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Ramojus REIMERIS

DOCTORAL DISSERTATION

MODELING OF CREATIVE CLUSTERS GOVERNANCE UNDER THE SMART SPECIALIZATION

SOCIAL SCIENCES,
MANAGEMENT (03 S)
VILNIUS, 2016

MYKOLO ROMERIO
UNIVERSITETAS

MYKOLAS ROMERIS UNIVERSITY

Ramojus Reimeris

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MYKOLO ROMERIO UNIVERSITETAS

Ramojus Reimeris

KŪRYBINIŲ KLASTERIŲ VALDYMO MODELIAVIMAS SUMANIOS SPECIALIZACIJOS SĄLYGOMIS

Daktaro disertacija
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DEDICATION

This Thesis is dedicated to my wife, Rasa Levickaitė, who has been a constant source of support and encouragement during the years it took to prepare and finish doctoral studies.

I also express gratitude for all my colleagues at MOSTA (Research and Higher education monitoring and analysis centre) for support.

GLOSSARY OF TERMS

Cluster – geographical concentrations of inter-connected enterprises and associated institutions that face common challenges and opportunities (UNIDO, 2013).

Cluster policy – policies to support clusters with the purpose to strengthen a particular regional economy, and thus the national economy (OECD, 2010).

Cluster managing (management) organization – an official body performing the role of the cluster management and representation. According to the Ministry of Economy of Republic of Lithuania, this organization responsible for administration, development of internal and external cluster activities, representing the interests of the cluster and directly involved in the value chain of the cluster (Ministry of Economy, 2014).

Creative industries are those industries that use culture as an input and have a cultural dimension, although their outputs are mainly functional. They include architecture and design, which integrate creative elements into wider processes, as well as subsectors such as graphic design, fashion design or advertising (EC, 2011).

Creative and cultural industries policy – policies to support and shape the sector of creative and cultural industries, a general framework for the government's investment into the art.

Creative economy – economy based on ideas rather than physical capital and created on the basis of information and communication technologies (Howkins, 2007).

Creative society – foundation of the creative economy embedded to the place where it exists. It is organized in non-hierarchical form and opts for the exclusivity, with individual approach to the creation and specific roots in the education. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits.

Ecosystem (of creative and cultural industries sector) – economic community consisting of interacting organizations and individuals, capable of identifying, creating and absorbing resources.

Entrepreneurial discovery process – search for the innovation opportunities within the selected domain, applying the entrepreneurial search (McCann, Ortega-Argiles, 2013).

Governance – the exercise of economic, political, and administrative authority to manage a country's affairs at all levels. It comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences (The World Bank, 2016).

Information society – a specific form of social organization in which information generation, processing, and transmission are transformed into the fundamental sources of productivity and power (Castels, 1996).

Innovation policy – a specific actions by public authorities to promote development of the innovation system and aimed at creation of new technologies and innovation. Innovation policy amalgamated from science and technology policy with industrial policy.

Knowledge society – society with an economy in which knowledge is acquired, created, disseminated and applied to enhance economic and social development (GESCI, 2016).

Knowledge spillover - knowledge traveling among firms of different sectors to facilitate innovation and growth (Jacobs, 1960).

Regional innovation policy – an innovation policy tailored to meet the specific needs of a particular region.

Value chain – a set of activities that a firm operating in a specific industry performs in order to deliver a valuable product or service for the market (Porter, 1985).

Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness.

ABBREVIATIONS

CCI – Creative and cultural industries

EC – European Commission

EU – European Union

ESIF – European structural investment funds

FDI – foreign direct investment

GDP – gross domestic product

ICT – information and communication technologies

NUTS - nomenclature of territorial units for statistics

OECD – organization for economic cooperation and development

R&D – research and development

RIS3 – research and innovation strategy (third generation), referred to Smart specialization

S3 – Smart specialization strategy

UNCTAD – United Nations conference on trade and development

SME – small medium enterprise

INTRODUCTION

Relevance of the research. Creativity has penetrated every aspect of the contemporary society, encompassing all activities, from the manufacturing to consummation of products and services, obliterating boundaries between work and leisure, creation and consumption. Moreover, the contemporary society, better established under the widespread label of Knowledge society is in a transition state to being labeled as Creative society. Emergence of the new form and quality of the society comes with the new forms of organization of economic activities, new forms of economical entities and relations between them, new forms of organization of labor and most importantly – new models of governance. In the presence of the new society – creative society, the appropriate attention must be given to the clusters, or particularly creative clusters, and their governance as the instrument of economical organization of creative society in European Union (EU) and the rest of the world.

Clusters are established and widely applied topic in the European Union (EC, 2008A; EC, 2010A; EC, 2010B; EC, 2013B) and global economic policy (OECD, 2010; OECD, 2012; OECD, 2014). It can be assumed that roughly 38% of all European employees work in enterprises that are part of the cluster sector (Jankowska, Pietrzykowski, 2013). The presence of clusters is related with stronger economic outcomes of the region (Ketels, Protsi, 2013). The firms in the clusters get better access to qualified workforce, an ability to pursue collaborative services and possibility of knowledge spillover effects. The same positive economic effects can be observed in the clustering of entities in the creative and cultural sector. The cluster of creative and cultural industries (CCI) - creative cluster is a type of the clusters, both similar and at the same time different compared to a regular version of industrial cluster. Creative clusters are different from their industrial clusters counterparts mainly in the sense of social connection to the location it is established at. The creative cluster can consist of vividly different actors as non-profit organizations, cultural mission institutions, art places, entrepreneurs, individual artists and knowledge institutions and etc. that all are mutually interconnected and participate in the value chain or ecosystem. CCI and cluster agenda are identified as a priority in at least 5 thematic objectives of 2014 – 2020 EU Cohesion policy (EC, 2010; European Agenda for Culture, 2012):

1. *Thematic Objective 1. RTD & Innovation*: Capacity building for the exploitation of new ideas: support for clusters, partnership, infrastructures, business advisory services, also for creative hubs and creative and cultural industries;
2. *Thematic Objective 3. Competitiveness of SMEs:* development of SMEs in emerging areas such as CCIs, new forms of tourism;
3. *Thematic Objective 6. Environment & resources*: diversification of rural & urban economies by protecting cultural heritage; rehabilitation of cultural infrastructure (integrated urban development projects);
4. *Thematic Objective 9. Social inclusion*: promotion of intercultural activities;

5. *Thematic Objective 10. Investing in Education, Skills and Lifelong Learning*: promotion of creative skills and creativity.

Clusters should be understood as a tool of economic organization of creative society while the establishment of such clusters – as a goal of planned and executed governance. While CCI produce services and goods that have a creative content and high added value, therefore they are positioned at the top end of the market and tend to push to the market technological innovations that are changing every aspect of our life (Cooke, Propris, 2011), it is important to have the appropriate governance models for clustering of the CCI to pursue the positive effects of spatial agglomeration. In the presence of globalization and increasing competition among countries, regions and cities, CCI are gaining greater attention as a catalyst for economic development, especially when creativity is a limitless resource (Markova, 2014).

Creative clusters, as a EU priority, illustrate the importance of clustering of the CCI to empower the creative potential of the society. EU Member states carry out various policy interventions for CCI development in order to promote the favorable conditions for the emergence and growth of the creative clusters. However, due to the specifics of CCI, the governance of creative clusters is different from the established cluster policy approach and requires new ways of governance knowledge. Moreover, the recent change in the strategic approach to the innovation and economic development in the regional policy context – the appearance of Smart specialization concept, requires rethinking existing governance practices and their application to CCI. The term of Smart Specialization recently re-emerged in the context of the new regional innovation strategy and was introduced as *ex-ante* conditionality for all the regions in order to use the ESIF for R&D and innovation. Smart Specialization is a key action in the 'Innovation Union' flagship initiative of the Europe 2020 agenda for smart, sustainable and inclusive growth (Panorama Inforegio, 2012). In general, a specialization is a feature that gives an individual belonging to a group. In the organizational context specialization is a mean to achieve greater efficiency (Roman et al., 2013). From the economical point of view – specialization is nothing new and always affected the skills and abilities of the regional workforce. Specialization developed out of the natural human tendency to barter and exchange (Smith, 1776). Smart specialization seeks for the structural evolution of the whole region economy, from the declining activities to the promising prospects (Foray et al., 2012A). The spatial Smart specialization argument employs the concept of a domain and argues that the entrepreneurs will search out the innovation opportunities within the selected domain applying the entrepreneurial search or entrepreneurial discovery process (McCann, Ortega-Argiles, 2013). Limited resources for innovation policy call for a focused attention on excellence-based approaches to R&D (Meissner et al., 2013). As there is agreement about the positive effects of clusters and creative clusters to the regional economy, currently researchers pay little attention to the modeling and governance possibilities of creative clusters under the Smart specialization conditions.

The implementation of Smart specialization started with the new programming period of 2014-2020 and there is no historical evidence of success of its application yet. In the

presence of the wide agreement of the importance of the CCI and the creative clusters, the application of Smart specialization concept is an important topic for the scholars and practitioners in this matter. Moreover, Smart specialization is the function to find regional uniqueness and it should be used to identify and empower the potential of creative societ.

The level of scientific problem exploration. The review of recent literature on broad field of clusters and its relations with other economic, social, political and etc. fields of science shows that scholars are particularly interested in the topic of *the effects of clusters for regional development* (Gallardo, Stich, 2013; Dudian, 2011; Ketels, 2013; Ketels, Protsi, 2013; Torre, Wallet, 2014; Varga et al., 2014; Vaz et al., 2014; Zenka et al., 2014), *the effects of the clusters on the networks of industry* (Anderssen, 2004; Bathelt, Li, 2014; Dalmoro, 2013; Leick, 2013; Ter Wal, 2013), *with what external actors do members of clusters cooperate* (Eigenhuller et al., 2013; Giuliani, 2013; Kuah, 2002; Lorenzen, Mudambi, 2013), *the factors of clusters resilience* (Crespo et al., 2013; Elola et al., 2013; Suire, Vicente, 2014) and *the measures to be taken to support innovation in the clusters* (Jankowska, Pietrzykowski, 2013). The need for understanding *the role of spatial aspect in creative industries* (Clare, 2013; Egeraat et al., 2013; Grandadam et al., 2013; Vaan et al., 2013;) is addressed broadly by various scholars, but there is limited amount of attention to *creative and cultural clusters* (Kong, 2011). The topic of *relation of smart specialization with clusters* (Querejeta, Wilson, 2013; Thissen et al. 2013;) is gaining attention increasingly, mainly due to the European Commission's adoption of Smart specialization as regional innovation strategy. CCI are varied, ranging from large and well-resourced, well-connected conglomerates to small, unorganized and poorly resourced micro entities. The understanding of CCI remains limited due to the following reasons (EC, 2016):

1. Lack of understanding of CCI business models
2. Poor valuation among financial institutions of the intangible assets of CCI
3. Lack of data and statistics
4. Complexity of culture sector business plans and models

The review of the literature reveals, that the question of modeling and governance of creative clusters clearly lacks attention as well as the relation of creative clusters to the Smart specialization concept and strategy. Creative clusters, as the special type of clusters have a rather fragmentally explored and unique perspective to be managed according to the presence of new form of the society and regional specialization. The emergence of Smart specialization, which can shape the cluster and its environment by combining the new elements of regional uniqueness, incorporates more components beyond understanding of economical specialization.

Goal of the Thesis is to create a governance model for Lithuanian creative clusters under the smart specialization conditions.

Objectives of the thesis. As the topic of creative clusters and their connection to Smart specialization is studied fragmentally, the following objectives were formulated accordingly:

1. To investigate theoretical understanding of Smart specialization and propose possible extensions;

2. To describe theoretical understanding of creative society and define main features;
3. To investigate theoretical understanding of clusters, to define creative clusters and their governance;
4. To develop a conceptual framework for creative clusters governance under the Smart specialization conditions;
5. To evaluate the proportion of jobs and firms in the creative clusters and share of CCI in the European Union at the regional level (NUTS2) and analyze relevant governance practice in the selected regions;
6. To analyze the officially registered Lithuanian creative clusters;
7. To build the model for governance of Lithuanian creative clusters under the Smart specialization conditions;
8. To provide recommendations for implementation of the model.

Methodological provisions. The research methodology is qualitative, except for the evaluation of the proportion of jobs, firms and share of CCI in the European Union at the regional level (NUTS2). The first part is based on the review of the literature, while empirical part is based on the case study and statistical analysis. The research questions with the methods of analysis and sources of data used are presented in the table No 1.

Table 1. Research questions of the thesis

Research questions	Source of data	Method of analysis
1. What is the understanding of Smart specialization and what are possible theoretical and practical extensions?	Scientific literature	Literature analysis, structural analysis, synthesis
2. What is the understanding of creative society and what features does it have?	Scientific literature	Literature analysis, structural analysis, synthesis
3. What is the understanding of creative clusters and what are their governance features?	Scientific literature	Literature analysis, structural analysis, synthesis
4. What is the proportion of jobs and firms in creative clusters and what is the share of CCI in the European Union at the NUTS2 regional level?	Statistical data	Statistical analysis
5. What is the relevant practice of governance of creative clusters in the selected regions?	Scientific literature, reviews, strategic documents	Literature analysis, case study, content analysis, synthesis
6. How should creative clusters be governed?	Results from research questions 1, 2, 3, 4 and 5	Synthesis, modeling
7. What is current situation of the official Lithuanian creative clusters?	Cluster management organizations	Semi-structured interview, case study

Research questions	Source of data	Method of analysis
8. How should creative clusters be governed ensuring development under the smart specialization conditions?	Results from research questions 6 and 7	Synthesis, modeling

Source: created by author.

Limitations. The research of the Smart specialization currently is theory based, as there is no practical evidence about implementation yet. Analysis of the EU creative regions was based on the available documents, presented in English (with the exception for the Lithuania, as part of the documents were analyzed in Lithuanian language). Part of the documents could be not analyzed due to the unavailability in English language. The empirical research methodology is based on the availability of data. One of the main problems for the identification of clusters of creative industries in Europe is the limitation of data (Domenech et al., 2011). Only the officially registered clusters were analyzed with some empirical limitations (f. e. not every representative of the cluster has participated in the interview). This approach does not include the non-official creative clusters in the scope of the research. The limitations of applicability of the results are limited to the different cultural contexts.

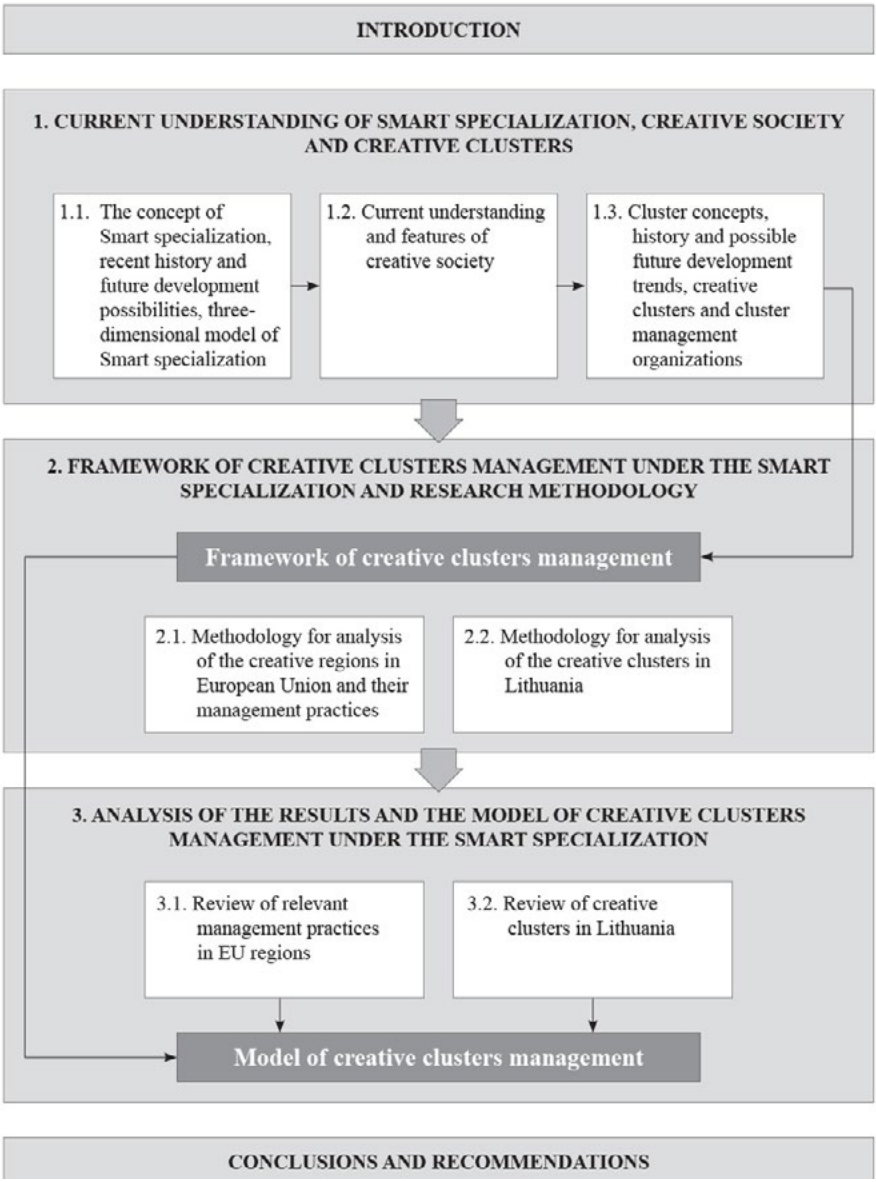
Defended statements

1. Smart Specialization is non-linear, non-industrial, three-dimensional specialization, integrating different region-specific contexts into economically viable activities;
2. Creative society is a postmodern society that is a contemporary understanding of the information and knowledge society concepts. Creative society is foundation of creative economy, specific to the geographical place it is located, based on the usage of technologies, organized in non-hierarchical form and opting for exclusivity;
3. Governance of creative clusters is based on the Smart specialization function, by aligning the potential of creative society for the benefits of creative economy. The usage of this function allows seeking for connectedness and embeddedness among science, business, government and representatives of society in a regionally unique expression;
4. Lithuanian creative clusters are local (not orientated to global markets and connections), project-based organizations with limited connections to the knowledge institutions and mostly dependent on state support;
5. Specialization of Lithuanian creative clusters in the most prominent fields of creative and cultural industries requires setting the priorities to exploit the potential of creative society and creative economy.

Novelty and significance of the thesis:

1. Broadened understanding about the concept of Smart specialization as a governance function of aligning the potential of creative society for the benefits of creative economy;
2. Broadened understanding about the phenomenon of creative society as a foundation of creative economy, embedded to the place where it exists, organized in non-hierarchical form and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits;
3. A comprehensive review about the development of the clusters with particular attention to creative clusters presented;
4. A new methodology was developed and applied to measure the economical intensity of the clusters of creative industries across European Union;
5. Research of Lithuanian creative clusters performed, analyzing the type of cluster, state of development, type of collaboration in the cluster, growth plans, relation with knowledge institution and fields of applicable creative industries;
6. Governance model for creative clusters was developed, specifying the actors, criteria and indicators.

Structure of the Thesis is presented in the Figure No 1. It consists of Introduction, three main parts and conclusion and recommendation part. The figure indicates the steps taken and logic behind the development of the Model of creative clusters governance under the Smart specialization conditions.



