7	8	10
19	2	4	1	5	6	3	7	8	9	10
20	1	3	10	2	4	5	7	9	6	8
Median	6	1.5	4	4	5	5	7.5	7	7	8
Mode	10	1	2	3	5	5	10	7	8	9
Vidurkis	5.8	2.9	4.6	4.8	4.9	5.1	7.2	6.8	6.4	6.5

End of Table C.5

Stdew	3.5183 7283	3.0590 67625	2.9982 45101	1.8806 49384	1.4832 39697	2.4687 52082	2.5874 18954	2.2384 20496	2.6036 41175	3.1539 44898
Variation	0.6066 16005	1.0548 50905	0.6517 92413	0.3918 01955	0.3027 01979	0.4840 69036	0.3593 63744	0.3291 79485	0.4068 18934	0.4852 22292
Sum	116	58	92	96	98	102	144	136	128	130
Position	5	10	9	8	7	6	1	2	4	3
Position median	5	10	8–9	8–9	6–7	6–7	2	3–4	3–4	1
Position mode	1–2	10	9	8	6–7	6–7	1–2	5	4	3

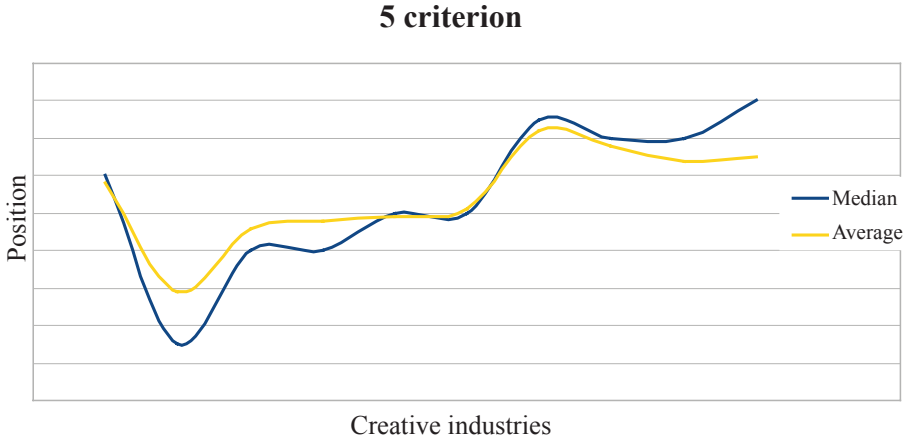


Fig. C.5. Fiancial capital criterion median and average position (source: author)

Table C.6. Intelectual capital criterion matrix for estimate of reciprocal coherency (source: author)

Experts	6 criterion: Intelectual property									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	4	1	5	7	6	9	10	8	2	3
2	5	1	3	10	4	2	6	7	8	9
3	3	1	2	4	5	6	7	8	9	10
4	1	2	3	8	7	4	9	6	5	10
5	3	2	1	5	4	6	7	8	10	9
6	2	1	3	4	5	6	10	8	9	7
7	1	2	3	6	5	4	7	8	9	10
8	1	2	3	5	4	10	9	8	7	6
9	6	1	3	5	4	2	8	7	9	10
10	1	4	3	9	8	2	7	6	5	10
11	1	2	3	5	10	7	9	4	6	8
12	10	3	1	4	2	9	6	5	7	8
13	3	2	1	9	7	4	10	5	6	8
14	1	2	3	5	4	6	9	7	10	8
15	7	6	5	3	1	10	2	4	8	9
16	1	3	2	4	5	6	8	9	7	10
17	2	6	3	4	5	1	9	10	7	8
18	2	1	3	8	5	4	6	7	10	9
19	1	2	3	5	4	6	7	8	9	10
20	3	1	2	10	7	4	9	5	8	6
Median	2	2	3	5	5	6	8	7	8	9
Mode	1	2	3	5	4	6	9	8	9	10
Average	2.9	2.25	2.75	6	5.1	5.4	7.75	6.9	7.55	8.4

End of Table C.6

Stdew	2.4473 40124	1.5174 42447	1.0699 23755	2.2242 68064	2.0235 45612	2.6832 81573	1.9159 99121	1.6511 55895	2.0384 46261	1.8180 38272
Variation	0.8439 10388	0.6744 18865	0.3890 63184	0.3707 11344	0.3967 73649	0.4969 03995	0.2472 25693	0.2392 97956	0.2699 92882	0.2164 33128
Sum	58	45	55	120	102	108	155	138	151	168
Position	8	10	9	5	7	6	2	4	3	1
Position median	9–10	9–10	8	6–7	6–7	5	2–3	4	2–3	1
Position mode	10	9	8	6	7	5	2–3	4	2–3	1