Source: created by author

Figure 1. The structure and logic of the Thesis

1. Chapter 1.1. summarizes theoretical background of Smart specialization concept, recent history and future development possibilities, proposes a definition and a three-dimensional model of Smart specialization;
2. Chapter 1.2. summarizes theoretical literature, proposes the possible understanding and features of creative society;
3. Chapter 1.3. is dedicated to the theoretical analysis of cluster concepts, history of cluster development, future development trends, cluster management organizations and cluster policy; creative clusters, their comparison to the standard cluster concept and the most important features;
4. Part 2, based on previous parts develops a governance framework, which is based on theoretical aspects of creative society and Smart specialization.
5. Chapter 2.1 presents the methodology for analysis of the EU NUTS2 level regions and their CCI intensity with relation to the creative clusters and Smart specialization priorities.
6. Chapter 2.2 presents the methodology for the analysis of Lithuanian creative clusters, addressing the governance practice, economic development conditions, regional identity and further development plans.
7. Part 3 proposes the governance model for Lithuanian creative clusters ensuring development under the smart specialization conditions together with the review of the relevant governance practices (Chapter 3.1) and review of the analysis of the Lithuanian clusters (Chapter 3.2);
8. "Conclusions" presents conclusions of the Thesis grouped by the defended statements;
9. "Recommendations" formulates recommendations for the main stakeholders of the Lithuanian creative industries.

Dissemination of results was based on participation in the scientific conferences, publishing scientific articles in peer-reviewed journals and public discussions with stakeholder's groups. The research on Smart specialization was practically applied while developing Lithuanian Smart specialization strategy in 2012 – 2014 (author has coordinated the development of Lithuania Smart specialization strategy in Research and Higher Education Monitoring and Analysis Center under the Ministry of Science and Education).

Scientific publications:

1. Reimeris, R. 2016. New rules, same game. Case of Lithuanian Smart specialization. *European planning studies (accepted).*
2. Augustinaitis, A., Reimeris, R. 2016. Concept of Smart specialization as multi-layered specialization. *International journal of knowledge based development (submitted).*
3. Reimeris, R. 2016. Theoretical features of the Creative society. *Creativity studies* Vol 9(1) *(in press).*
4. Reimeris, R. 2015. Smart Specialisation: A Look Further, European Structural and Investment Funds Journal Vol 3(2015), pp. 194 – 200.

5. Paliokaite, A., Martinaitis, Z., Reimeris, R. 2014. Foresight methods for Smart Specialisation Strategy development in Lithuania. *Technological Forecasting & Social Change.*
6. Reimeris, R. 2013. Preparation of Smart Specialisation Strategy: The Lithuanian Case. *European Structural and Investment Funds Journal* Vol 1(1).
7. Augustinaitis, A., Reimeris, R. 2012. Management of creative centers in the context of triple helix model. *7th International Scientific Conference Business and Management proceedings.*
8. Reimeris, R. 2012. The identity of creative centers: Strategic management and communicational aspects. *Filosofija, Komunikacija* Vol 20(1).
9. Levickaite, R., Reimeris, R. 2011. Pentagon of Creative Economy. Santalka: *Filosofija, Komunikacija* Vol 19(1).

Presentations in scientific conferences:

1. Reimeris, R. Kūrybinės visuomenės ypatybės [Features of creative society]. *Kūrybos visuomenės ir ekonomikos plėtra*, 2014.10.10.
2. Reimeris, R. Sumani specializacija: teorinai aspektai [Smart specialization: theoretical aspects]. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2014.06.12, Vilnius.
3. Reimeris, R. Kūrybinių klasterių valdymas Sumanios specializacijos sąlygomis [Governing creative clusters under Smart specialization]. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2013.06.06, Vilnius.

The further research should be continued on the topic of Smart specialization to supplement the theoretical constructs with the positivistic data from various contexts of implementation. The concept of innovation policy at European Union level will be known as Smart specialization at least until year 2020. Most likely regional specialization and spatial economics will play an important role in the innovation policy after year 2020 as well. In addition, the continuous research of the innovation and society relation is very important to fully understand the emergence and sustainability of regional competences and its application for the regional competitiveness. The emergence of concept of the creative society should be explored in more depth and in various regional dimensions. As the concept of clusters has been the research topic for many scholar, the type of creative clusters still requires more attention and more research, especially in the connection with the innovation policy. Development of the models, which could be applied to strengthen creativity of the society or particular sectors and its conversion to the economic benefits, by any doubts, will remain very important topic in the activities of the policy makers, researchers and practitioners.

1. SMART SPECIALIZATION, CREATIVE SOCIETY AND CREATIVE CLUSTERS

The first part of the Thesis analyzes the main "building blocks" of the creative clusters governance model. Governance in this contexts is understood as the exercise of economic, political, and administrative authority to manage a country's affairs at all levels. It comprises mechanisms, processes, and institutions through which citizens and groups articulate their interests, exercise their legal rights, meet their obligations, and mediate their differences (The World Bank, 2016). Smart specialization should be perceived as a tool for governance, like an invisible hand, performing the necessary arrangements. Creative society and creative economy are the global and local environments, with various economic expression forms from which the main attention is given to the clusters. The task of the governance is to affect different parts of the environment and assemble it in the preferred ways for serving the accomplishment of planned goals. Smart specialization is a particular function or a mechanism of governance that currently is underexplored, which should find the best arrangement of regional potential for the benefits of the clusters and creative clusters.

The term of Smart Specialization recently re-emerged in the context of the new regional innovation strategy concept of the European Union member countries. The widespread appearance and the discussions that followed were connected with the new Programming period of 2013-2020 and Smart Specialization was introduced as ex-*ante* conditionality for all the regions in order to use the European Structural funds support for R&D and innovation. Smart Specialization is a key action in the 'Innovation Union' flagship initiative of the Europe 2020 agenda for smart, sustainable and inclusive growth (Panorama Inforegio, 2012). Another strongly supported opinion is that the Smart specialization approach was developed to deal with the R&D gap between Europe and some key trading partners (Camagni, Capello, 2013). Nevertheless, according to the Dominique Foray, consultant to the Organization for Economic Co-operation and Development (OEDC) and EC "The idea had been around for years, even decades" (Foray et al., 2012A).

The present concept and administrative understanding of Smart specialization is built on many previous political concepts. But it does provide a major twist in terms of contemporary policy thinking (McCann, Ortega-Argiles, 2013). Specialization should be understood not only as a final result of various designed and coordinated activities, but also as the activities of developing specialization, being on the way to identifying the specialization as a process leading to the final result, what is also a result itself.

The changing capacity of the society and emergence of the creative society raises the constant need to rethink and redesign the policies affecting socioeconomic conditions. The possibility of particular specialization in the R&D and innovation is crucial for regions and countries that are not the leaders in any of the major science or technology domains (Foray et al., 2009). It might be said that it brings "R&D to everybody", because

by no doubt the scientific research, creation and commercialization of the new knowledge will be present in the development agenda of any country. Moreover, this concept is meant not only to stimulate the invention and creation of the new technologies but also to find the new ways of application of existing inventions. This approach allows pursuing this strategy for the most frontier regions and for the ones that are less advanced (*ibid*).

It should be taken into the account that "there are certain contextual aspects of the European Union historical, geographical, institutional and legal nature, which fundamentally shape and influence the European Union policy options and architecture" (McCann, Ortega-Argiles, 2012). The 2007-2013 Programming period brought some valuable findings and lessons. For example, the geography of innovation in Europe is diverse and "much more complex than simple core-periphery model" (Capello, 2013), dependent on different regional context conditions. The regions have not only different internal innovation potential, but different level of connectivity in the macro regional context, what is the core of Smart Specialization strategy (*ibid*). Another European feature is the regional growth patterns. Compared to the United States, where the share of the city population is much higher and the city input to the economy is much larger (McCann, Ortega-Argiles, 2012), the regions' rural parts contribution to growth is much more substantial. The previous policy design experience shows that European countries often considered innovation policy that ensures "one fits all solutions" in order to build the economic strength of less advantaged region (Meissner et al., 2013). The same approach and policy was used to target rather different regions with different potential in different context. Equally important is the choice of approach behind the aim of the applied policy. Good policy should address the market failures rather than the particular sectors (Foray et al., 2012A), what was a scarce choice. The 2008-2010 crisis "left European regions with an exposed coordination failure in systems of innovation" (*ibid*) and revealed large asymmetries among the regions, what clearly demanded a new approach for the regional innovation policy.

1.1. Review and possible extensions of Smart Specialization concept

Original Smart Specialization concept derives from the work of EC advisory expert panel report (also called The Barca report). The initial aim of the report was to advice on regional policy but not on science and technology policy. The concept of Smart Specialization is based on the principle that economic growth relies on innovation, entrepreneurship and risk-taking while the science and technology policy should foster such conditions for risk-taking and entrepreneurial processes (McCann, Ortega-Argiles, 2012). According to the report *The Union and Cohesion Policy – Thoughts for Tomorrow* (Barca, 2009) the Smart Specialization, as a Regional innovation policy should empower the national authorities to operate within a set of binding agreements to transparently set the clear policy objectives and to face the sanctions related to non-performance. On the other hand, the authorities should be given the great amount of freedom and autonomy to tailor their policies for the specific contexts and challenges (McCann, Ortega-Argiles, 2012). One of the components is innovation and experimentation to promote policy learning.

The main goals of Smart specialization as Camagni and Capello (2013) had listed are:

- Possibility to achieve the polarization and distribution of research activities in space;
- Achieve a better use of the existing regional potential;
- Develop a cumulative learning of advanced R&D activities;
- Creation of synergic effects of technology adoption and application.

Below are described the most important features of Smart Specialization concept. They can be grouped into four domains: governance, entrepreneurial discovery, limited number of themes and regional dimension.

Governance. Smart Specialization approach emphasizes creating the right governance mechanisms to identify and cultivate growth opportunities, to undertake collaborative processes of planning and implementation (McCann, Ortega-Argiles, 2012). Smart Specialization is a process that brings together various actors as public, private and civil society sectors for collaborative activities. Governance of the Smart Specialization as a process emphasizes autonomy for greater stakeholder engagement. As the Smart Specialization concept requires the policy makers to develop policies that are built on the existing assets of the region rather than copying the strategies from the successful regions (*ibid*) the design and the governance of the process is a crucial factor for the possible outcomes.

Entrepreneurial discovery. Smart Specialization is fundamentally based on the process of entrepreneurial discovery (Foray et al., 2012A) and process of self-discovery (McCann, Ortega-Argiles, 2012), what leads to the identification and distribution of opportunities for technological (and non-technological) improvements, that could be possibly embodied in a range of sectors, activities and occupations (*ibid*). Austrian Federal Ministry of Science and Research (2012) complements the concept that Smart specialization is an entrepreneurial process of discovery, identifying where a region can benefit from specializing in a particular area of science and technology. The key element of Smart Specialization – the process of entrepreneurial discovery could be understood as bi-directional process (bottom up and down) in which the main stakeholders and factors of innovation as universities and research centers, private and public enterprises are expected to identify the most promising areas of specialization (Sandu, 2012). According to Foray et al. (2009) Smart specialization discovery should not be based on the f. e. foresight exercise ordered from a consultancy company. It should be carried out as an entrepreneurial process of discovery or a learning process to reveal what country or a region does best in the field of science and technology.

Limited number of themes. Specialization itself is an answer to avoid the dissipation of limited resources in order to reveal the advantages that can boost up the economy of a region or country through knowledge creation or exploitation (Sandu, 2012). Smart specialization logic emphasizes prioritization and concentration of resources around key themes from the competing alternatives while explicitly avoiding automatically prioritizing the high-tech sectors. (McCann, Ortega-Argiles, 2013). According to Foray et al. (2012A), regions can't do everything in science, technology and innovation and they need to promote what should make their regional knowledge unique and superior. However,

there should be orientation to the creation and/or application of new knowledge. Smart Specialization is not about the selection of particular sectors as fisheries and tourism. It's about how the R&I that can contribute to the fisheries and tourism (*ibid*). The process itself should be about bringing together and combining rather than excluding. The aim of the limited number of selected themes is not only about the better use of the European Union Structural Funds by investing in priority areas, but to ensure a certain synergy between the different policies, between national and regional, private and public investments (Sandu, 2012). The limitation of possible specialization is dependent of the social capital, because the regions are able to discover new specialization fields or innovation niches on the basis of present competences and human capital endowment (Camagni, Capello, 2013).

Regional dimension. In the regional perspective Smart Specialization concept highlights the importance of fostering regional embeddedness and exploiting strategic technological diversification of a region's activities (McCann, Ortega-Argiles, 2012) but it does not force all countries and regions to be the innovation leaders, the process of "co-invention of application" or being a "good follower" (Sandu, 2012) is a valid path of the strategy as well. Smart Specialization brings a chance for even less research and innovation intensive regions to capitalize on the specific values and original features of their knowledge base for international competitiveness (*ibid*). Moreover, regions can't only focus on different priorities and strategies to achieve those priorities, but can participate in the different phases of the innovation process pursuing the same priorities with other regions. This emphasizes the aspect of connectedness of the different regions with different specialization and is very important for production of new knowledge and innovation (Capello, 2013). The regional dimension is expressed not only by the special technological diversification, but also by the characteristics of the regions activities, institutions and sectors and geography what should result in the different custom made policies for different regions. Smart Specialization should promote the diversification of the region and is a process of place-based innovation and intraregional and interregional connectivity (McCann, Ortega-Argiles, 2012).

As there is no one universal definition, connecting the most important parts that has been brought forward it is possible to describe the Smart Specialization as a type of innovation policy in the following simple way: *Smart Specialization is a process of governed operation of entrepreneurial discovery to arrive to a limited number of priorities for regional competitiveness.*

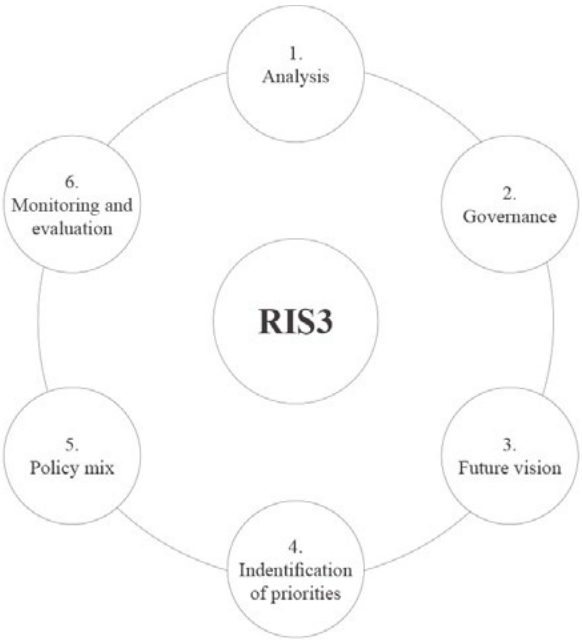
A very simple idea of Smart Specialization implies a very complex process in practice (Foray et al., 2012A). Smart specialization strategy also known in abbreviation RIS3 is the practical application of the smart specialization into the implementable strategy.

The Smart specialization as Regional Innovation strategy approach was chosen by EC for 2014-2020 SF programming period. For all member states (and regions, if applicable) ex-ante conditionality was put forward meaning, that without RIS3 they are not qualified to apply for SF support. S3 Platform, under the DG IPTS prepared a guide (Doranova et al., 2012.) suggesting how to prepare and implement RIS3 "Guide for research and inno-

vation strategies for Smart specialization (RIS3). The guide suggested approaching RIS3 preparation answering following questions:

1. What: Concentrating knowledge resources for economic specialization
2. Why: Learning lessons from the past
3. Who: Putting entrepreneurial knowledge to work
4. How: Setting in motion regional change
5. Where: A role for every region

It has been explained before, that RIS3 has to bring together science, business, various levels of government and society. The process of strategy development becomes a crucial process of harmonization of various interests and still, it has to produce implementable strategy. The guide suggested the 6 steps to produce the RIS3 strategy (Figure 2).



Source: Adapted from Foray et al., 2012B; Doranova et al., 2012.

Figure 2. Steps for preparation of Smart Specialization strategy

The six steps can be taken simultaneously, for example monitoring and evaluation mechanisms can be developed together with policy mix. But it is important to start the process from the analysis and have the priorities identified before development of policy mix. Every of the step has its own questions to be answered as follows (Foray et al., 2012B):

1. *Analysis of the regional context and potential for innovation* (main challenges, barriers and drivers of sustainable growth in the region, existing regional assets, emerging activities for sustainable growth, innovation capacities and existing

knowledge in the region, competitive advantage of the regional industries and SMEs).

2. *Governance: ensuring participation and ownership* (agencies, organizations, companies and other stakeholders involved in designing and promoting specific actions, ways of mobilizing stakeholders, ways of organizing collaborative implementation).
3. *Elaboration of an overall vision for the future of the region* (integration of regional assets, challenges and opportunities into the long-term vision, reflection of smart and sustainable growth, reflection of global tends).
4. *Identification of priorities* (main priority of sustainable growth strategy, key areas to promote innovation in the region, key technological, sectorial and horizontal priorities for investment).
5. *Definition of coherent policy mix, roadmaps and action plan* (strategies, roadmaps, policies and actions to promote the priorities, horizontal, vertical and temporal coherence of the policy mix, balance the demand and supply sides).
6. *Integration of monitoring and evaluation mechanisms* (assessment of the impact and monitoring/evaluation actions, measurement of sustainable and smart growth)

Approach presented in Figure No 2 is based on the logic of strategic management or – at the regional or national level – strategic governance, that is linked with the creation of new value and approach of the participants with the innovative relations (Batty, 2013), leadership, authority, accountability, transparency and stewardship (Queensland Government, 2003) and creation of group values (Richey et al., 2010). It should be implemented as a constant cycle, where the step of monitoring and evaluation (6) feeds into the analysis (1) and the policy correction/adoption follows afterwards.

Recent development of Smart Specialization as innovation policy

In order to better understand the concept and the context of Smart Specialization is it necessary to take a look from a recent (with some exceptions) historical point of view. Lately, during the period of 2010 – 2013 it did receive a lot of attention from the European political perspective due to the new Programming period mainly because many European regions has a weak correlation between the regions R&D capabilities, its training specializations and industrial structure (McCann, Ortega-Argiles, 2013), what is the mismatch in regions specialization. Despite recent intensity, regional specialization or Smart Specialization from the regional policy point of view was occurring naturally and from an economical point of view is nothing new. For the illustration, back in 1776 Adam Smith published a book "Wealth of the nations" which brought one of the key ideas – the economic efficiency is specialization of labor. The original idea was representing idea to diversify tasks and achieve a better productivity through better skills and better task fulfillment within an organization (or a factory at that time). The present day specialization is understood in much broader sense. The existing specialization of Worlds regions or European regions and their connection with the local and global economy does not require a broad explanation, for example Milan (Italy) is the center of fashion industry,

London (United Kingdom) is the world's financial center, Silicon Valley (United States) is the center for new technologies and entrepreneurship (Reimeris, 2012). And there are many more similar examples.

European regional policy dates back to 1970 with the emphasis to favor the weaker regions of the European Economic Community with the financial mechanisms to adjust to the Single market environment (McCann, Ortega-Argiles, 2012). The basis of the present day Cohesion Policy, largest development policy in the world, with a single legal basis established by Lisbon Treaty, was laid in 1988 by the European Commission. This policy set a traditional top down regional policy approach that followed later on for many years. The regions with the less than 75% of European Union average GDP per capita were considered as structurally backward regions and were primary the objective. Focus on the decline of the industry or high unemployment was also taken into consideration. Briefly summing up, with that came the seven years programming period, emphasis on careful planning of projects, partnership between member states and European Union, compatibility of the policies at European Union and national levels, concentration of resources, coordination of different policy instruments, focus on generating "additionality", which should be understood as development of the outcomes that would not be possible without the Cohesion Policy intervention (*ibid*). After that followed many concepts and policies, all with the aim of building and maintaining the capabilities of market economies – to generate innovation (Meissner et al, 2013).

In 2000 European Union set itself the goal of becoming the most competitive and dynamic knowledge-based economy in the world (Capello, 2013). A report from EU Directorate-General for Research "Knowledge for growth. European issues and policy challenges" stated that while moving into the knowledge economy "a critical issue for most regions in Europe is therefore to succeed in particularizing their knowledge base; achieving what we call a "smart specialization" process" (EC, 2008B). Moreover, the changes like increasing international and interregional labor migration, eastern expansion of the EU, increasing global competition and increasing R&D gap compared to the Asia and United States had strong effects on the logic, architecture and implementation of the new policy design.

Another report "The Union and Cohesion Policy – Thoughts for Tomorrow" (Barca, 2009) was the result of discussions on the new policy what argued for a place based rather than a space-blind approach. This report accumulated concepts from earlier publications from World Bank, such as "Conditionality revisited: concepts, experiences and lessons", "Local economic development: A primer. Developing and implementing local economic development strategies and action plans", reports from Organization for economic cooperation and development (OECD) as "New forms of governance for economic development", "Building competitive regions: Strategies and governance", "Linking regions and central governments: Contracts for regional development" and "Making local strategies work: building the evidence base" (McCann, Ortega-Argiles, 2012). This report proposed "the shift from top-down policy, focused on sectors to an appropriate for the context multilevel governance, which is built on local knowledge

and mobilizes key actors circumventing the monopoly power of local elite" (*ibid*). It criticized the then present policy for lack of orientation to the results, lack of monitoring and evaluation schemes and evidence based choices.

The final shift was initiated by official EU document "Regional policy contributing to smart growth in Europe" (2010B) that was the first move into the direction of bringing forward the need to identify sectors and technological domains on which regional policies should promote local innovation and specialization (Camagni, Capello, 2013). A fundamental rethinking of the policy was initiated in response to challenges as globalization, sustainability, social inclusion, theoretical and empirical advances in regional economics and economic geography (McCann, Ortega-Argiles, 2012). The geographical element of spatial economics was brought to the front. The previously described concept and proposals were taken into the account designing the new strategy for the Europe. The European Commission adopted the 2014-2020 programming period strategy for smart, sustainable and inclusive growth - Europe2020 on 3rd of March 2010. The strategy was proposed as the answer to the recent crisis and had a strong focus on the issues like globalization, pressure on resources, ageing (EC, 2010) and to the spatial argument of intervention.

The Smart specialization concept evolved as a response to the challenges associated with innovation policy design in the European context and is a major driving force behind Innovation Union programme and European Union Cohesion policy reforms (McCann, Ortega-Argiles, 2013). The new approach on the policy formation is focusing on helping the local stakeholders to identify what needs to be done rather than saying what needs to be done and help governments build policies on the theoretical models that should solve practical problems.

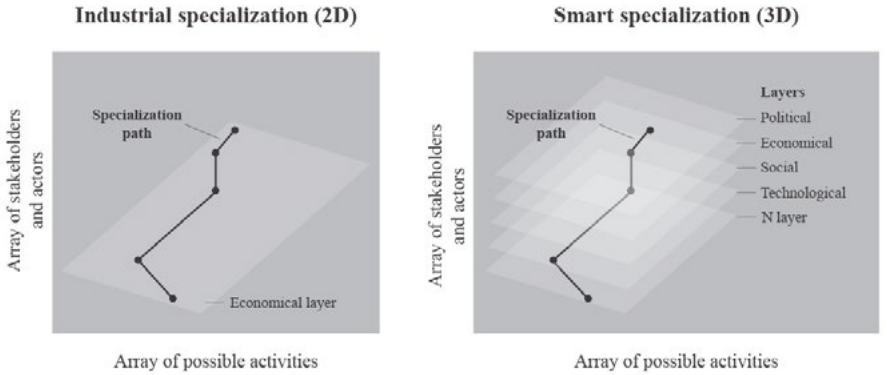
Concept of three-dimensional specialization

The following chapter presents the differences between industrial specialization and smart specialization. In general, Smart specialization is a process of bringing forward and connecting the potential of a region or a country. Smart specialization also is a result of this process that reveals the competitive advantages and future development directions of the region. If the process is inclusive and widespread enough, it might activate the substantial part of the available actors within the region or a country. In this case the potential that is present, competitive advantages and future development directions become the representation of the involved actors as a whole. It also becomes the organizational mechanism empowering all actors to focus on the future development directions. From this perspective the Smart specialization might be seen as a self-organizational form of the society.

As it was presented in the beginning of this part – current understanding and potential application of Smart Specialization is too general to capture all specialties of the particular region or in other way of understanding – it is too "flat". Moreover, the limited number of themes resembles the industrial specialization approach. Industrial specialization should be understood as comparative advantage of the division of labor and geographic concentration of production (Diamond, Simon, 1990). Industrial specialization is based on the systemic logic, what means that different regions use the same patterns and logic of specialization. It might be described as the same approach to the specializa-

tion possibility, choosing the best-established and promising sector and bringing other actors around it in the economic context. Regional innovation paths strongly depend on territorial elements such as society, its history, culture and learning processes (Camagni, Capello, 2013). Smart specialization unites different contexts in a unique, region-specific way. This type of specialization combines various social domains or layers that have been considered separate and non-overlapping in an economical way, such as science, culture, governance, history of the region and etc. Such at a glance different and contextual patterns of specialization, enables to seek for a new dimension of regional competitiveness. Contextual resources are often considered as the most important factors of the (information) society development (Pruulmann-Vengerfeldt, 2006). According to Layder (1997), the contextual resources represent the power, domination, discourses and practices that underlie society – the overall legislative and economical context.

Industrial specialization (two dimensional specialization) can be understood as a selected option out of many available options feasible in the economical context, as shown in Figure 3. In this way it represents a best possible path for the respective geographical location (may it be city, region, country, cross-country region etc.). This path represents the best possible connection among different actors. Also, it represents the connection of these actors with the selected activities (or production of goods and services). It can be attributed as two dimensional, because the specialization path is concerned only in the economical context ("economical layer" in the figure).



Source: Created by author

Figure 3. Comparison of industrial specialization logic and Smart specialization logic

Smart specialization is based on three-dimensional organizational logic. The path of smart specialization connects respective actors and stakeholders in the array of possible activities combining together different layers of social reality (Figure 3). Compared to the flat industrial specialization model (2D), Smart specialization aims to provide specialization path for more than only one layer, hence it is not limited only to the economical specialization of the region. This understanding of specialization adds another

dimension, consisting of possible layers (political, economic, social, technological and etc.). The depicted layers (Figure No 3) are not the final list of possible layers, as at the moment future layers and their importance are unknown. For example, another layers of ecology, culture or any other important aspect of social reality could be added still maintaining the three-dimensional logic of specialization. The path becomes the unique specialization of the geographical location amplifying the most distinguishing and prominent features. One could argue, that in this instance an economical layer is a combination of all other layers, which is false. Economical layer does contain fractions of other layers, as economics is always influenced by politics, technology and other layers, but it does not fully represent them nor does it fully influences the decision making within other layers. Multi-layer view to the smart specialization presupposes the multi-stakeholder and multi-layer governance what is decentralized and de-concentrated and is the core of the creative society. The creative society is also represented in the form of Smart specialization by bringing forward the unique combination of the geographic specialty. Scholars do agree that Smart specialization emphasizes two key concepts of "embeddedness" and "connectedness" (Camagni, Capello, 2013), however the proposed three-dimensional view of Smart specialization deepens and broadens understanding of these concepts. Both concepts represent the scope and reach of the priorities. Connectedness should be understood as the scope (or quantity) of the participating actors (science, business, government, society) in the implementation of Smart specialization. While embeddedness should be understood as the reach of the priorities within particular sectors, meaning what part of the sector can be attracted to the implementation of the Smart specialization. Together the concepts represent the integrity of the priorities. Therefore, the updated or a conceptually upgraded definition of Smart specialization can be brought forward: *Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness.*

The future perspectives of Smart specialization

As the concept of Smart Specialization seems to be acknowledged by the policy makers across Europe, it seems that practical application is running ahead of theory and many tools and instruments to support this concept are more like a wish lists than empirical facts (Foray et al., 2012A). There is a tendency that the specialization of regions will increase with the greater emphasis on the human resources and talent. Rather than pursuing "one size fits all" skills training policies or always prioritizing high-tech sectors over others the governments should foster human capital for the region's traditional industries (McCann, Ortega-Argiles, 2013).

In 2013 EC funded a foresight project "Forward visions on the European Research Area (VERA)" carried out by the consortium led by Fraunhofer Institute for Systems and Innovation Research. The foresight was based on the political idea of better coordination of national research policies at European Union level with the aim of exploiting synergies and building critical masses in research what could lead to innovativeness and competitiveness (Taufer, 2013). VERA project concluded four possible scenarios:

1. Global market coordination for jobs and growth
2. Intergovernmental action for Grand Challenges
3. Public participation for human well-being
4. Integrated expertise for sustainability

The most important for the future context of the Smart specialization is the second one. It could be summarized in the following way: Most of the research and innovation infrastructures are located in highly specialized regional hubs. The organization of public and private research capacities is specialized by themes as an answer to the global challenges (challenges as health protection or climate change). Regions are competitive in specific domains what is a result of effective European level governance. Specialization is based on economical profit from the competitive advantage. Clusters are the important research performers and have a strong influence on setting the regional research priorities. The bottom up forces form new type of organizations, among them specialized in the research for the solutions of the grand challenges (*ibid*).

Generally, Smart specialization is a well-recognized, but differently interpreted concept. As it was adopted as an official EU innovation policy, it guaranteed widespread application of this innovation policy among different EU regions. At the moment the concept of Smart specialization in practice is running ahead of the theory, as the application was spontaneous and based on learning by doing rather than evidence. The concept of specialization is nothing new, but Smart specialization brings in the three dimensional organizational logic that is a new approach to the regional innovation policy. Smart specialization is based on establishing the governance schemes, starting and continuing the entrepreneurial discovery process, selecting limited number of themes and applying it to the regional dimension. The further development of Smart specialization concept will heavily depend on the success of current practice, but there is little doubt that the concept of spatial economics and multi-layer governance approach will be important in the future.

It is important to mention that concept of Smart Specialization is mainly applied to the R&D and innovation policy, hence – the cluster policy, what could be considered as an important and timely process, but in a broader sense – it does not cover the full understanding of this phenomenon. Generally Smart Specialization should not be seen as an artificial tailored or manufactured policy derivative for a region or a country. Therefore, the main point here is that it already exists as a combination of many historical, cultural, political, geographical and etc. circumstances – or as a form of the regional creative society. Beneath the current political or administrative application of this specialization is the goal to unleash R&D and innovation potential within the applicable geographical area.

1.2. Description and features of Creative society

The term "creative society" can be used in the two following ways: in the first case it labels the society as being creative or interchangeably inventive. Although creativity

is just the one of the possible features, likely the most important one, which can be attributed to the contemporary society. In the second case the creative society should be understood as a phenomenon. It is a name of the contemporary society, not limited only to one attribute as being creative, but emphasizing the creativity as state of the society, affecting all other attributes.

At the moment there is no widespread, solid and universal description of the creative society, thought it seems that there is an agreement that the contemporary society can be described not only as creative, but as based on the creativity and exposing new features or new combination of traditional features (Florida, 2005; Howkins, 2007; Kacerauskas, 2014). The better picture of this postmodern form of the society, which is expressing itself by creation and consummation of "constantly something new", could be constructed of clear and rather well established ideas and concepts.

First of all – creative society is a postmodern society, with the essential changes in the production and especially in leisure and entertainment, it could be named a post-creative society (Kacerauskas 2014). Additionally, creative society can be seen as prosperity of the society based on innovation, where everyone's creative potential is exploited. The success is based on the ability to produce more value, but not more products. Technology becomes the distinguishing feature of the society (Webster, 2009). Creativity is revealed not only in product and process technology, but also in cultural and artistic pursuits (The World Bank, 2013). Technology, science and art becomes nearly of the same importance. Moreover - "art is what helps make a society from an economy" (Australian Government, 2013). Creative society is based on innovation, competitiveness and mostly important - exclusivity. According to a future study published by OECD (Stevens et al., 2000), there is a good chance (from the year 2000 perspective) that societal transformations will bring forward "uniqueness and creativity of a knowledge economy and society" in an integrated world. Through uniqueness or exclusivity as way of being special and different from others, the creative society is based on specialization. Creative society involves all its potential innovators in the technological, service and social innovation process, including every citizen (EC, 2013A) and "the roots of creative society are in the basic education" (Morris, 2006). Morris believes that creative students lead richer lives and make a great contribution to the society in the future. Galambos in his book "Creative society" (2012) argues that modern American society is based on education of professionals, who over the years "didn't entirely produce new ideas but instead negotiated the compromises that enabled the society to move on to the next big problem. <…> the professionals came to play a central role in all of the country's crisis". As Haren (2010) describes it, the creative society is "the fast growing group of well-educated people who can wrestle with creative problems". The present creative class of creative society is based on the professionalism delivered by education.

From the economical perspective – models of economy signify the status of the society. For example, the knowledge economy is based on the knowledge society and knowledge management. The same logic represents creative society as the foundation

of the creative economy and creative (and cultural) industries. The bond is bidirectional, because movement towards more creative economy and more creative society requires a better segregation of CCI from other industries (HKU, 2010). Creative society is transforming the place where is exists, representing the element of "embeddedness" or connectedness with the geographical place of its location. "The new economy and its "seminomadic workforce" will require "new places to gather, work, live, and interact" (Coonerty, 2014). Moreover, the governments around the world are in constant competition to create a better environment in order attract the talented workers – the workers of the creative economy (Yigitcanlar, 2009). The economic growth is frequently seen as based on the creativity, on the new recipes and new combination of local capital and via innovation centers (Breznitz and Noonan, 2013).

Another pillar of the creative society is the concept of the creative workers. Florida (2002) introduced a concept of creative class – a group of professionals in the fields from science to art with the aim to create new ideas, technologies and content, which has a high input to the economic, social and cultural dynamics of the region or the whole country. In this theory creative class is embedded in the city as the main interconnected work and leisure space (Florida, 2002). It does not matter from which sector the workers are - it can be finance, literature, computer programming and etc. – the creativity in their functions is what matters. The creative class is based on the individualism, meritocracy, diversity and openness (Levickaite, Reimeris, 2011) or in other terms – technology, talent and tolerance also known as 3T model (Florida, 2005). As Peters (2003) sees it – the creative society is when each person moves from project to project and from one gig to another what represents the fast pace and diversity of constant innovation. Feld (2012) uses the term "startup communities" to describe the different innovation capacities of the communities. Startup communities are the energy, activity and innovation that occur in small geographic regions, led by entrepreneurs and involving anyone who wants to participate. Creativity is what makes people, firms and regions unique (Sleuwaegen, Boiardi, 2014). One of the main features of the creative society is that it's not a hierarchical, but a multi-stakeholder holistic society with many centers of influence that can be located at the bottom or at the top of the hierarchical pyramid.

Technology is the biggest enabler of creative society. As Schiller (2014) argues the "making" is going mainstream. People who would never consider themselves to be traditionally 'creative' are starting to develop various skills like coding, design, art making and etc. and, being the part of creative society, they are coming up with useful and practical applications of that. Creative society is represented by individual workers, with a unique opportunity to align economic and human development in a new way, creating "the possibility of making a living while also making a life." (Coonerty, 2014).

Creative society is an expansion or evolution of information and knowledge society. As knowledge society does not contradict the information society and in opposite, it complements and deepens some of the common attributes, creative society is not a contradiction to the both mentioned above. It should be understood as a continuity

of development. Two main dimensions illustrating the change that is taking place are widespread of technology and its application for creativity and specialization (Figure 4).

Source: Created by author

Figure 4. Progression of information society

The widespread of technology dimension describes the constant application of the technologies in the everyway of the society. As for information society the technology or mainly information and communication technologies were the main enabler, the knowledge society was applying technologies in a more mature way. Technologies began to change not only the way of communication and organization of work, but the productivity became rather dependent of the technologies. The culture of the society was affected as well. The next step of the widespread technological application is penetration of it to every aspect of life, with the dependence much broader than just the work or communication. Another dimension hence specialization, describes the focus of the term attributed to the society. Information society is a global non-specialized phenomenon, with no physical boundaries, just the ones impelled by the usage of information and communication technologies. Specialization of the knowledge society very much depends on the context or in other words on the context where the knowledge is applied. Creative society is the most place sensitive and place specific phenomenon of all three discussed, as there is no equally creative communities or regions with equal conditions for creativity. The most important and distinguishing features of the creative society are provided in a Table 2.

Table 2. Features of the Creative society

Features	Description
Non hierarchical	The structure of the society is based on the networks of multiple stakeholders in various levels which makes the creative society nonhierarchical and inclusive. The levels or certain type of hierarchy still exists, but the influence of stakeholder is created not by the level it represents.
Individual approach to the creation	The smallest creative unit of this society in the economical perspective is every citizen that can be active and self-substantial influencer for the other members. The forms of possible creative activity are very different and exploited according to individual knowledge, environment and skills.
Exclusivity	Creative society is empowered by exclusivity and constant strive for creating and consuming something new, whether it is a product or service, concept or idea. The creation, as well as consummation of something new and different is a way for exclusivity, distinguishing individual members and larger groups of society from others.
Foundation of the creative economy	Similarly, as knowledge economy is based on knowledge society, the foundation of economy of creative products and services lies in the human capital and social capital, which together stands for the creative society.
Embedded to the place where it exists	Creative society is connected and specialized according to the place where it is situated, reflecting political, social, economic, technological and etc. features of the location. Creative society is exercising and amplifying the regional uniqueness or specialization.
Roots in the education	Education should be understood as the main enabler for the creativity of the society, providing not only the required knowledge, but also skills and networks. The differences in mass education systems and the availability of lifelong learning makes the societies diverse and specialized.
Based on technology	Technology brings new ways of communication, new possibilities for activity with economic benefits, social engagement, creation and dissemination of creative content. Technology shapes the society from the emergence of information society and is the integral part of it. Creative society and its expression is based on the technology, but relation here is mutual – the progress of technology is very much dependent on the creative society as it finds new ways and meanings for the technological advancement.

Source: Created by author

In summary, the creative society is foundation of the creative economy embedded to the place where it exists. It is organized in non-hierarchical form and opts for the exclusivity, with individual approach to the creation and specific roots in the education. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits.

Wuwei (2011) argues another view on the creative society and its connection to the creative economy and creative industries. According to Wuwei (2011) the creative industries represent the input of art and culture to the economy, creative economy represents the creative spillovers in other sectors (not in the creative industries sectors) and creative society represents much wider effects as creative communities in creative cities, various interactions between creative groups and geographical areas. The differences and evolution of creative industries are provided in the Table 3.

Table 3. Evolution of creative industries

Phase	Creative industries	Creative economy	Creative society
Factor	Culture, art, creativity	Intellectual property; Symbolic value	Citizen's right; Consumer's recognition
Form	Cultural industry; Creative clusters	Creativity as intermediate input factors; Build up on creative industrial chain	Creative city; Creative class; Creative community
Feature	Creative output	Creative input	Creative spillover
Industry	Key industries	Convergent industries	Branding symbol of industries
Target	To promote creative output	To foster innovations in broader domains	To build creative communities
Policy implication	To improve industry value added; New wealth creation	To transform the economic development model; Creative industries as a part of a system of innovation	Consumer as input factors; Economic and social co-developed structure with people at the center; To build up enabling creative environment
Policy focus	To nurture the source of creativity	To build up soft creative environment for creative transformation and input	Reconfiguration of consumption, educational system and institutional system

Source: Adapted from Wuwei, 2011.

According to the Wuwei (2011), creative society is more like a social representative of the industry and economy. The creative society is the main actor in the creation of the favorable environment, the sustainability for the creative economy and acts as the civil society part of the quadruple helix model (Colapinto, Porlezza, 2012).

The specialization of the creative society can be described using the concept of *creative milieu*. G. Tornqist (1983, cited in Sroda-Murawska, Szymanska, 2013) described *creative milieu* as a social aspect of creativity, which is an important fact for the regional growth and competitiveness. Creative milieu consists of three characteristics:

1. A large resource of information and ease if its distribution across the area;
2. A large amount of knowledge amassed over the time;
3. Large resources of competence in the particular activities.