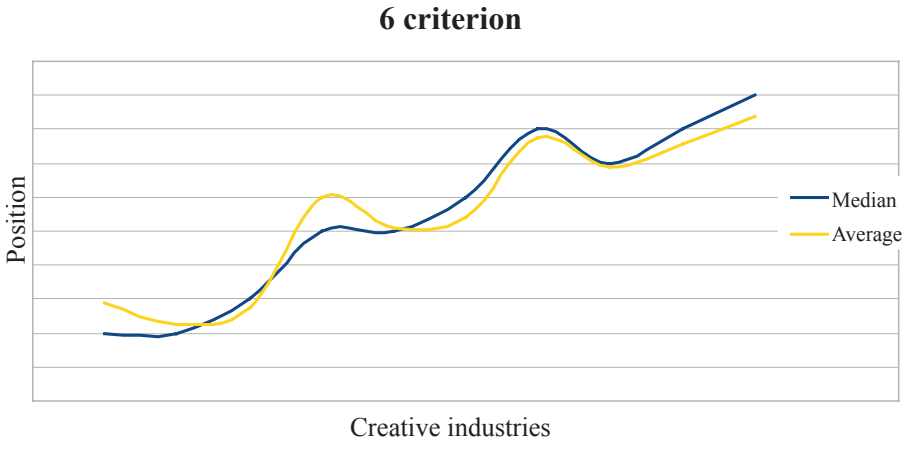


Fig. C.6. Intellectual property criterion median and average position (source: author)

Table C.7. Added value creation criterion matrix for estimate of reciprocal coherency (source: author)

Experts	7 criterion: Added value creation									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	8	1	7	5	6	4	10	9	3	2
2	1	2	3	6	5	4	7	8	9	10
3	1	2	3	4	5	6	7	8	9	10
4	3	2	1	10	9	4	8	7	5	6
5	3	1	2	6	5	4	9	10	8	7
6	1	5	2	3	4	6	10	7	8	9
7	4	1	5	3	2	6	7	8	9	10
8	5	10	8	1	7	4	3	2	9	6
9	2	1	3	4	5	6	7	8	9	10
10	1	2	5	4	3	8	7	6	9	10
11	1	3	2	5	9	8	10	4	6	7
12	10	3	1	8	4	9	5	6	7	2
13	3	2	1	4	5	6	7	8	10	9
14	5	4	10	3	2	1	8	7	6	9
15	8	7	9	2	1	10	4	5	6	3
16	3	2	1	5	4	6	7	9	8	10
17	2	1	3	4	5	6	7	10	8	9
18	3	1	4	8	5	2	6	7	10	9
19	1	3	2	5	4	6	7	8	9	10
20	1	2	9	6	4	3	7	5	10	8
Median	3	2	3	4.5	5	6	7	7.5	8.5	9
Mode	1	2	3	4	5	6	7	8	9	10
Average	3.3	2.75	4.05	4.8	4.7	5.45	7.15	7.1	7.9	7.8

End of Table C.7

Stdew	2.6773 90717	2.2912 87847	2.9819 63324	2.1423 05693	2.0287 40859	2.2589 00524	1.8144 15956	1.9973 66687	1.8609 56178	2.7067 16792
Variation	0.8113 3052	0.8331 95581	0.7362 8724	0.4463 13686	0.4316 46991	0.4144 7716	0.2537 64469	0.2813 19252	0.2355 64073	0.3470 14973
Sum	66	55	81	96	94	109	143	142	158	156
Position	9	10	8	6	7	5	3	4	1	2
Position median	8–9	10	8–9	7	6	5	4	3	2	1
Position mode	9–10	8	9–10	7	6	5	4	3	2	1