Creative milieu is the degree to which people feel like a part of the region and is the factor for regional innovativeness. This concept is directly connected with the concept of Smart specialization, what has the organizational role of creative milieu. Smart specialization is the form that represents the creative society, based on the regional specifics.

Webster (2009) puts forward the idea that the way we consume information is a matter of self-expression. "Contemporary culture is manifestly more heavily information laden that any of its predecessors". Knowledge has increasingly more complex nature what makes cooperation and networking with external sources an obligatory competence for obtaining the complimentary pieces of knowledge and avoiding the lock-in the historical specializations (Camagni, Capello, 2013). This new form of society will constantly negotiate the state of being individual and collective at the same time. "Communication technologies, freedom to move and all different aspects of globalization contribute to an effect which can be considered a "solve a problem" competing with the standard "let's solve a problem together as we know each other" (Meissner et al., 2013).

The concept of community, which relies on the common interests, differs from the concept of organization that is more spontaneous and natural (Roman et al., 2013). One of the future research questions can investigate the possibility for regional community act as an economically specialized and skilled company. Such intangible aspects as creativity, culture and taste represents the development of specialized skills and specialized human capital in the local communities (Camagni, Capello, 2013). The immersion into the postmodern state of the society will without any doubts bring new forms of living, working, leisure and integration of it all. "We exist in a media-saturated environment that means that life is quintessentially about the symbolization. <…> and is characterized by constant change" (Webster, 2009). The management aspect of the creative society is contextualized in the holistic and sustainable model, integrating social, political, technological and cultural dimensions (Augustinaitis, Petrauskas, 2011).

In summary, creative society is an extension to information society and knowledge society, but with the different set of main features. Creative society is foundation of the creative economy embedded to the place where it exists. It is organized in non-hierarchical form and opts for the exclusivity, with individual approach to the creation and specific roots in the education. By its nature the creative society is very place-specific and spe-

cialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits. Smart specialization is the form that represents the creative society, based on the regional specifics.

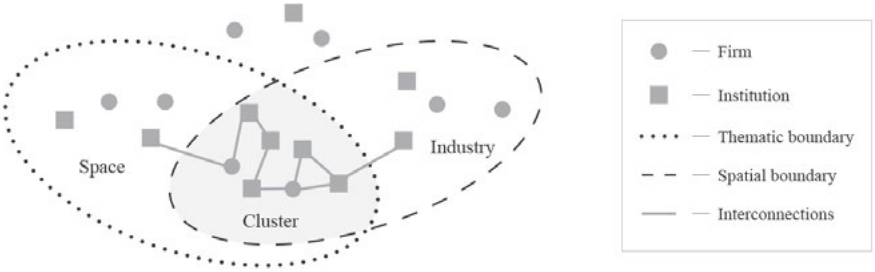
1.3. Review of clusters and creative clusters concepts

The discussions about the clusters and their role in the economies are nothing new. This chapter adapts the broad view on the cluster phenomena, combining the theory basis of various types of clusters and cluster initiatives, based on broad and general definition of a dictionary that a cluster is a group of things or people that are close together (Merriam-Webster, 2014). Analysis of clusters is a multidisciplinary and interdisciplinary (or cross-disciplinary) field that combines different research perspectives and different fields of science as mainly management, economy, sociology, geography and partly mathematics as well as urban planning and innovation studies. According to the analysis of the Thomson Reuters ISI database, the academic interest emerged around 1989 with the first research articles dedicated to the cluster topic with more than 200 articles peaking at the year 2010 with peaking journals as "European planning studies" and "Regional studies" (Sedita et al. 2012). The cluster concept has established itself in Europe in the fields of political and industrial economy from neo-Marshallian origins (Sedita et al. 2012). Academics and policymakers use various definitions to describe the cluster related phenomena and the territorial linkages like: localized knowledge networks (Crespo et al., 2013), geographical centered networks, learning networks (Dudian, 2011) industrial districts (Reckendrees, 2012; Sedita et al. 2012), new industrial spaces, flexible specialization, networking, local systems of production and in a much broader sense – regional innovation systems (OEDC, 2010). Francois Therin (2009) argues, that clusters are primarily social phenomena, historically determined by technological innovations and growing number of people groups. The formation of technological agglomeration is affected not only by economic factors, but also by social and cultural as well (Choe, Roberts, 2011). Scientists interested in the field of clusters have raised such questions as what type of actors should be in the cluster network and what type of connections should be functioning? (Kuah, 2002; Anderssen, 2004). From the regional development policy, the researchers seek the better understanding of how certain well performing regions can decline in the economic downturn while others are able to sustain or even renew (Crespo et al., 2013).

There is a wide agreement that clusters are the feature of almost each and every developed regional economy. Clustering does increase the number or jobs and wages (Dudian, 2011). The presence of the cluster in the region indicates that the biggest part of the competitive advantage is not in the enterprises but in the network (Kuah, 2002). The cluster initiatives might be the most effective mean to foster the environment for innovation (Andersson, 2004). Many researchers agree, that cluster can be viewed as a primary concept of competitiveness and growth (Choe, Roberts, 2011; Crespo et al., 2013; Dudian, 2011). Generally, the following findings from the recent research on the clusters can be observed:

- Clusters can enhance not only competitiveness of cities and regions, but find new ways to conserve and share required resources, reduce business transaction costs, address social and environmental problems and create sustainable employment (Choe, Roberts, 2011).
- Cluster, as an association of companies with complementary profiles (one that creates a value chain) and areas of activity, will set directions and strategies for action that will be coherent and beneficial for all its members. The common activities will create the basis for broad promotional actions in the field of social marketing, and especially – the campaigns promoting cities and regions, products and services, bodies important from the socio-economic point of view, undertakings or persons, demanded social attitudes, but also actions of commercial nature. (www.creativecluster.eu)
- Successful clusters are able to exploit the technological standards and dominant designs on a mass market scale while integrating the collective knowledge of complimentary organizations (Crespo et al., 2013). That means that the market growth is achieved using the mutual technological know-how and the cultural specialization of the region, expressed through the design or symbolic value of the product or a service. This process can be upgraded with the knowledge not only from within the cluster, but also from the complimentary organizations, existing parallel to the cluster ecosystem.
- From the network theory perspective, the belonging to a cluster is a possibility to use a network. A network consists of nodes, ties between the nodes and the resulting relational structure (Crespo et al., 2013). Widespread and well-established networks have many functioning and active nodes. For the new entrant, a participation in a cluster is the access to these nodes. The more connections a node has – the more desirable connection it becomes. The clusters are certain ecology of knowledge formed through networks what allows building the collaborative competence (Choe, Roberts, 2011).
- Clusters, besides of the economic effects brings additional improvements to the regions as high quality of life, pool of skills and competences, positive business attitudes, engaged governments, ability to respond to threats collectively (Choe, Roberts, 2011). Clusters increase the innovativeness of organizations within the cluster and the quality level of the human resources, products and services (Dudian, 2011).

A cluster can be defined using three main elements of connectivity (Figure 5): spatial boundary of actors; thematic boundary of actors; and interconnections between them.



Adapted from: Menzel, Fornahl, 2007.

Figure 5. Elements of the cluster

Clusters in practice are complex, diverse and dynamic. They are comprised of various actors from different "societal spheres" as economic or scientific, but often do not have clear boundaries (Kocker et al., 2012). The role of knowledge integration is the crucial part of the cluster existence (Crespo et al., 2013). Various features of products or services can describe the level of integration. Usually the integration part is performed by a single organization within the cluster (usually – cluster management organization). The failure to reach the market or to adapt to the changing market needs is often the failure to efficiently integrate available knowledge.

Scholars suggested definitions of clusters based on various issues, like relation with industry, composition, homogeneity, actors and their roles, nature of relation and other aspects. Choe and Roberts (2011) categorize the possible schools of thought (Table 4) on the cluster phenomena and its relation with social and economic environment.

Table 4. Theoretical views on clusters

School of thought	Characteristics
Industrial districts	External economies, mutual trust and a positive atmosphere of co-operation between companies, leading to incremental innovations
Californian school	Vertical disintegration, reduced transaction costs, and a specialized local labor market, informal rules, and habits, leading to greater collaboration between companies
Nordic school	Innovation as learning, and learning as a localized process, because of the importance of tacit or non-codified knowledge developed between workers of different companies
Porters industrial clusters	External economies strengthened by proximity and better access to input factors, local rivalry, and local customers; collective improvement of the competitiveness of companies and creation of opportunities for the establishment of new niche companies to support the expansion of local supply chains and add more value to the cluster

Adapted from: Choe, Roberts, 2011.

The modern understanding of cluster phenomenon can be traced back to the works of Michael Porter. Nevertheless, the definition was updated many times with the various important criteria. The development of definitions in the chronological order is presented in the Table 5.

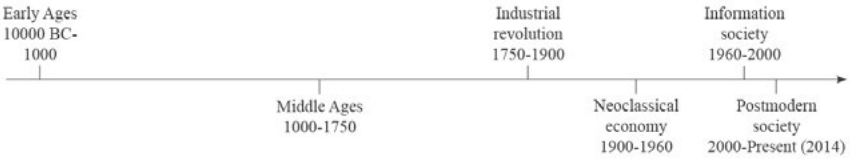
Table 5. Definitions of cluster

Scholar(s), year	Definition
Porter, 1990	Geographic concentrations of interconnected companies, specialized suppliers, service providers, firms in related industries and associated institutions (e.g. universities, standards agencies, trade associations) in a particular field that compete but also cooperate
Rosenfeld, 1997	Geographically bounded concentration of similar, related or complementary businesses, with active channels for business transactions, communications and dialogue, that share specialized infrastructure, labor markets and services, and that are faced with common opportunities and threats
Porter, 1998	Geographically proximate group of interconnected companies and associated institutions in a particular field linked by commonalities and complementarities. Clusters encompass an array of linked industries and other entities important to competition, including governmental and other institutions – such as universities, standard setting agencies, think tanks, vocational training providers and trade associations
Porter, 1998	Critical masses in one place of linked industries and institutions - from suppliers to universities to government agencies - that enjoy unusual competitive success in a particular field
Enright, 1998	Regional clustering has been used to describe industrial districts of small crafts firms, high technology centers, agglomerations of financial and business service firms in cities, company towns, and large branch plants and their supply chains
Feser, 1998	Economical clusters are not only related and supporting industries, but rather related and supporting industries that in the nature of its relations are competing
Swann, 1998	In geographical and technological meaning, clusters are the big group of ventures in related industries at the particular location
Roelandt, den Hertog, 1999	The networks of independent manufacturers connected with each other in the value chain
Bortagaray, Tiffin, 2000 (cited in (Dudian, 2011)	Groups of firms, research centers and investors that work together within a narrow physical proximity in order to create new products, technologies and enterprises. They work into invisible relationship networks within a complex social framework where the collective industrial activity is based on learning and knowledge

Scholar(s), year	Definition
Porter, 2000	Geographic concentrations of interconnected companies and institutions in a particular field. Clusters encompass an array of linked industries and other entities important to competition. They include, for example, suppliers of specialized inputs such as components, machinery, and services, and providers of specialized infrastructure
Kuah, 2002	Geographically related and competing agglomeration of industries
Singh, 2010	Concentration of units in a given geographical location producing same or similar types of products and facing common opportunities and threats
Choe, Roberts, 2011	Statistically significant concentrations of companies and employment in relevant business activities that share common supply and distribution chains
Christensen et al., 2012	Clusters represent an innovation infrastructure consisting of companies, R&D institutions and universities that specialize in a specific industry or knowledge area
Feld, 2012	Energy, activity and innovation in the society, diffused across the network in unexpected places that didn't exist before
UNIDO, 2013	Geographical concentrations of inter-connected enterprises and associated institutions that face common challenges and opportunities

Source: created by author

The following paragraphs capture the most important developments in the society, economy, policy and technology from the perspective of clusters. The chosen timescale starts at the early ages and runs to the 21st century and is divided into the six time periods: Early ages, Middle ages, Industrial revolution, Neoclassical economy, Information society and Postmodern society (Figure 6). The reason behind such division of time is to highlight the most important events and shifts in the grounds of economy, society, technology and policy identifying what were the main changes. The analysis is limited to the scope of generally illustrate the permanent change in the concept, construct and impact of clusters. The paragraph is summed up with the comparative analysis of the clusters (Table 9) in different times in order to present the post-modern understanding of the structures of clusters.



Source: Created by author

Figure 6. Approximate time periods of comparative analysis of socioeconomic history in the relation to concept of clusters

The early ages. Communities during the Neolithic era (from 10000 BC to 4500 – 2000 BC) were small and focused on agrarian duties. They mostly consisted of one family with members from several generations, inhabiting a small area and with a clear division of labor. In the late Neolithic era a bigger communities began to appear what led to the inevitable changes in the organization of the society and economy. Generally, Neolithic era brought many radical changes and innovations, such as agriculture, animal husbandry, literacy, numeracy, calendrical sciences, organized religion, markets, large-scale engineering, government, and, of course, the first cities (Ikeda, 2011). To stay productive and occupied, communities had to specialize into performing various tasks as growing of animals, hunting, fishing and crafts. The structure of the society became the nuclear family type, what partially illustrates the management structure of the society at that time period. Because of the inborn social qualities, the experts in the field (or specialists) used to gather together and share the experience or problems in the particular topic (Therin, 2009). The source of knowledge was the elders of the family passing the experience to the younger generations. The concept of economic and cultural exchange was developing in parallel what stimulated families or communities to develop economically beneficial activities. The traditional crafts as blacksmithing, woodcarving and fur making were formed with the coming of Bronze Age and later Iron Age (from 1300 BC to 1 BC – 500 AD). The final product of the craftsmanship had the features common to the particular family of the community, as the exclusivity of the available knowledge and applied skills.

From the economical point of view there were no clusters at that time, as there were no ventures. Rather there were several specialized workers in the community, performing the chosen or appointed tasks together, sharing the infrastructure (in a very broad sense this can be an environmental conditions or tools in a narrower approach) and sharing the required experience. From the social point of view this structure can be seen as a far distanced, but of the similar concept to the much later emerged clusters, in the context of labor specialization and mutual learning or dissemination of knowledge. Jabocian theory, introduced by Jane Jacobs in 1969 with the aim to model the emergence of the cities, supports the assumption that groups of people clustered around useful resources and exploited them constantly in an improving way (Jacob, 1969). These groups, continuing to abuse the natural resources had to think of the new and better ways to protect, obtain and trade the resources. This implies that in Neolithic society the natural specialization of labor by the tasks was present and moreover, this specialized community was acting as an economic agent in the broader economic system.

Middle Ages. While the increasing geographical concentration of communities during the Antiquity has formed countries, regions, cities and increased mobility, it did not bring any substantial structural changes in the cluster history until the early Middle Ages. The need for the specialists to be in a close geographical proximity led to the establishment of specially dedicated streets or even districts in the cities. It allowed to share the required specific information, receive the support from the other members of the group and easier access to the materials (Therin, 2009). Until the present time, in many European cities there are such names of the streets as Tailors, Blacksmiths, Tanners, Glazers

and etc. With the establishment of the economic system and the concentration of labor and other resources to the dedicated geographical area, these streets and districts could be seen as early predecessors to the industrial clusters with the limited economic impact. Back then, they were formed naturally, due to various historical and geographical reasons, but in exceptional cases it could be the consequence of the state regulation. For example, in 1291 the Italian glazers were asked to move from Venice to Murano (a group of islands in a lagoon near Venice) because of the fire prevention reasons. At the moment the Murano glass is world-famous product of the traditional crafts. Fur and leather makers were situated in the especially dedicated places because of the specific smell during the production (Therin, 2009). Another reason for the establishment of the crafts "pre-clusters" was the increasing mobility and range of transportation what allowed to easily trade in regional and country scale. Despite faster communication process, the establishment of early clusters could take up to centuries (Therin, 2009) and their size was relatively small. For the same reason in the beginning of the 20th century the "pre-clusters" diminished, because it was easy to travel and communicate in great distances and it led to the decrease of the need for geographical proximity of the ventures. Crafts concentrated geographically not only in Europe. For example, the *Chanderi* handloom cluster in India was formed around 1350 and became famous for producing saris (traditional Indian dress), handmade from cotton. The geographical concentration of skill was catalysed by racial or religious reasons as well. *Chanderi* was formed from Muslim craftsmen, passing the knowledge and skills in families from generation to generation. By 2009 the cluster has grown to 9000 workers and 3500 looms (Singh, 2010). The main reason for cluster growth was the new joining members to the location who were seeking to improve their skills and share the knowledge – to innovate together. By this new type of thematic networks, the tradition where the knowledge stayed inside the family was changed. The master craftsman and apprentice relations were a common practice. The collaboration was amplified by craftsman guilds (Jovinelly, Netelkos, 2006) that played a similar role as association and standardization agency together with a trade function from nowadays perspective. The guild was a self-regulating unit laying down the conditions under which production was to be carried on, and occupying a recognized status in the community based on the performance of certain communal functions (Renard, 2000). The guilds set the rules of fair competition between members and guaranteed more stability and independence for the artisans. Guilds, as forms of cluster representation, were the links to the other guilds or networks. For example, the guild of painters in Florence belonged to the guild of doctors and apothecaries under the name *Arte dei Medici e Speziale*. The reason behind that was the dependency on special materials that artists could get only from the apothecaries (Farberas, 2000). The functions of guilds varied according to the different state regulation.

Industrial revolution. The medieval organization of industry was based on the ideas of function and balance. It was designed for the self-contained and local type of society and with the establishment of national and international economy it broke down. The economic transition that characterized the process of European industrialization in the 19th century was concentrated on regions rather than on nation states (Reckendrees, 2012). With

the industrial revolution and decline of the guilds the state gained the supreme direction of the industrial affairs and in a short period of time on the contrary, the economic affairs were left to the free play of economic competition (Renard, 2000). Industrial revolution that brought the substantial changes in the concept of manufacturing process was the main reason for the emergence of the industrial clusters. Medieval "pre-clusters", based on the potential of the traditional craftsmanship have been organized to the clusters, based on the new ways on manufacturing. As the obvious benefits of the clusters was understood as the pool of available workforce, there was no explanation why they appeared in a certain geographical area (Kuah, 2002). Traditional industries and artisan workshops that dominated the economy of 17th and 18th transformed to modern industries that organized the production in larger scale factories using power engines and machinery (Reckendrees, 2012). The classic thinker and researcher Adam Smith in his work "The Wealth of the nations" (1776) described the positive effect of the machinery to the productivity. He also raised an argument that during the certain time the ability to work with the particular kind of the machinery (equipment) gets better which implies on the diversifying the skills of the total available labor force. At the beginning of 19th century the pre-clusters almost vanished with some exceptions as, for example, manufacturers of porcelain in Limoges region (France) and others, while the rest definitely were not the engines of the countries' technological progress (Therin, 2009). The workforce at that time was usually easily available and flexible. For example, in Aachen region (then Prussia, present Germany) the coal mine workers were busy in the mines during the autumn and winter and employed by local farmers during other seasons. With the rise of the industry the availability of workforce has changed and regions had to compete with various benefits for example as housing, pension schemes or social security (Reckendrees, 2012). An important feature of the new regional economy that started with the 19th century was the knowledge spillover and knowledge transfer between firms and between their branches. Developing of law base led to the establishment of various institutions with the mission to support regional and national industry, such as chambers of commerce, various courts of commerce, trade associations and etc. All these new type of entities played a substantial role in development of regional economy. Education was available more openly. Special technical schools were established in order to prepare the workers for the factories and universities became the important factor for the economic growth (Breznitz and Noonan, 2013).

Neoclassic economy. The 20th century started with the economic policy focused on the macroeconomic stability as the main factor on growth (Andersson, 2004). Alfred Marshal introduced the neoclassical economic understanding of clusters in 1910. His view was based on the concept of industrial districts in Europe, which, according to him, were emerging and concentrating based on various reasons as climate and access to resources. The geographical concentration allowed to access the skilled workforce and provided the advantage in marketing function what led to the increased competitiveness in local and international markets. The clusters' competitive advantage, in the understanding of neoclassical economy, is based on the similar field of activity in firms and that they can easier access the workforce and share the knowledge. The competition between firms in clusters leads to emergence of knowledge and increased productivity (Kuah, 2002; Sinhg, 2010).

The establishment of neoclassical economy brought new developments in management, such as the concept of agile management in contrast to linear project management. The main features of agile management are:

- Individuals and interactions instead of processes and tools
- Software instead of thorough documentation
- Collaboration with clients instead of negotiating of contracts
- Response to change instead to implementation of plan

Since the end of the Second World War there was an uninterrupted movement towards more internationalism and more globalism (Moller, 2000). According to Lubbers and Koorevaar (2000), globalization is "a process in which geographic distance becomes a factor of diminishing importance in the establishment and maintenance of cross-border economic, political and sociocultural relations. This process reaches such intensity that relations change fundamentally". One of the most successful examples of the creative clusters formed in the neoclassical economy period is Hollywood. It was established in 1853 as a city near Los Angeles. After several decades it was annexed to Los Angeles to supply water and ensure good transportation system in growing outer area of Los Angeles. In 1900 filmmakers began to flee to Los Angeles because of several reasons (History of Hollywood, 2014):

- Almost all cinema industry was patented by Thomas Edison and located in New Jersey. Filmmakers were escaping strict control. Hollywood provided quite easy escape to Mexico if prosecuted;
- The climate of California State was attractive, along with varied terrain;
- The transportation from Los Angeles to Hollywood enabled easy access;
- After exploring Los Angeles and its surroundings a big movie company Biograph Media relocated itself to Hollywood, becoming an anchor company for others;

Hollywood has been a successful movie cluster ever since. For example, in 1960 the third of movies screened in European movie theatres were made in Hollywood, this proportion increased to 90% in 2001 (Cowen, 2001). From the 1950-1960 Hollywood already acted as a cluster in terms of policy suggestions, competition, marketing and exports. One of the crucial elements of the success is the education system that focused on the business side of the movie industry rather than humanitarian's side (as in Europe). Another element of successful clustering of Hollywood is the tempo of the film creation which runs as a short term fast-pace multiple projects and is in constant need of the whole short-term support system. Hollywood is frequently associated with the American cultural imperialism (*ibid*). Compared to European film industry and film clusters, which are subsidized by governments, Hollywood is a naturally formed cluster, which grew without and substantial governmental support. In most cases, the clusters became the impact of the policy and not the natural formations (Therin, 2009).

Information society. At the end of the 20th century there was the realization of the importance of the micro economic conditions in the supplement to the focus only to the macro economy. Micro economic conditions have affected societies and brought forward information society and later on knowledge society (Andersson, 2004). At the beginning

of the 21st century the society was changed from the top-down mass media society to the interactive bottom-up and networked society by the ways of production, selection, design, transmission, retrieval and use of information (Capurro, 2000). Machlup was the first to introduce the concept of "information society" in his 1962 book "The production and distribution of knowledge in the United states". The proposed term was quickly established among scholars. The book followed the fast expansion and integration of the information into the increasingly global economy. In 1969 Peter Drucker wrote the book "The age of discontinuity" describing the transition from the economy of material goods to the economy based on intangible goods or knowledge. The idea of knowledge-based economy was followed by Daniel Bell in the book "The coming of post-industrial society" what was arguing about the new type of society. The hypothetical arrival of information society could be linked with the changes in the occupation of the workers, when the majority of occupation is connected with the information work. These occupations may be consultancy, management, law or creative industries. All they have in common is high level of education (Webster, 2009). The application of network concept to the economic relations has emerged, as envisioned by Marshall in early 1920s (Sedita et al. 2012). Among the main scholars were Granovetter and Becattini, who during the 70s were interested in the social and community dimensions in the agglomeration economies. During the 80s, Piore and Sable proposed the new industrial-technological paradigm based on "flexible specialization" as regional development criteria (Sedita et al. 2012). The new communication and computer technologies allowed firms to quickly assess markets and respond with the customized products made by craftspeople what Webster (2009) calls "flexible specialization". The analysis of costs and benefits of being in a cluster (Table 6) is a simple explanation of why the clusters became an attractive topic for the governments and the businesses for the economies of scale.

Table 6. Analysis of costs and benefits of being in a cluster

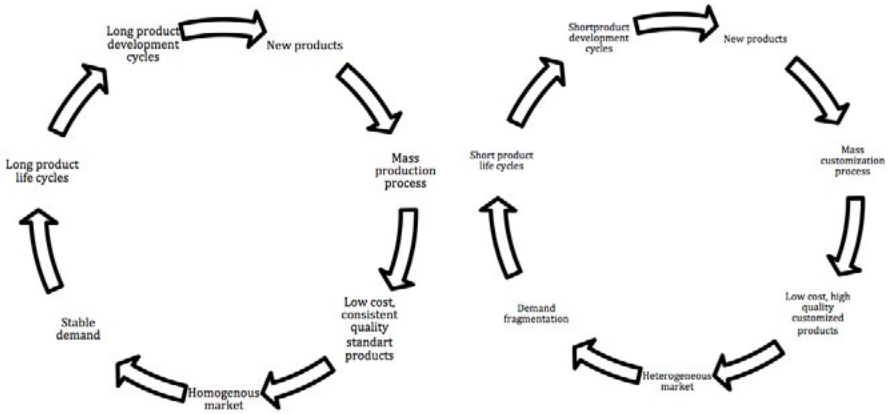
	Demand side	**Supply side**
Benefits	• Close relation with customer; • Reduced costs of customer search; • Informational complementarity; • Reputation;	• Knowledge spillover; • Specialized labor; • Benefits of infrastructure; • Informational complementarity;
Costs	• Saturation of external markets and competition;	• Saturation of internal markets and competition;

Adapted from: Kuah, 2002

Generally, the clusters during the period of information society were based on strong public research institutions, which in most cases were universities, but research institutes are also a common option. Universities being the source of new knowledge and technology with the potential to commercialize it, start to play the crucial role contributing to regional and national economies (Breznitz and Noonan, 2013). As technology becomes

more complex employees with specialized skills are increasingly in demand and on the other hand, employees with the flexibility are in demand as well in order to cope with the fast changing economy (Bloom, 2000). The main source of financing was public sector. Even if the research institutions are private, they will use the public grants or contracts with public sector. The growth of clusters, especially during the Cold War, was heavily stimulated by the funds for the development of military industry (Therin, 2009). For example, during 1970s the Silicon Valley and Boston's Route 128 became the globally acknowledged clusters in the semiconductor industry because of the high innovation capacity. Both clusters started with the input of regional universities. The military contracts, supported by the Cold War were the important factor for the cluster growth. Silicon Valley was established without any clear governmental cluster policy (OECD, 2010). Despite the crisis in 1980s, the Silicon Valley continued to grow and around year 2000 became the home of the one third of 100 largest companies in the United States (Kuah, 2002). The Silicon Valley is an example of regional network, in which actors are collaborating closely and learning mutually. Information society clusters consisted of various size ventures, but the big ones were the leaders of the cluster accounting for the biggest part of the public support and the first to adopt the knowledge from the research institutions. The small ventures had the role of the followers and were contracted by the big ones for various noncore functions. Such clusters had the establishment time of 20-30 years (Therin, 2009). The economists Porter and Krugman were the main researchers of management and economy to boost the modern cluster concept during the 90s. Together with the cluster concept innovation studies and multidisciplinarity of the topic is being settled down (Sedita et al. 2012). The development of the cluster was determined by Porter's Diamond model, which consisted of firm's strategy, structure and rivalry; demand conditions; related and supporting industries; factor conditions (Kuah, 2002). It also became clear that it would be quite hard to identify the geographical limits of the cluster, because they can spread across the borders of the country or be a target of the political or cultural limits.

Another important shift, compared with the system of neoclassic economy, happened in the shift from mass production to mass customization. This concept describes the new of status of being together and creating/manufacturing new goods and services together. It could be described as shift from built-to-forecast or build-to-stock to make-to-order. Mass customization is flexible manufacturing systems and computer aided mass manufacturing with the possibility to customize the output. Mass customization is the method of "effectively postponing the task of differentiating a product for a specific customer until the latest possible point in the supply network." (Chase et al., 2006). Because of the possibility to adopt, mass customization requires the operating network to be flexible or dynamic (Pollard et al., 2008). This results in decentralization in decision-making and mostly important – new relations with the customer, as the customer becomes the extension of the organization or a network.



Adapted from: Pine, J. 1999.

Figure 7. Comparison of mass production and mass customization systems

The main advantages of mass customization, compared with mass production are (adapted from Pollard et al., 2008):

1. Maximized market share;
2. Maximized customer satisfaction;
3. Lower cost of inventory and less waste;
4. Less of inventory in stock;
5. Shortened time of responsiveness.

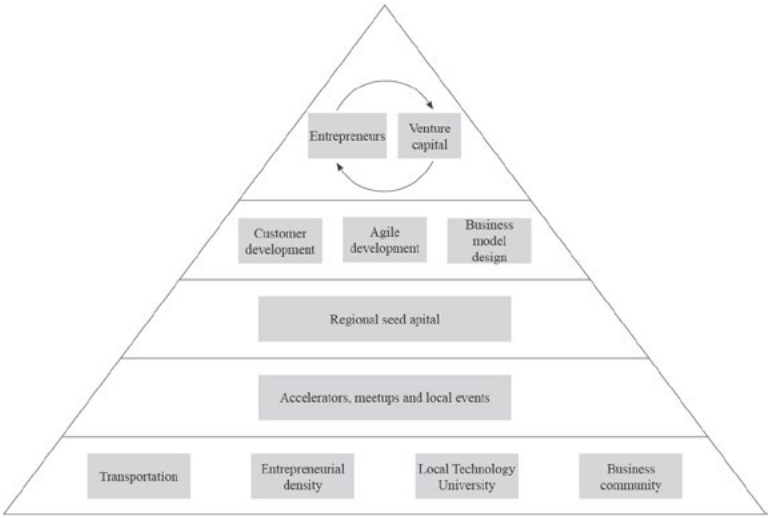
The concept of mass customization was an important change not only in the manufacturing clusters but in the service sector as well. The customization and customer involvement in the process changed the management of the service creation and administration. As Mulgan (2000) puts it, "the biggest shift in values of our times is undoubtedly the rise of individualism and the search for greater autonomy. Beyond this individualization is a different sense of the community that is rather chosen that inherited".

Postmodern society (Creative society). The shift in the economy could be described in a way that it's not enough just to transform knowledge into the tangible and intangible products and services (link to the knowledge economy), you have constantly to amaze and come up with something new (creative economy). The new type of economy emerging from 2000 was organized more on a project-based approach rather than on the fixed workplaces (Pink, 2001; Howkins, 2007). The static company is being replaced by much more dynamic or event fluid and mobile model, "the constant assembly, disassembly, and reassembly of people, talent, and ideas around a range of challenges and opportunities." (Coonerty, 2014). The new clusters do not necessarily situate around the existing scientific institution though the government can try to create such an institution or specialize an existing one. Clusters do not necessarily have large companies in the composition. Government can aim to attract such companies in order to increase the flow of private

funding into the cluster ecosystem (Therin, 2009). Postmodern clusters have a whole new mission and role for the society (Blank, 2014):

- Slow and even reverse the historical migration of tech talent and capital out of the region/state;
- Locally grow successful tech companies to become primary job creators;
- Recycle the wealth that is created by re-investing in the region versus transferring wealth to other big clusters such as Silicon Valley;
- Help local successful entrepreneurial and technical talent stay local – by creating their next startup in the region versus immigrating to other places;
- Create a more diversified and healthy economic base that includes tech entrepreneurs.

These mission statements ground the reemerging connection with the local community and society in general, emphasizing the very core feature of the creative society – embedment to the place where it exists and exploiting the unique resources that are available for the distinguished goods and services. The shift in the paradigm happened with the description and understanding of entrepreneur (or entrepreneurship) – it does not anymore belong to the few elites. According to Steve Blank (2014), in order to create a new regional cluster, six separate fields of planned activity should be combined (Figure 8): entrepreneurial density, university, transportation, capital, accelerator and business community. Steve Blank puts emphasis on the connection of entrepreneurs and venture capital as the constant interactional process. The whole ecosystem is based on the main four pillars.



Adapted from: Blank, S. 2014.

Figure 8. Regional cluster ecosystem

The foundation of the cluster ecosystem according to Blank (2014) must consist of a convenient transportation system, that is a necessary condition for a cluster in order to save costs and ensure easier business management. Entrepreneurial density is a formation of alike thinking actors and their support system. Managers with personal networks and appropriate education are necessary along with skilful technical talent. Almost every technological cluster has its own technological university as a source of talent and R&D. To import sufficient number of talent for a growing cluster is hard so local institutions must provide the required workforce. To initiate the support by local business community the cluster has to set and communicate goals along with available potential to reach those goals. In many cases it could be the increased number of jobs, decrease of brain drain and similar goals in alignment with the expectations of local business community. Next level of ecosystem are local events and meetups initiated by entrepreneurs, such as: start-up weekends, hackathons, discussions, conferences, presentations and etc. are necessary for the development of cluster community and mutual learning as well as to attract the new members. Third level is the local (or regional) seed capital, which is essential for a cluster. It must be a national or regional task to attract every possible source of financing from angel investors to venture capital. The new clusters are mainly the derivatives of the countries' policy and they can become competitive very fast, also they are the direct receivers of the public funding through infrastructure and various cluster activities (Therin, 2009).

There is strong relation between the geography of creativity along with entrepreneurship and between launching new products, services and ideas. The more favourable place or location can be described in three main criteria (Iammarino, McCann, 2013):

1. Variety of skills, ideas, technology and culture;
2. Permissive environment enabling unconventional initiatives to be brought to the marketplace;
3. Vigorously competitive arenas operating selection criteria, which anticipate and shape those of wider future markets.

The place becomes the very crucial aspect for clusters and it not only shapes the structure and size of the cluster, but provides uniqueness as well. Another important feature of the postmodern society is the new focus on the role of the economy and the phenomena of creating value. This can be illustrated with the emergence of new roles and specializations of the broad subject of economy such as digital economy (Tapscott, 1997), experience economy (Pine, Gilmore, 1998), creative economy (Howkins, 2007), sharing economy (Botsman, 2010) and etc. Pine and Gilmore (1998), based on progression of economic value describes the new form of economical business-customer relation as experience economy. As an illustration they model a situation of birthday cake. In the agrarian economy, the mother would make a cake mixing various types of raw ingredients, as flour, sugar and etc. In the goods-advanced industrial economy, the mother would pay to buy the premixed ingredients. Service economy brought the opportunity to order the cakes from the bakery, what could cost 10 times more than the ingredients. In the experience economy the mother would order not only a cake, but also the whole event, what would cost much more than the cake itself (Pine, Gilmore, 1998). The progression from

commodities, goods and delivering services to providing experiences is presented in the Table 7. Staging the experiences is the core of entertainment industry and a great amount of creative industries, but not limited to. Many other industries go "beyond the function" and deliver distinguishing features and experiences. These new kind of economic offerings have to be created and manufactured in a different way.

Table 7. Differences in the types of economy

Economic offering	**Commodities**	**Goods**	**Services**	**Experiences**
Economy	Agrarian	Industrial	Service	Experience
Economic function	Extract	Make	Deliver	Stage
Nature of offering	Fungible	Tangible	Intangible	Memorable
Key attribute	Natural	Standardized	Customized	Personal
Method of supply	Stored in bulk	Inventoried after production	Delivered on demand	Revealed over a duration
Seller	Trader	Manufacturer	Provider	Stager
Buyer	Market	User	Client	Guest
Factors of demand	Characteristics	Features	Benefits	Sensations

Adapted from: Pine, Gilmore, 1998.

The process of creating the innovation in the product of service has changed as well. The innovation process is opening up to the society. Companies, universities and research institutes are not the only relevant agents in the process of innovation. Citizens and customers no longer serve as mere suppliers for information (Howaldt, 2014). Customer participation in the innovation process was named "design driven innovation" – constantly redefining what the product means for the consumer (Cooke, Propris, 2011). Citizens, with regard to their needs make active contributions to the process of developing new products and to the resolution of problems. Terms and concepts such as open innovation, customer integration and networks reflect individual aspects of this development. At the same time, innovation – based on economic development – becomes a general social phenomenon that increasingly influences and permeates every aspect of life (Howaldt, 2014). Modern contemporary organization has to be constantly developing, learning, socially responsible, entrepreneurial, satisfying the needs and expectations of the customers, with a guarantee of social security and structurally mobile (Zakarevicius, 2012).

Another aspect of the labor force development is the personalization of education. Higher education to the knowledge economies is what secondary education was to in-

dustrial economies (Bloom, 2000). The required skills can be identified and the education can be tailored to meet the regional needs. Education will become an "on-demand service" with the ability for learners to choose the very specific content replacing the large modules (Schiller, 2014).

Generally, in economical and managerial aspect, cluster development can be traced back to middle ages with some pre-cluster activities in even earlier times. Clusters grew with the increasing communication and mobility, while complexity of manufacturing process was an important criteria as well. One of the main clustering preconditions in Middle Ages and Industrial economy was regionally concentrated know-how and resources. Later on, despite increased mobility and globalization, clusters became dependent on the local community and its abilities to deliver new creative products and services.

Future trends of cluster development

Future trends (Table 8) of cluster development can be carefully made and summed-up extending the development trajectories out of the analyzed literature in the previous chapters.

Table 8. Future trends of clusters

Trend	Description
Gateway to regional and global partnership	Being the main regional network hub, the cluster role as a gateway to new connections and new territories will increase, but will not be limited only to the cluster members
Ecosystem for fast idea development and commercialization	Cluster should be understood as thematic/sectorial ecosystem capable of developing, testing and commercializing new ideas faster than solitary actors
High regional importance	The trend of cluster concept as one of the main engines of the regional economy will remain strong, moreover the clusters will have various positive regional effects as ecological, cultural, social, demographical and etc.
Diminishing amount of time spent in the partnership or collaboration	As the cluster establishment time decreases, because of the project based approach the duration of partnerships and memberships in the cluster will get shorter as well
Knowledge not necessarily from the regional institution	The knowledge is getting increasingly mobile and it might reduce the role of local knowledge institution as a main hub for new knowledge. Though the skilled workforce and talent remains one of the main assumptions of successful cluster and the role of universities/institutes will remain strong
Project activities as main form of collaboration	With the establishment of creative economy and customer participation in the process of product development, the collaboration between cluster participants will be shaped by project based activities

The variety of cluster participant size	The cluster participants do not have to follow to anchor-followers model anymore. The size of the actors can vary from big international companies to single self-employed workers performing creative tasks. The future clusters will demonstrate the various levels of public and government organization involvement.

Source: created by author

Clusters will remain the hubs of the economy and will play an increasing role in the development of innovation. The role of the clusters is not limited only to the creation of something new, but being the promoters of the creative culture they act as "centers of adaptation" as well. The capacity of the community to get the economic benefits from the knowledge that was created somewhere else depends on the culture, creativity and openness of the community (Camagni, Capello, 2013). The emergence and establishment of new clusters is decreasing time wise. The governmental cluster initiatives (top-down approach) will remain the main tool of clusterization, but the bottom-up approach of natural cluster formation will get bigger traction. The clusters are not more strictly following the model of an anchor company and smaller participants in the product or service development chain. The project-based approach seems to be a sufficient condition for clustering.

The following table (Table 9) summarizes the development of the cluster as a phenomenon in time based on the following criteria: management features, value chain, institution of knowledge, size of the actors in the cluster, source of cluster financing, time required for the establishment of the cluster, the importance of the cluster at a regional/national scale.