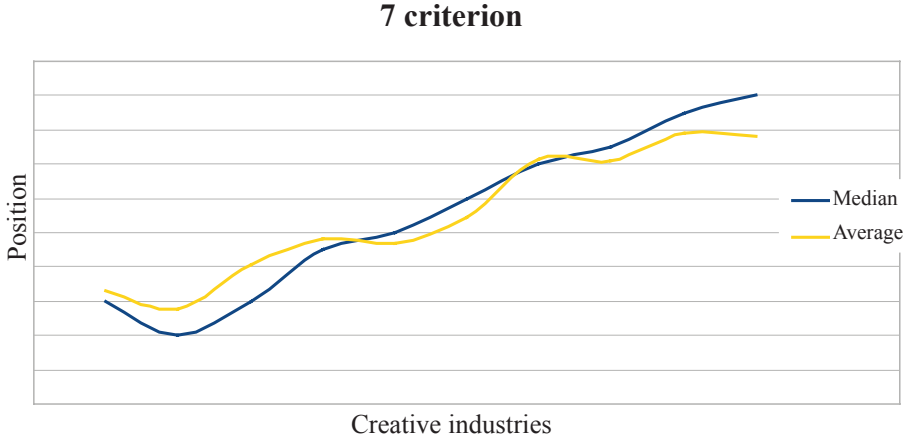


Fig. C.7. Added value creation criterion median and average position (source: author)

Table C.8. Communication criterion matrix for estimate of reciprocal coherency (source: author)

Experts	8 criterion: Communication									
	Locations of cultural values	Crafts	Expression of traditional culture	Visual arts	Performing arts	Publishing and printed media	Audio-visual arts	New media	Creative services	Design
1	2	1	3	4	5	7	10	6	9	8
2	4	1	3	2	5	9	10	7	6	8
3	1	2	3	4	5	6	7	8	9	10
4	8	1	2	10	9	3	6	5	4	7
5	5	1	2	6	3	7	10	9	8	4
6	7	8	9	6	10	5	3	4	1	2
7	2	1	4	3	5	6	7	9	10	8
8	7	3	6	5	4	10	8	2	9	1
9	5	1	4	6	3	2	7	8	9	10
10	2	1	3	8	9	4	6	5	10	7
11	1	2	8	6	10	4	9	3	5	7
12	7	2	1	3	4	10	5	6	8	9
13	8	1	2	4	5	6	10	7	9	3
14	10	9	8	2	1	3	5	4	6	7
15	6	7	5	2	3	10	4	8	1	9
16	10	9	8	6	7	5	1	2	3	4
17	2	4	1	3	5	6	8	10	7	9
18	4	6	1	9	7	3	5	2	8	10
19	1	2	5	6	3	4	7	8	9	10
20	2	7	8	1	3	4	9	10	5	6
Median	4.5	2	3.5	4.5	5	5.5	7	6.5	8	7.5
Mode	2	1	3	6	5	6	10	8	9	10
Average	4.7	3.45	4.3	4.8	5.3	5.7	6.85	6.15	6.8	6.95

End of Table C.8

Stdew	3.0279 40068	2.9995 61371	2.6773 90717	2.4408 7991	2.5772 28213	2.4942 03807	2.5188 76107	2.6611 23625	2.8209 74076	2.7810 44862
Variation	0.6442 42568	0.8694 38079	0.6226 49004	0.5085 16648	0.4862 69474	0.4375 79615	0.3677 1914	0.4327 03028	0.4148 49129	0.4001 5034
Sum	94	69	86	96	106	114	137	123	136	139
Position	8	10	9	7	6	5	2	4	3	1
Position median	7–8	10	9	7–8	6	5	3	4	1	2
Position mode	9	10	8	5	6	7	3–4	2	1	3–4

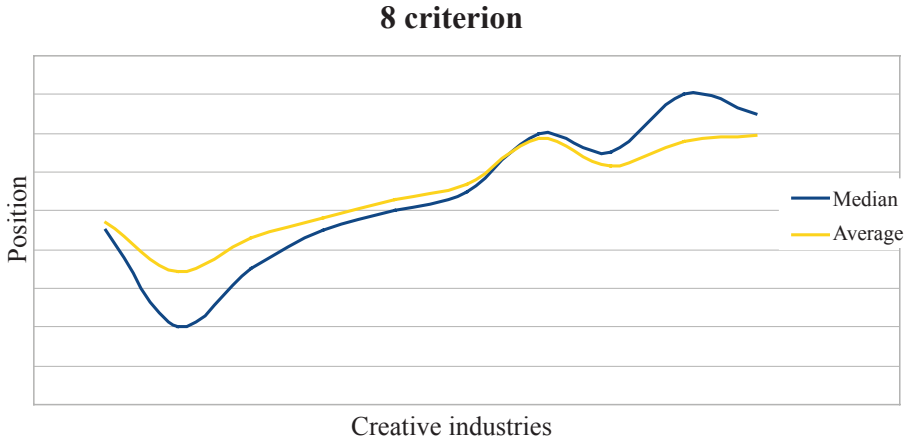


Fig. C.8. Communication criterion median and average position (source: author)