Table 9. Comparison of different criteria affecting clusters in selected periods of time

Criteria / Period	Management (Marco and mezzo/micro levels)	Nature of value chain (collaboration)	Institution of knowledge	Size of actors	Source of finance (for clustering)	Time of establishment	Importance of the geographical conditions/ Regional impact
Early ages	*Mezzo/micro* Hierarchical, paternal, centralized	No clear value chain*	Mainly elders. The knowledge is transferred from one generation to the other	Nuclear families and small communities	Trade with the other families and communities	Very slow*. Naturally formed	Very important. Dependency on climate, natural resources, features of terrain and etc.
Middle ages	*Macro* State as supporter of the market *Mezzo/micro* Guilds as self-regulating units set the rules for competitions and standards for the quality of the products	Guilds fostered collaboration and acted as a gateway to other local and regional networks of guilds with similar and other kind of activities	Masters of the skill, written know-how, community with partners and competitors	Small. Mostly masters and small workshops with several employees	Local and regional trade	Very slow. Naturally formed with some exceptions for state regulation	Very important. Regional specialization of crafts and know-how as a factor of attraction of new members
Industrial revolution	*Macro* State as main regulator for the framework of free economy, various support institutions as chambers of commerce, trace associations and etc. *Mezzo/micro* Centralized decision- making. Linear project management	Regional collaboration between manufacturing firms	Technical schools and universities. Knowledge spillovers between firms and their branches in close proximity	Medium (factories with machinery).	International trade. Limited support from government	Medium. Industrial districts can establish quite fast, especially with the support from the government	Important. High dependency on the skilled workforce and resources. Large employers as a benefit for the community
Neoclassical economy	Macro Focus on macroeconomics. Mezzo/micro Agile management, short-term projects	Shared pool or workforce and new knowledge as well as shared marketing activities increased competitiveness of the cluster participants	Specialized schools	Large. Due to the establishment of economy of scale	Role of the government in financing and attracting finances is increasing	Medium. With the active role of the government the creation of clusters becomes widespread practice	Limited importance. Geographic conditions did not remain as main factor of the location. Business conditions and ease of transportation emerge as the main factor

Criteria / Period	Management (Marco and mezzo/micro levels)	Nature of value chain (collaboration)	Institution of knowledge	Size of actors	Source of finance (for clustering)	Time of establishment	Importance of the geographical conditions/ Regional impact
Information society	*Macro* Focus on microeconomics. Emergence of the agglomeration economies and network concept. *Mezzo/micro* Decentralized decision-making. Diamond model. Mass customization concept	Value chains transforming to value networks	Major university or research institute	Various. Usually anchor company and SMEs as followers	Mostly financed by public sector	Fast. Due to the financial and non-financial support by government	Limited importance. Emphasizing business conditions and transportation
Postmodern society	*Macro* New models of economy *Mezzo/micro* Nonhierarchical Decentralized	Based on personal networks	Specialized university or Research institute. Personalization of education	Small. Incorporating persons as actors. Usually cluster has an anchor company	Public sector as a catalyst for the initiatives. Active business involvement. Crowd funding and other financial engineering	Very fast	Very important. High dependency on the talent/ Exploitation of the regional creative potential
Future trends	*Macro* Creative economy *Mezzo/micro* Project based	Based on Smart specialization	Cluster adapted institution of knowledge	Small with diversity of public actors	Combination of private, public and community funding	Very fast	Very important. Regional hubs.

* There are limitations of some criteria applicability to the corresponding period of time.

Source: Created by author

Cluster policy

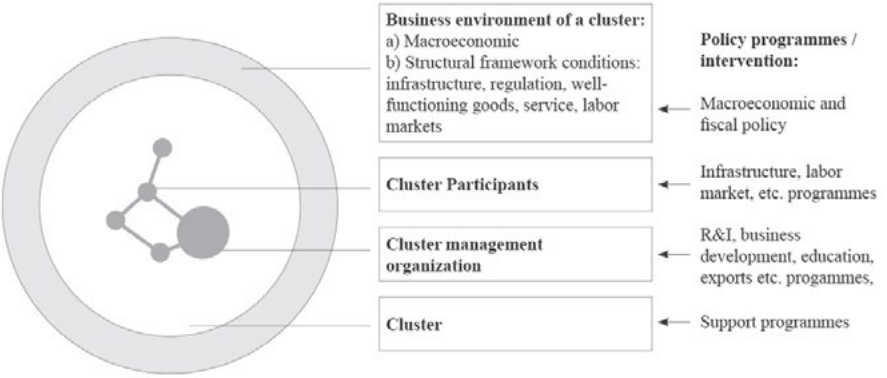
Cluster policies are the main tool to build, support, change and shape cluster. It has to be created and applied in accordance with the features of the target and features of context or environment: "cluster policies need to be adapted to the context that they are applied to – the regional conditions and the specific type of cluster" (OECD, 2010). Cluster policy can be implemented with or aligned with such policy streams as: regional economic development policy, science/technology innovation policy, industrial/enterprise innovation policy, and higher education policy (*ibid*). Usually cluster policies can be targeted at three levels: regional, national and supra-national (as EU). It should be noted, that Smart specialization is not a cluster policy itself (Foray et al., 2012A). As it is stated in the EC guide for Smart specialization and cluster policies: "Cluster policies provide important leverage points for S3 but they are cannot be equated to S3: the former policies are among the possible policy tools in a S3 policy mix, but Smart Specialization Strategies have a broader remit" (EC, 2013B). The difference between cluster strategy and Smart specialization strategy is expanded in the Table No 9B. Cluster policies aim to operate at the cluster level, aiming to support various activities (described in the Table 10), while Smart specialization is more vertical (Aranguren, Wilson, 2013). Though the application of this policy to particular reason could be an innovation activity for a cluster. Nevertheless, regional cluster policies generally resist fundamental changes and reorientations (Foray et al., 2012A). Researchers agree, that currently the main benefits of the cluster policies for the smart specialization policy development are the prioritization and stakeholder involvement (EC, 2013B; Nauwelaers, 2014).

Table 10. Similarities and differences of Smart specialization and cluster strategies

Smart specialization strategies	Cluster strategies
Similarities	
• Drivers of performance: productivity and innovation are critical for sustained growth • Multiple factors influence productivity and innovation • Importance of proximity and local spillovers and a critical role of locational context	
Differences	
Exploring emerging market opportunities	Critical mass
Facilitating knowledge spillovers between knowledge domains	External effects through shared infrastructure and input markets
Exploit related variety between knowledge domains	Groups of companies in related industries
Drive structural change of an economy by embedding innovative practices in economy and society	Enhancing performance of a set of linked companies

Adapted from EC (2013B).

The cluster development potential can be seen in three levels (Figure 9): business environment, cluster participants and cluster management organization. Every level has its own unique approach and the policies has to be created and implemented accordingly.



Source: Adapted from Christensen et al., 2012.

Figure 9. Different dimensions of a cluster and corresponding policy and/or programme intervention

In a competitive business environment, the clusters are affected by macroeconomic conditions, such as fiscal policy, economic growth policy and etc. The structural framework part of the business environment concerns the labor, job creation and similar policies. Cluster participant level consists of businesses, knowledge institutions, agencies and other actors. The intervention logic should target various collaborative activities and projects among cluster participants. The according schemes and programmes should support the cluster management organization, as the main body for the collaborative initiatives (Christensen et al., 2012). Custer participants and cluster management organization level can be supported with various indicatives for competition, co-operation, research commercialization, critical mass of human capital, skills enchantment, quality of life, social capital (Table 11) (OECD, 2010).

Table 11. Common instruments used in clusters

Goal	Instruments
Engage actors	
Identify clusters	Conduct mapping studies of clusters; Use facilitators and brokers to identify firms that could work together.
Support networks/ clusters	Host awareness raising events; Financial incentives for firm networking organizations; Sponsor firm networking activities; Benchmark performance; Map cluster relations.
Collective services and business linkages	
Improve capacity, scale and skills of suppliers (mainly SMEs)	SME business development support; Brokering services and platforms between suppliers and purchasers; Complete general market intelligence; Co-ordinate purchasing; Establish technical standards.
Increase external linkages (FDI and exports)	Labels and marketing of clusters and regions; Assistance to inward investors in the clusters; Market information for internal purposes; Partner searches; Supply chain linkage support; Export networks.
Skilled labor force in strategic industries	Collect and disseminate labor market information; Specialized vocational and university training; Support partnerships between groups of firms and educational institutions; Educational opportunities to attract promising students to region.
Collaborative R&D and commercialization	
Increase links between research and firm needs	Support joint projects among firms, universities and research institutions; Co-locate different actors to facilitate interaction (science parks, incubators); University outreach programmes; Technical observatories.
Commercialization of research	Ensure appropriate intellectual property laws framework; Overcome barriers to public sector incentives in commercialization; Technology transfer support services.
Access to finance for spinoffs	Advisory services for non-ordinary financial operations; Public guarantee programmes and venture capital; Framework conditions supporting private venture capital.

Adapted from: OECD, 2010.

Smart specialization should be aimed at clusters to increase their competitiveness. Some of OECD countries and regions are combining clusters policies and Smart specialization strategies (OECD, 2014), for example supporting thematically similar clusters and promoting entrepreneurial discovery process.

As the cluster management organization plays the central role in the cluster development and management, it is necessary to further analyze this type of structure.

Cluster management organization

With the presence of geographical concentration of different companies and knowledge, the collaboration in clusters happens rather in coincidence unless it is a planned and managed process, usually by the cluster management organization (Christensen et al., 2012). Cluster management organizations provide significant benefits to their clusters participants (Kocker et al., 2012):

- Collaborative technology and product development
- Exchange information among cluster actors
- Internal matchmaking
- Development of human resources
- Entrepreneurial support
- Matchmaking and networking with external actors
- Internationalization
- Creating new business opportunities

Cluster management organizations provide not only internal management operations, but also represent the cluster or in other words an agglomeration of different actors (companies) to the external actors. The following criteria can be affected by the managing organization for the benefit of all cluster members: structure of the cluster, governance, financing, strategy and services, recognition. Active cluster managing organizations tend to achieve a higher impact on cluster participants (*ibid*).

The cluster management organization was selected as irreplaceable source of qualitative data for the further research of Lithuania clusters.

Theoretical view of Creative clusters

Generally creative clusters can be broadly defined as clustering of CCI. Clusters of creative industries tend to have different characteristics as the clusters of other businesses, like flexible organizational arrangements, temporary, project-based workforce, dominating SMEs. The general definition of creative industries and cultural industries by EC are as follows:

"*Creative industries" are those industries that use culture as an input and have a cultural dimension, although their outputs are mainly functional. They include architecture and design, which integrate creative elements into wider processes, as well as subsectors such as graphic design, fashion design or advertising* (EC, 2011).

and

"*Cultural industries" are those industries producing and distributing goods or services which at the time they are developed are considered to have a specific attribute, use or pur-*

pose which embodies or conveys cultural expressions, irrespective of the commercial value they may have. Besides the traditional arts sectors (performing arts, visual arts, cultural heritage – including the public sector), they include film, DVD and video, television and radio, video games, new media, music, books and press. This concept is defined in relation to cultural expressions in the context of the 2005 UNESCO Convention on the protection and promotion of the diversity of cultural expressions (EC, 2011).

The terms "cultural clusters" and "creative clusters" have been used interchangeably (Kong, 2009). The roots of the terms are in the usual divide between cultural industries, more focusing on the derivative of the cultural activity and creative industries – with more emphasis on the entertainment and copyright industries. It should be noticed that the term "creative and cultural" industries has been used to describe the sector as a whole, as it is hard to find the precise separation between them. With the regard to the cluster definition, the term "creative cluster" seems to describe the clustering effect of the both.

In the 1930s and 1940s the term "culture industry" was introduced to describe an emerging serialization of production related in particular to radio, film and recorded music industries (Footer, Graber, 2000 cited in Markova, 2014). Later in 1994 the Australian government published a report focusing on the economic aspects of the creative industries, particularly indicating that creative industries are the main factor in economic development and employment. In 1997 United Kingdom' Department of Culture, Media and Sport (DCMS) categorized creative industries (Table 12) based on the assumption that creative industries have sufficient potential to creative well-being and new jobs based on intellectual property (Sroda-Murawska, Szymanska, 2013).

In order to fully understand the concept of creative cluster there is a need to briefly overview the creative industries (Table No 11). Creative industries and creative clusters have positive effect on the other sectors as they stimulate the cross-sectorial innovation. Recent studies have found creative industries to be more innovative than other manufacturing and service sectors (Cooke, Propris, 2011).

Table 12. Classification of creative industries by different national and global organizations

Economical activities	DCMS 2009 (UK)	WIPO Copyright Industries (2003)	Eurostat LEG (2000)	KEA European Affairs (2006)	UNCTAD (2010)
Printing		◆			◆
Publishing	◆	◆	◆	◆	◆
Advertising and related services	◆	◆	◆	◆	◆
Architecture	◆	◆	◆	◆	◆
Arts and antique markets / trade	◆	◆			◆
Crafts	◆	◆	◆	◆	◆
Design / Special design services	◆	◆	◆	◆	◆

Economical activities	DCMS 2009 (UK)	WIPO Copyright Industries (2003)	Eurostat LEG (2000)	KEA European Affairs (2006)	UNCTAD (2010)
Designer fashion	◆	◆			◆
Film / Motion picture & video industries	◆	◆	◆	◆	◆
Music / Sound recording industries	◆	◆	◆	◆	◆
Performing arts (theatre, dance, opera, circus, festivals, live entertainment) / Independent artists, writers, & performers	◆	◆	◆	◆	◆
Photography	◆	◆	◆	◆	◆
Radio and television (Broadcasting)	◆	◆	◆	◆	◆
Software, computer games and electronic publishing	◆	◆	◆	◆	◆
Heritage / Cultural sites (Libraries and archives, museums, historic and heritage sites, other heritage institutions)			◆	◆	◆
Interactive media			◆	◆	
Other visual arts (painting, sculpture)			◆		◆
Copyright collecting societies				◆	
Cultural tourism / recreational services				◆	◆
Creative R&D					◆

Adapted from Domenech et al., 2011.

CCI have been found to cluster in geographic proximity and benefit from spillovers and other external economies (Cooke, Propris, 2011). Creative industries are receptive for cross-sectorial innovations and technology transfers. In other words, a particular sector of creative industries tends to apply technologies from other creative industries sector. The following can be stated (Domenech et al., 2011):

1. Creative industries are more concentrated in space than in the field of economic activity;
2. Creative industries tend to concentrate in large and medium urban areas and cities;
3. In one urban area or city there can be more than one creative cluster of the same industry and size.

The term "cultural creative cluster" can be used in order to emphasis the "cultural part" of the "creative and cultural industries" (Kong, 2009). As the both terms are used in parallel to describe the same phenomenon, various scholars uses the more appropriate term for the context of their research. Cultural clusters can be defined as agglomerations of arts activity common to urban communities, which consist of artists, businesses and non-profit organizations (Stern and Seifert, 2010). Compared to industrial clusters, creative clusters tend to locate in urban and highly populated areas (Cooke, Propris, 2011). Commonly successful creative clusters can be attributed to the "creative cities" with high density of the cultural and creative businesses, like London, Paris, Austin, New York, San Francisco and etc. where a complete ecosystem is present: strong university – business linkages, venture capital, anchor ventures and mediating organizations (Kong, 2009). Cooks and Propris (2011) argues that creative cluster can be defined as a place that bring together:

1. Community of creative people;
2. Economic efficiencies derived from external economies and agglomeration economies;
3. Thick, open and ever-changing network of inter-personal exchanges.

Creative clusters can co-locate based on the related varieties, based on the same technological platform. For example, industries like media, software, advertising, computer games all are based on digital technology platform (Cooke, Propris, 2011). "Cultural cluster is special type of social network in which geographic propinquity is a critical feature" (Stern and Seifert, 2010). Contrary to the cultural districts, cultural clusters are the natural evolutionary agglomeration formed by the creators of creative content and the consumers. Compared to regular or industrial clusters (Table 13), the creative clusters are quite different in number of criteria. The differences can be noticed in the whole environment of the cluster as well. Creative sector ecology (*ibid*): non-profit organizations; commercial cultural firms; individual entrepreneurs and artists; schools.

Table 13. Differences of regular and creative clusters

Criteria	**Regular cluster**	**Creative cluster**
Network	Network of firms	Network of individuals
Location	Specially dedicated places	Cities, urban areas
Innovation	Sectorial	Cross-sectorial
Multiplication	One of kind at the same location	More than one at the same location
Connection to region	Mainly economical	Economic and social

Source: created by author

Creative clusters are very different from the industrial clusters in the sense of social connection to the location. Cultural clusters tend to bring various benefits to the location

that they are located, as higher levels of civic engagement, increase in population, rise in housing values, decrease of poverty rates. "Artists have become social entrepreneurs, selling their vision as well as their wares" (Stern and Seifert, 2010). Culture and arts, being the inevitable part of the contemporary society, is a subject of commerce and provides more than only economic benefits, but also social function as well. Creative clusters are based on the creative society irrespectively if they are formed historically (naturally) or with the targeted support. Elements of creative society are the building blocks for the creative clusters shaping the uniqueness and performance. Cultural clusters can be attributed to the following types (Stern and Seifert, 2010):

- Consumer districts, attracting audiences and shoppers. Planned cultural districts, cultural quarters.
- Producer district, integrating arts and design professionals and support services.
- Civic clusters: maximizing community and cultural engagement.

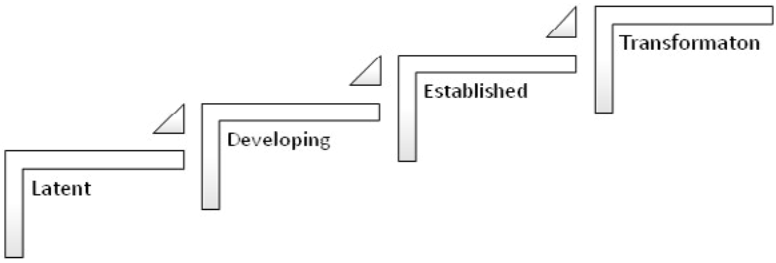
The differences between cultural and creative clusters are insignificant to separate them as being different types of clusters. The division in terminology arises from the definitions of creative industries and separately cultural industries. As the review of works by various scholars shows, the most widespread and established term is CCI covering both parts of the matter, the separate definitions of the same object spatial clustering has no reason, so the only term should be used – creative cluster.

According to Klaus (2006, cited in Markova, 2014) there are at least three types of creative clusters:

1. Creative clusters as strategies for image development and urban regeneration (Type 1);
2. Creative clusters as a development and employment policy (Type 2);
3. Creative districts and quarters with a "cool" subculture, creative freelancers and SMEs (Type 3).

Many authors stress the importance of the creative industry clusters in the perspective of cooperation and the exchange of ideas (Sroda-Murawska, Szymanska, 2013) what gives the perspective of development not to only within CCI, but to the other industries as well. It should be noted, that boundaries between creative industries and other industries are blurring because of the backward and forward linkages of innovation performance in the diverse sectors of the economy (Sleuwaegen, Boiardi, 2014).

Creative cluster has similar development cycle or stages of development as the regular industrial clusters. For comparison the development stages of clusters are presented in the Figure 10 and the development stages of creative cluster are presented in the Table 14. The idea behind the cluster development cycle is that when the establishment stage is reached, which is the economically the most preferable stage and can continue only for a limited time, after the transformation stage should follow. Transformation means that the cluster loses its strategic regional (or global) advantage due to competition or other factors and has to undergo a new development stage.



Source: Adapted from Markova (2014).

Figure 10. Stages of cluster development.

The creative clusters development cycle can be attributed to the same logic as industrial cluster development cycle. On the other hand, the specifics of the creative clusters development can be expressed by the level of dependency on the public support and interventions. The creative clusters reach the maturity when they become self-sustainable and have access to global markets.

Table 14. Stages of creative cluster development

Stage	Definition
1. Dependent	Creative enterprises developed as a direct result of public sector intervention through business support, infrastructure development for cultural consumption and finance to SMEs. Public subsidy required sustaining the cluster, limited and underdeveloped local markets.
2. Aspirational	Some independent creative enterprises and/or privatized former public sector cultural enterprises in place but limited in scale and scope. Underdeveloped local markets and limited consumption infrastructure. High levels of public and institutional boosterish promotional activity.
3. Emergent	Indicated by growing number and scale of creative enterprises with infrastructural investment from the public sector. Developing local and regional markets. Visible cultural consumption, internationalization of market reach.
4. Mature	Led by established large-scale creative enterprises in specific industries with established subcontracting linkages and highly developed national and international markets. Business to business consumption. Arms-length public intervention.

Source: Adapted from Evans (2009, cited in Markova 2014).

The "mature" development stage of the creative clusters (Table 14) is based on the idea that the creative cluster has to be led by large-scale enterprises and suggests the traditional innovator-follower model of the cluster. As the literature review has revealed, this

is not a necessary practice anymore and creative clusters can be composed of SMEs and other non-large scale actors, what depends on the structure of regional creative economy.

Creative clusters are closely related with regional creative economy. Primarily, because they are the concentration of CCI commercial activities. Secondly, combination of geographical dimension and the systemic nature of innovation gave rise to the concepts such as "national system of innovation", "regional system of innovation" and "learning region" what emphasize the importance of the territorial dimension – a territory's specific combination of social conditions (Sleuwaegen, Boiardi, 2014). Creative clusters reflect the social state of the territory.

Generally, cultural industry clusters and creative industry clusters – the creative clusters fit in the broad concept of clusters with some limitations. However, they have a different composition of actors and different connection with the environment.

Conclusions of Part 1

The concept of economical specialization is not new, but with the goal of becoming the most competitive and dynamic knowledge-based economy in the world EU made a decision to rethink and redesign its innovation policies. The new element was the regional dimension as previously introduced innovation policies were "space blind". Smart specialization was adopted as an *ex-ante* conditionality to access the EU SF support for R&D and innovation activities as a third generation of innovation policies. Smart specialization builds upon following elements: governance scheme involving as many possible stakeholders; continuous entrepreneurial discovery process to keep the strategy "alive"; limited number of themes for concentration of all available resources; and regional dimension as understanding the regional challenges and possibilities to be exploited. The current understanding of Smart specialization proposes the following description "a process of the governed operation of entrepreneurial discovery to arrive to a limited number of priorities for regional competitiveness". Yet the current understanding of Smart specialization is too general and insensitive to regional specialties. Smart specialization is still understood more like an industrial specialization – a combination of best economic scenarios rather than really exploring more available contexts. The new understanding of Smart specialization should focus on multi-stakeholder and multi-layer governance what is decentralized and de-concentrated and is the core of the creative society. The new description of Smart specialization could be upgraded to the following "Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness". The further development of Smart specialization concept and regional specialization in general will heavily depend on the forthcoming implementation and practice analysis.

Currently there is no universal and established definition of creative society, but it should be understood as an evolution of information and knowledge society with particular expression of regional features. Creative society is fundamental layer of the creative economy and is embedded to the place where it exists. It is organized in non-hierarchical

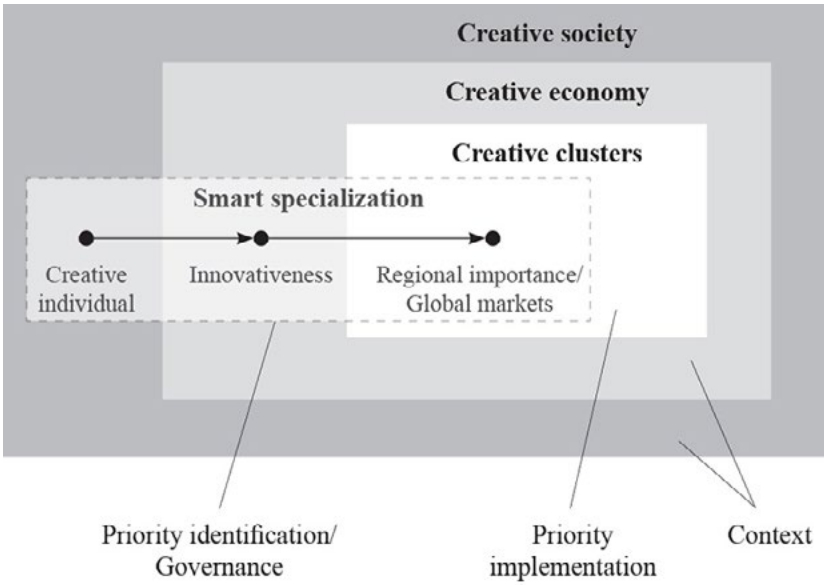
form and is exploiting its creative potential for the exclusivity. Every individual is a creator and active economical unit. Specific roots in the education shape creative society. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits. Creative society can be described by the concept of *creative milieu,* what is the degree to which people feel like a part of the region and is the factor for regional innovativeness. Hence, the creative society has the connection with Smart specialization that is a function of entrepreneurial discovery for the regional competitiveness.

Economical and managerial concepts of cluster are well established among many scholars. Generally, clusters can be defined by spatial boundary of actors; thematic boundary of actors; and interconnections between them. The crucial element among different actors of the cluster is the integration and level of it. There are many definitions of cluster, focusing on different aspects of clustering phenomenon or economical/regional benefits of clustering. The modern understanding of clusters is generally attributed to works of Porter what is also called industrial cluster school. Among others there are Nordic school – focusing on mutual learning aspects; Californian school – focusing on mutual rules and reduced costs of transaction; and Industrial districts – focusing on cooperation based on geographical proximity of the actors. Cluster history can be traced back to Middle ages, where the regional accumulation of know-how was already a substantial competitive advantage. Later on, the regional concentration of resources and specialized labor force was a dominant precondition for clusters. In the creative society conditions, main factor of clustering is the local community and it's features. Clusters are gateways to regional and global partnerships, an ecosystem for fast idea development and commercialization. Clusters will remain of high regional importance, attracting new knowledge from cluster adapted knowledge institutions. Clusters will be composed of more diversified participants, including public sector. In a competitive economic environment clusters are affected not only by market conditions, but also by innovation, fiscal, labor and etc. policies. Cluster policy should introduce or amplify specific actions and target selected cluster participant – firms, intermediary institutions or cluster management organizations, what plays a major role in cluster development. Cluster management organizations provide not only internal management operations, but also represent the cluster to the external actors and other organizations (other clusters among them). Creative clusters can be seen as spatial concentration of various actors, active in the field of CCI, which benefit from spillovers and other external economies. Creative clusters tend to appear in dense urban areas. Innovation process is more inter-sectorial (hence the benefit from the external economies). Comparably to traditional clusters (industrial clusters), creative clusters tend to have a strong social connection to the environment. Development cycle is similar to the traditional clusters, starting with being dependent from the external support; aspirational, with some independent cluster members, but generally underdeveloped markets and dependent on public support; emergent, with access to global markets and specialized infrastructure; and mature, with global markets and large anchor companies.

2. METHODOLOGY AND FRAMEWORK FOR CREATIVE CLUSTERS GOVERNANCE

The following part, based on the findings from the theoretical analysis in the Part 1, proposes the theoretical framework as a canvas for the development of the model of Creative clusters governance under the Smart specialization. The main purpose of the framework is to provide the logic disposition of the elements for the further development of the model. Further, this part describes methodology used to develop, verify and supplement the model with empirical finings.

The framework (Figure 11) proposes the concept of how Smart specialization should be used initiating, discovering, developing and governing creative clusters. Generally creative cluster governance framework relies on four previously analyzed (in Part 1) elements: creative society and creative economy as context, creative clusters as priority implementation element and Smart specialization as priority setting element, but mostly important – as governance element, connecting all other elements.



Source: Created by author

Figure 11. Framework for creative clusters governance under the smart specialization

The logic for such placement, where the creative society is the broadest element, encompassing creative economy and creative clusters, can be described using the following explanation:

1. In the framework, Creative society is the contextual overarching element, encompassing other elements. It is the basis for the existence of the creative economy and hence – the creative clusters.
2. Creative economy exists on the basis of the creative society and forms/affects the creative clusters.
3. The connection between creative society, creative economy and creative clusters is structural, as creative society shapes the creative economy and creative economy shapes the clusters.
4. Smart specialization is the element or function connecting all other elements. The production factors like financial capital, information, consolidated technologies and codified knowledge are available virtually everywhere, the ability to organize these factors into the innovative production process exists only in some places (Camagni, Capello, 2013).
5. Smart specialization should use the various resources of the creative society in favor of a regional creative economy and should seek for the best disposition of the resources. The content is taken from features of creative society and the form (or disposition) is applied according to the needs and possibilities of regional creative economy. The features of creative society should be used in the smart specialization priority setting process, incorporating all the elements in order to deliver the relevant and inclusive priorities as well as stay in the concepts of "embeddedness" and "connectedness" (*ibid*).
6. Priority implementation domain answers to the question: "What are the connection of clusters with the creative society and regional creative economy?" and provides economical relevance of the cluster to the environment: society in general and regional conditions.
7. The compliance with the existing features of creative society is very important because if the knowledge inflows into region are related to the regions existing technological fields, then this fosters growth (McCann, Ortega-Argiles, 2013).
8. There is a strong agreement that local and regional economy benefits from the clusters in various ways. For example, the clusters bring in new industries to the region and overall growth within existing ones (Dudian, 2011). The connection with regional economy is bi-directional, because sustainable regional ecosystem is able to grow by disconnecting itself from the technology cycle that is going to decline (Crespo et al., 2013).

Based on the analysis in the Part 1, further are presented the most important features that should be triggered by the operation of the model. These features are based on the analysis in the Part 1 and correspond to the main elements of the framework:

1. *Creative society*: the most important feature of the creative society is the creative individual. It is the smallest building block of the society as a whole. Other previously described features of the creative society are closely connected with the development of the creative individual or as an environment of the creative individual.

2. *Creative economy*: creative economy is based on the intangible assets and ideas; therefore, innovation or innovativeness is the most important element.
3. *Creative clusters*: the most important features of the creative clusters are regional importance and access to global markets. Gaining regional importance allows clusters to attract talent and new ideas, generate knowledge spillovers, stay competitive and grow.

In a simplified logic, the framework presents the Smart specialization as the mechanism or function that would set the appropriate innovative actions for the creative individual(s) (in general sense) to access the global markets and gain regional importance.

Empirical research is needed to fill the proposed framework accordingly with the criteria to express the proposed features and possible indicators for the control of implementation. Criteria should be understood as the area of policy intervention. The logic for further development of the model is to assign criteria to the features and indicators to the criteria (features -> criteria -> indicators). The features for the parts in the framework are taken respectively from the analysis carried out in the Part 1 of the Thesis. As the framework consists for the four main parts, the following criteria are attributed to each part in the Table 15. The main features are written in italic, while other features are in regular font.

Table 15. Proposed criteria for the framework elements

Element of the framework	Features	Criteria*
Creative society	Creative individual Exclusivity Foundation of creative economy Embedded to the place Roots in the education Based on technology	1. Education 5. Expenditure on R&D 4. Innovation
Creative economy	Innovativeness Multi-governance	3. Size of creative economy 6. Size of high-tech and knowledge intensive services 7. Employment in technology and knowledge-intensive sectors 2. Commercialization
Creative clusters	Regional importance Global markets Knowledge application Actors	8. Diversity in actors 9. Number of mature creative clusters 10. Access to global markets
Smart specialization	Governance Limited number of themes Entrepreneurial discovery Regional dimension	11. Connectedness 12. Embeddeddness

*- criteria are numbered according to the performed analysis in the Part 3

Source: created by author

Selected features do not have directly attributed criteria. The reason is that it's hard to capture changes in the fields of feature as "exclusivity" or "embeddedness to the place where it exists". Other criteria, for example in the Smart specialization domain of the framework, were concentrated to the desirable function of Smart specialization.

In order to construct the model for the governance of creative clusters under the Smart specialization conditions it is necessary to analyze best practices and Lithuanian context, what is described in the following part. The governance model can be developed further after the empirical analysis. Therefore, the following research methodology has two main goals:

1. Evaluate the economical intensity of creative industries in the European Union at the regional level (NUTS2) and analyze existing practice (Chapter 2.1.).
2. Analyze the official Lithuanian creative clusters (Chapter 2.2.).

2.1. Methodology for the analysis of regions (NUTS2) and their management practices

One of the objectives of this thesis is to find the best existing creative cluster management practices from EU regions. From the methodological point of view, the best practice is understood as a management framework, composed from various national and regional strategies. There is no point yet to search for best Smart specialization implementation practices as it is too early for that (Smart specialization was adopted as a EU practice from 2014 onwards). Thought the goal of this research is not to find the best systems for Smart specialization, but to find the already existing management practices which are economically performing better than the others and to build the further research and possible suggestions on them. The goal of performing this research is to analyze how countries' practices are covering the theoretical model. Creative cluster management framework shall be validated or amended in the accordance with the existing practices. The assumption is made that the region with most economical benefits from the CCI should qualify as the example of the best management practice or in another point of view – have the creative clusters which are performing better than the others. There are limitations to this point of view, such as the possibility that the regional creative economy is performing strongly without the noticeable interventions (the existing regional strategies are not directly applicable to the creative clusters). In such a case it would also be valuable data and could be researched more closely in the future. Each region has specific assets, unique capabilities and industrial policies to make it different from the other regions (Sleuwaegen, Boiardi, 2014). In order to find the best existing management practices, the following steps were taken:

1. Set up the indicators for the regional analysis
2. Gather the planned data
3. Evaluate the regions
4. Set up the framework for the analysis of the national and regional strategies
5. Analyze the best practice and evaluate how does it match or supplement the theoretical model

It is possible to use a wide range of the indicators from the economic, social, cultural, political, technological and other domains. The reason behind the assumption that in this case the best way to compare the region with another is the economic indicators is twofold. Firstly, the analysis of the economic indicators is a well-established international practice as well as the methods to compare firms, clusters, regions, countries or continents with one another. Secondly, the availability of diversified regional data in publicly accessible databases is a crucial point for this analysis, as there are no other methods for gathering required data planned. The initial analysis of the available data and indicators for EU wide analysis showed that the domain of economic data is available fairly well.

Indicators and metrics

The model of composite indicator was selected for the evaluation of the EU regions. For construction of composite indicator, a set of three economic indicators was selected while all of them have been normalized not to become dominant in comparison of larger regions to smaller ones. In order to evaluate which of the EU regions are the most active in the CCI from the economical point of view, the following indicators were selected:

1. *Proportion of jobs in the creative clusters (RI1, % of total jobs)*. The indicator represents the proportion of jobs in the clusters working in the CCI sectors at the particular EU region, or in other words – in the creative clusters compared to the total number of jobs in the region. The indicator is important in understanding how creative clusters perform in employment at regional level and in such way are supporting the regional economy. The indicator also indirectly represents the share of creative workers and size of the creative economy in the region. Human capital at work in the creative occupations is a prime source of inspiration for the generation and adoption of the new ideas and patented knowledge (Sleuwaegen, Boiardi, 2014).
2. Proportion of firms in the creative clusters (RI2, % of total number of firms). The indicator represents the proportion of firms in the clusters working in the CCI sectors at the particular EU region compared to the total number of firms in the region. The number of firms in the cluster reflects the size of the clusters. Though there should be taken into the account that firms in the CCI sectors tends to be small in size what might result in a larger total number of entities. The proportion of jobs in the creative clusters leverages the impact of this indicator.
3. The share of CCI at the regional economy (%). The best way to determine the share of CCI at the regional economy would be to calculate the proportion of CCI in the regional GDP. As this data appeared unavailable for the mayor parts of the EU, the proportion of the average wage in the CCI sectors compared to the regional average wage was used instead. The share was calculated in the following way:

$$\mathbf{SC} = \frac{\mathbf{CW} \cdot \mathbf{CJ}}{\mathbf{RW} \cdot \mathbf{RJ}} \qquad (1)$$

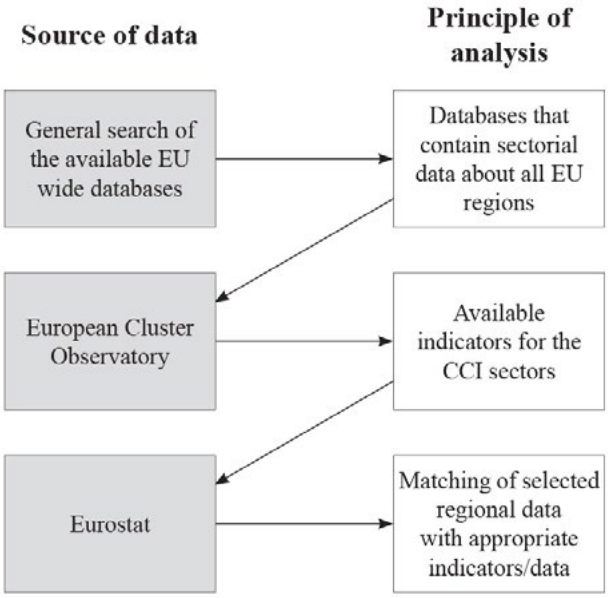
Where SC – the wage level in the CCI compared to the regional average wage, CW – the average wage in the CCI sectors, CJ – the number of jobs at the CCI sectors, RW – av-

erage regional wage, RJ – number of jobs in the region. This indicator correlates with the share of GDP under the assumption that firms are the rational actors and are paying the proportional wages to the created value. The composite indicator for the regional creative clusters performance is calculated in the following way:

$$\mathbf{CCP = RI1 + RI2 + SC} \qquad (2)$$

Where CCP – the composite indicator for the regional creative clusters performance, RI1 - proportion of jobs in the creative clusters, RI2 - proportion of firms in the creative clusters, SC - share of CCI at the regional economy.

Logic of the approach to the data access and analysis is provided in the Figure 12. The main data source was the European Cluster Observatory database (webpage: www.clusterobservatory.eu) that is a single access point for statistical information, analysis and mapping of clusters and cluster policy in Europe (European Cluster Observatory, 2014). Additional data source was the official EU statistical database Eurostat (webpage: http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home/).



Source: created by author

Figure 12. Steps of the analysis of European regions

First of all, the analysis of the available indicators for the CCI sectors was performed with the aim to verify the availability of the data. For example, if the data is available at

country level, not all indicators are covered by data on the regional level, or some of the regions are missing in both levels. The reason for this situation might be the differences in the reporting practices by various EU countries. After analyzing the availability of regional data for the RI1 and RI2 indicators, the required data was downloaded and regional indicators were calculated accordingly. Another source of data was Eurostat and after checking the availability to obtain the data in the same regional scale, the SC indicator was calculated according to the formula above. The values of composite regional index CCP are presented in the Table 16 (only first 10 positions with highest ranking are presented, the rest of the data is in Annex I).

Table 16. The composite indicator for the regional creative clusters performance

Country	Region	CCP
United Kingdom	**London**	0,166320515
Italy	**Nord-Ovest**	0,135728064
Spain	**Madrid**	0,132943176
The Netherlands	**West-Nederland**	0,131676996
France	**Île De France**	0,129437598
Spain	**Este**	0,115176484
Sweden	**Östra Sverige**	0,106791247
Italy	**Centro**	0,104659309
United Kingdom	**South East**	0,095954323
Italy	**Nord-Est**	0,085709417

Source: created by author

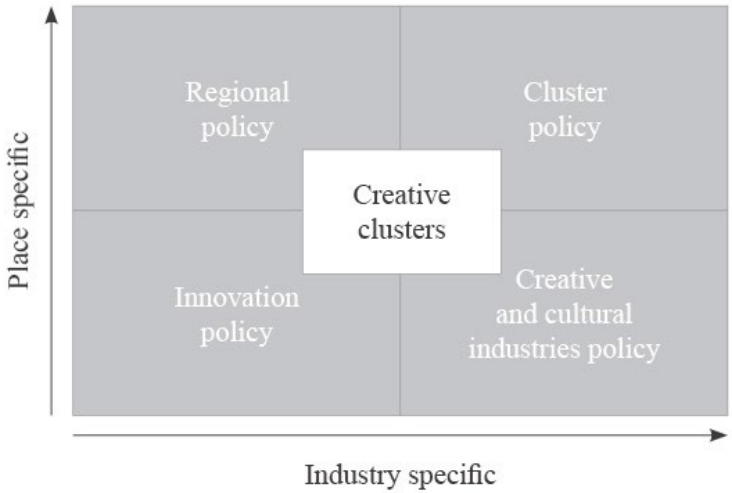
The value of CCP shows the region of London (United Kingdom) to be in the highest ranging with a large gap from the positions below. The difference between the rest of the regions is comparable not substantial. For the further analysis only three regions with highest CCP value were selected, accordingly: London (United Kingdom), Nord-Ovest (Italy) and Madrid (Spain). Comparably the CCP of Lithuania is 0,057560241. The whole map of the EU regional creative clusters performance distribution is presented in the Figure 13.