Rasa LEVICKAITĖ

MODELLING OF THE CREATIVE ECONOMY SUSTAINABLE DEVELOPMENT

Doctoral Dissertation

Social Sciences,
Economics (04S)

KŪRYBOS EKONOMIKOS TVARIOSIOS PLĖTROS MODELIAVIMAS

Daktaro disertacija

Socialiniai mokslai,
ekonomika (04S)

2015 03 26. 13 sp. l. Tiražas 20 egz.
Vilniaus Gedimino technikos universiteto
leidykla „Technika“,
Saulėtekio al. 11, 10223 Vilnius,
http://leidykla.vgtu.lt
Spausdino UAB „Ciklonas“,
J. Jasinskio g. 15, 01111 Vilnius

About the author

Rasa Levickaitė (born 6 April 1981, Vilnius) – researcher in creative economy and creative industries, creative initiatives author, tourism industry entrepreneur. Studied at Vilnius 9th Secondary school (now St. Christopher's gymnasium) from 1987 to 1999. Graduated from Vilnius University in 2006 (Master of Science in Sociology, Information society studies), and ISM Management and Economics University and BI Norwegian Business School (Executive master of management) in 2009. Has been a tourism industry entrepreneur since 2000, and an active participant in academic and social activities since 2008, and a doctoral student at Vilnius Gediminas Technical University from 2011–2015, Department of Finance Engineering.

Research interests: creative economy, creative and cultural industries. Has published more than 20 scientific papers. Research visits to the USA (Eastern Illinois University, South University, University of Texas), Denmark (Copenhagen Business School), France (Paris Graduate School of Management), UK (Kingston University), Turkey (Istanbul Aydin University) universities and research centres, visiting lecturer at universities in Portugal, the Netherlands, Germany, Turkey. Makes presentations in international conferences, and prepared the Vilnius city creative industries mapping document (2010) with co-authors. In 2008, was awarded by the Parliament of the Republic of Lithuania for Lithuanian cultural development.

Apie autorę

Rasa Levickaitė (gim. 1981 m. balandžio 6 d. Vilniuje) – kūrybos ekonomikos, kūrybinių industrijų tyrėja, kūrybinių iniciatyvų autorė, turizmo industrijos verslo praktikė. 1987–1999 m. mokėsi Vilniaus IX vidurinėje mokykloje (dabartinė Šv. Kristoforo gimnazija). 2006 m. Vilniaus universitete įgijo informacijos visuomenės studijų specialybės sociologijos magistro kvalifikacinį laipsnį 2009 m. – ISM vadybos ir ekonomikos universitete, *BI Norwegian Business School* vadovų mokyklos vadybos ir verslo administravimo kvalifikacinį magistro laipsnį. Nuo 2000 m. – turizmo industrijos verslo praktikė, nuo 2008 m. – aktyviai dalyvauja akademinėje ir visuomeninėje veikloje 2011–2015 m. Vilniaus Gedimino technikos universiteto Finansų inžinerijos katedros doktorantė.

Mokslinių interesų pagrindinės sritys: kūrybos ekonomika, kūrybinės ir kultūrinės industrijos. Paskelbė daugiau nei 20 mokslinių darbų, stažavosi JAV (*Eastern Illinois University, South University, University of Texas*), Danijos (*Copenhagen Business School*), Prancūzijos (*Paris Graduate School of Managament*), Jungtinės Karalystės (*Kingston University*), Turkijos (*Istambul Aydin University*) universitetuose ir tyrimų centruose, skaitė paskaitas Portugalijos, Olandijos, Vokietijos, Turkijos universitetuose. Pristato pranešimus tarptautinėse mokslo konferencijose, su bendraautoriais yra parengusi Vilniaus m. kūrybinių industrijų žemėlapį (2010 m.). 2008 m. įteiktas Lietuvos Respublikos Seimo Mokslo, švietimo ir kultūros komiteto apdovanojimas už aktyvią veiklą plėtojant Lietuvos kultūros sklaidą.