Source: created by author

Figure 13. The European Union map of regional creative clusters performance

Framework for policy research

The following chapter describes the logic of the applicable policies analysis for creative clusters, which is an original methodological instrument. As it was stated previously, one of the goals of this Thesis is to find the best existing creative cluster governance practices from EU regions. In order to do that, there is a need to identify the possible applicable policies and their mutual relations. The Figure 14 presents the logic of the applicable policies, which generally could be divided into the four domains: innovation policy, regional policy, CCI policy and cluster policy. The design and number of the policies, affecting the region is the choice of the national or regional governments and not necessarily is the same in all regions of EU. Usually innovation policy is the general strategy for all sectors while regional policy is more place specific. The cluster policy is oriented not necessarily only for the creative clusters, while CCI policy is sector specific and not necessarily applicable only to the clustering of firms. The combination of any four domains creates the framework for creative clusters policies.



Source: created by author

Figure 14. Policy types related to creative clusters

For the ease of further analysis, the presented policies are labeled in the following way: innovation policy (IP), regional policy (RP), creative and cultural industries policy (CCIP) and cluster policy (CP).

The recent models of regional innovation reflect the wider systems approach (as a response to the linear innovation model), which focuses on the interplay of institutions, policies and agents within the system to explain how innovation is generated in a certain area (Sleuwaegen, Boiardi, 2014). The goal of the further research is to find out how London

(United Kingdom), Nord-Ovest (Italy) and Madrid (Spain) policy practices and suggestions how to fill in the gaps are covering the theoretical framework. The following research question is used for every case of the region to find the best applicable practices: What are the most important criteria related to developing creative clusters and what are relations to other possible criteria? The criteria from the document analysis are compared to the theoretical framework criteria. The theoretical framework for creative clusters governance under the Smart specialization is based on four main domains (Table 15): creative society, smart specialization, regional creative economy and creative clusters and 11 selected criteria is used to describe these domains. The analyzed criteria from (1) strategic documents or (2) the documents analyzing relevant strategies or (3) strategies prepared by think tanks or official expert groups are matched with the proposed criteria (if there is a match) in the theoretical framework. Documents that been adopted as an official national or regional strategies are marked with the special indicator. Then the importance is measured in three-grade scale:

1. "+". Important. The criteria is listed as important in more than one of the analyzed documents.
2. "++". Very important. The criteria is listed as important in at least half of the analyzed documents.
3. "+++". The most important. The criteria is listed as important in at least two thirds of the documents or very important in at least half of the analyzed documents.

The rationale for measuring importance in the following way is based on the assumptions that:

- The more documents have relation to the criteria, the more important it should be for the covered country or region;
- To avoid an accidental inclusion of the criteria to the list it has to be mentioned more than one time;
- Some of the reports stress the importance of the particular criteria among others;
- The report can cover no criteria at all, but it will be included in the list of the analyzed documents.

The search for the relevant documents was performed using the keywords describing the various policies (Figure 14) and references from the already analyzed documents in the theoretical part. It must be noted that the number of analyzed documents per region varies, as there is not equal coverage, although the proportion of strategies is similar. Some of the documents were discarded as they have been only in Spanish or Italian language and were not analyzed. Documents older than 2008 were discarded. Each of the following three chapters has the summary of the documents' attribution to the policy field. Some of the documents are at European level, what means that they were applicable for all three regions. The following chapters present the analyzed documents, relevant findings and other observations. The method of the analysis was searching for the keyword and content analysis. Content analysis involves establishing categories and then counting the number of instances when those categories are used in a particular item or text (Silverman, 2011). It means, that even if there was no direct mentioning of the criteria in the document, the connection could be made from the content describing the context applicable to the criteria.

2.2. Analysis of relevant governance practices in EU regions

Policy research for the region of London

The documents used for the policy research for the region of London are presented in the Table 17. Total number of 14 documents was analyzed, with larger part covering the cluster policy and CCI policy.

Table 17. Policy research documents for the region of London

Year	Title	Institution	Policy label
2014	Create UK (Creative industries council, 2014) *	Creative industries council	CCIP
2014	March of the modern makers (Straw, Warner, 2014)	Institute for public policy research	CCIP
2014	Innovation report (Department of business, innovation and skills, 2014A) *	Department of business, innovation and skills	IP
2014	Technology manifesto (Copeland et al., 2014)	Policy exchange	IP
2014	Smart specialization in England (Department of business, innovation and skills, 2014B) *	Department of business, innovation and skills	IP
2013	A dynamic mapping of the UK's creative industries (Bakhshi et al., 2013A)	NESTA	CCIP
2013	A manifesto for the creative economy (Bakhshi et al., 2013B)	NESTA	IP
2013	Supporting the creative economy (House of commons, 2013) *	House of Commons Culture, Media and Sport Committee	CCIP
2012	A tale of tech city: The future of inner east London's digital economy (Nathan et al., 2012)	Centre for London	CP
2012	Clusters are individuals (Muller et al., 2012)	The Danish Ministry of Science Innovation and Higher Education	CP
2012	The Business of Creativity: A Creative Industries Strategy for Lewisham 2012-2015 (Lewisham arts service, 2012)	Lewisham arts service	RP

Year	Title	Institution	Policy label
2011	Eco-innovation and national cluster policies in Europe (Barsoumian et al., 2011)	European Cluster Observatory	CP
2010	Creative clusters and innovation (Chapain et al., 2010)	NESTA	CP
2008	Beyond the creative industries: making policy for the creative economy (NESTA, 2008)	NESTA	IP

* - Documents adopted by officials

Source: created by author

United Kingdom is among the world leaders of the size in the creative economy. Between 2009 and 2011, exports of the creative industry's services grew by 16.1 per cent, compared to 11.5 per cent for UK service exports overall and one in 12 jobs in the UK are either in the creative industries or in 'creative' jobs in other sectors (Straw, Warner, 2014). The value of services exported by the Creative Industries was 19.48 billion euro in 2011, 8.0 per cent of total UK service exports (DCMS, 2014). Examples of unique British successes can be found in a wide variety of areas including film, television, music, video games and fashion (House of commons, 2013). The CCI sector is rich in high-skilled, high-value-added jobs it is an important test case for whether Britain can win a global 'race to the top', rather than descending to the bottom with a proliferation of low-skilled, low-productivity jobs in the traded and non-traded sectors (Straw, Warner, 2014). IT, software and computer services was the largest Creative Economy group, with employment of 791 thousand in 2012 (31% of employment in the Creative Economy) (DCMS, 2014).

The national approach to clusters policy is highly horizontal. There are no sectors identified, and no prescriptive priorities or goals (Barsoumian et al., 2011). Nevertheless, the attempts to build clusters from scratch are not be favored by the applicable policies – successful examples are few and far between, not least because new clusters in an industry need to overcome the critical mass and reputational advantage enjoyed by established ones. A more productive approach is to build on areas or niches of existing strength (Bakhshi et al., 2013B; Chapain et al., 2010).

London is a key driver of activity for most creative sub-sectors (Straw, Warner, 2014). London is the smallest region in terms of area, occupying 1,600 square kilometers, less than 1% of the total area of the UK. London had a population of 8.3 million at mid-2012, 13% of the total UK population. Greater London is accountable for 22% of the total economic output of the country. London's age profile is younger than that of the UK as a whole, with a median age of 34.0 years in 2012, compared with 39.7 years for the UK (Office for national statistics, 2014).

The Table 18 presents the summary of the content analysis while the main findings are presented after the table. The documents in the table are listed in the chronological order; the numbers represent the criteria from the Table 15.

Table 18. Score of the analysis of documents covering the region of London

Title	1	2	3	4	5	6	7	8	9	10	11	12
Create UK (Creative industries council, 2014)	+	+	+				+	+		+		
March of the modern makers (Straw, Warner, 2014)	+							+		+		
Innovation report (Department of business, innovation and skills, 2014A)	+			+	+					+		
Smart specialization in England (Department of business, innovation and skills, 2014B)	+			+	+	+	+			+		
Technology manifesto (Copeland et al., 2014)	+			+		+	+	+				
A dynamic mapping of the UK's creative industries (Bakhshi et al., 2013A)												+
A manifesto for the creative economy (Bakhshi et al., 2013B)	+				+			+				
Supporting the creative economy (House of commons, 2013)	+									+		
A tale of tech city: The future of inner east London's digital economy (Nathan et al., 2012)	+						+			+		
Clusters are individuals (Muller et al., 2012)		+			+		+					
The Business of Creativity: A Creative Industries Strategy for Lewisham 2012-2015 (Lewisham arts service, 2012)	+		+	+						+		
Eco-innovation and national cluster policies in Europe (Barsoumian et al., 2011)												
Creative clusters and innovation (Chapain et al., 2010)	+					+					+	
Beyond the creative industries: making policy for the creative economy (NESTA, 2008)	+		+	+	+							
Total score of the analysis	+++	+	+	+	+	+	+	+	-	++	-	-

Source: created by author

The analysis of the content of the selected documents reveals, that United Kingdom's creative cluster policy (with the relation to CCI policy) does not favor specialization or limited number of themes. The concepts of the connectedness and embeddeddness are hardly mentioned. The very strong emphasis is put on the education system as the supplier of the skilled and talented workforce, what is the main building block of the creative economy. The employers should be encouraged to co-invest in training. The strong orientation to the skill matching involving employers is listed as important as well (Creative industries council, 2014). The policy is very oriented into strengthening the global exports. The governance system is quite based on the diversity of the actors, involving all possible stakeholders. Increasing the employment in the knowledge intensive sectors is the priority as well as increasing innovativeness and expenditure on R&D. The size and age of the clusters does not play any substantial part in the policy. Among other criteria findings were:

- Financial criteria:
  - The necessity for viable source of longer-term investment in the creative sector, particularly for small businesses (Straw, Warner, 2014);
  - Tax reliefs for small businesses in the CCI (Straw, Warner, 2014);
- Diversified workforce: the present diversity of the creative industries workforce (Creative industries council, 2014);
- Intellectual property protection (Creative industries council, 2014; House of commons, 2013; Straw, Warner, 2014);
- Importance of digital sector: digital sector and ICT must be developed as the main enablers of the CCI (Creative industries council, 2014; Nathan et al., 2012; Straw, Warner, 2014);

The successful implementation of the policy should be measured in (Creative industries council, 2014):

- Growth of the UK workforce that is employed in creative occupations — the creative economy;
- Share of UK's employment in the CCI;
- The number of creative industries enterprises as a percentage of overall number of businesses.

The Smart specialization priorities for the future development of United Kingdom are heavily based on the current economic potential. They are developed in accordance with 8 Great technologies that reflect the technological specialization (Department of business, innovation and skills, 2014B). Table 19 reveals the connection of the priorities with the European union priorities according the Smart specialization platform database (Smart specialization platform, 2014).

Table 19. Smart specialization priorities in United Kingdom

EU priority	UK priority	Connection with CCI
Advanced manufacturing systems	Automotive	No direct connection
Advanced materials	Construction	No direct connection
Aeronautics & space	Aerospace	No direct connection
Blue growth; renewable energy	Offshore wind energy	No direct connection
Digital Agenda	Information economy	Creative application of ICT technologies for the benefit of the government, public and business sectors
Food security and safety	Agricultural technologies	No direct connection
Public health & security	Life sciences	No direct connection
Service innovation	Professional business services	Advertising agencies
Sustainable energy and renewables	Nuclear; Oil and gas	No direct connection

Source: created by author

Only two of the total 10 priorities have connections with CCI. Information economy, being oriented at the exploitation of ICT and knowledge based, is closely connected with the field of the CCI. Professional business services are oriented at the large consultation sector, accountable for about 15% of UK GDP (Department of business, innovation and skills, 2014B), which is also consists of advertising and creative media agencies. The reason behind these findings might be that the Smart specialization priorities for the United Kingdom at national level were analyzed, but region of London does not have specific priorities. The CCI at the national level does not receive much attention while London remains the most creative region of Europe.

Policy research for region of Nord-Ovest

The documents used for the policy research for the region of Nord-Ovest is presented in the Table 20. Total number of 14 documents was analyzed, with major part covering the cluster policy and CCI policy.

Table 20. Policy research documents for the region of Nord-Ovest

Year	Title	Institution	Policy label
2013	Clusters & Industrial Districts (2013) *	Ministry of economy and Finance	CP
2013	Creative industry in Italy (VOILA, 2013a)	VOILA	CCIP
2013	How to better use the structural funds. The case of Lombardy Region (Cannada-Bartoli, 2013)	General Direction for Culture, Identities and Autonomy	RP
2013	Inspiring creativity. Promoting Culture and Creative Industries across Europe (Minichberger, 2013)	INTERACT	CCIP
2013	Meta-cluster and cluster policies in Lombardy region (De Ponti, 2013)	Innovation, Knowledge Economy and Enterprise Networking	CP
2013	Research and innovation strategies for Smart specialization in Regione Lombardia (Melazzini, 2013) *		RP
2012	Clusters are individuals (Muller et al., 2012)	The Danish Ministry of Science Innovation and Higher Education	CP
2012	Tactics. Better cluster policies and tools for implementation (Wise, 2012).	Pro Inno Europe	CP
2011	Eco-innovation and national cluster policies in Europe (Barsoumian et al., 2011)	European Cluster Observatory	CP
2011	Status of Creative Industries in Genoa (2011)	Creative Cities	CCIP
2011	Tourism clusters in Italy (Babalola, 2011)		CCIP
2010	The geography of creative industries in Europe: Comparing France, Great Britain, Italy and Spain (Boix et al., 2010)	European Congress of the Regional Science Association International	CCIP
2009	Creative Regions: Regional Analysis on Future Trends for Digital Creative Industries in Regione Piemonte (Giovannoli, 2009)	CREATE	CCIP

* - Documents adopted by officials

Source: created by author

Italy is Europe's 4th largest economy and the 7th largest economy in the world (Babalola, 2011). Small firms dominate the Italian industry (Babalola, 2011; Status of Creative Industries in Genoa 2011). The number of creative and cultural enterprises in Italy is 443.653, what accounts for 7,6% of the Italian enterprises. They contributed 76 billion

euro or 5,4% of national added value, employed 1 million and 390.000 employees or 5,6% of total national employment (VOILA, 2013a).

Because of its lack of natural resources, Italy suffers from local disadvantages in factors of production, which forced the country to move towards an innovation-driven path to generate productivity gains. Italy has been able to leverage its disadvantages in factor conditions and make some critical moves up the value chain into higher value-added economic activities. Italian firms organized early into clusters, a move that provided them with necessary protection from low-cost foreign rivals (Babalola, 2011). Clusters, or Industrial Districts as they are called have existed for a long time. There is no dedicated and explicit cluster policy at the national level (Barsoumian et al., 2011). Italy has district based industrial policy (Melazzini, 2013), while the meta-district approach focuses on identifying a kind of cluster not necessarily linked to a geographical concentration but focused on well-defined thematic areas with a horizontal approach (Wise, 2012). Italy is ranked first in the "state of cluster development" category of the Global Competitiveness Index 2011. (Babalola, 2011). The innovation and regional cluster policy is oriented to the high number of SMEs in clusters (Clusters & Industrial Districts, 2013). The top three CCI in Italy are: architecture, crafts and videogames (VOILA, 2013a).

The region of Nord-Ovest, total population above 11 million (18% of total Italian population), consists of four sub-regions (Knoema, 2014):

- Liguria, population 1616788, GDP per capita 26,858 euros, R&D expenditure 1.35% of GDP, 21.4% of human resources in science and technology;
- Lombardy, population 9917714, GDP per capita 31,743 euros, R&D expenditure 1.27% of GDP, 24.3% of human resources in science and technology;
- Piedmont: population 4457335, GDP per capita 27,350 euros, R&D expenditure 1.85% of GDP, 21.8% of human resources in science and technology;
- Valle d'Aosta, population 128230, GDP per capita 32,784 euros, R&D expenditure 0.69% of GDP, 20.2% of human resources in science and technology.

The Table 21 presents the summary of the content analysis while the main findings are presented after the table. The documents in the table are listed in the chronological order; the numbers represent the criteria from the Table 15.

Table 21. Score of the analysis of documents covering the region of Nord-Ovest

Title	1	2	3	4	5	6	7	8	9	10	11	12
Clusters & Industrial Districts (2013)	+	+				+					+	+
Creative industry in Italy (VOILA, 2013a)	+											
How to better use the structural funds. The case of Lombardy Region (Cannada-Bartoli, 2013)					+						+	+
Inspiring creativity. Promoting Culture and Creative Industries across Europe (Minichberger, 2013)		+		+								
Meta-cluster and cluster policies in Lombardy region (De Ponti, 2013)											+	
Research and innovation strategies for Smart specialization in Regione Lombardia (Melazzini, 2013)	+						+	+				
Clusters are individuals (Muller et al., 2012)				+	+					+	+	+
Tactics. Better cluster policies and tools for implementation (Wise, 2012).	+	+		+	+	+	+					
Eco-innovation and national cluster policies in Europe (Barsoumian et al., 2011)				+	+							
Status of Creative Industries in Genoa (2011)	+	+				+				+		
Tourism clusters in Italy (Babalola, 2011)	+			+						+	+	+
The geography of creative industries in Europe: Comparing France, Great Britain, Italy and Spain (Boix et al., 2010)											+	+
Creative Regions: Regional Analysis on Future Trends for Digital Creative Industries in Regione Piemonte (Giovannoli, 2009)	+				+		+			+	+	+
Total score of the analysis	+++	+	-	+	+	+	+	-	-	+	+++	++

Source: created by author

The analysis of the policies and studies covering Italian region of Nord-Ovest shows that there is clear specialization among the regions. Such situation has settled itself historically, with high-specialized districts, cities and regions. The criteria of connectedness and embeddeddness with the regional potential and specifics are strongly emphasized in the major part of the documents. The strategies put a lot of attention to the high specialization in products (De Ponti, 2013; Melazzini, 2013). Three main types of creative industries are recognized, related to the material culture (fashion, design, handicrafts, industry of food and taste), ICT and information (software, publishing, TV and radio, advertising and cinema), and cultural heritage (Music and performing arts, architecture, artistic and cultural heritage, contemporary art). Fashion is the most important economic sector and together with related activities (fashion, design, handicrafts, and food) (Boix et al., 2010). Education is highly important in almost all analyzed documents, while the university – industry relation and knowledge transfer is a priority. The strategies recognize the importance of the economic benefits of the creativity, what is traditionally derived from cultural activities. The share of creative economy is reasonably noticeable, though the size of it is not of particular importance. The innovative capabilities of CCI is equally important as the national and regional expenditure on R&D and the size of the knowledge based services sector. The others not mentioned before, but strongly emphasized criteria are:

- The aspect of networking for CCI (Cannada-Bartoli, 2013; De Ponti, 2013; Minichberger, 2013);
- Participation of local CCI in global value chain and innovation chain (Melazzini, 2013);
- The new models of management, of new public-private partnerships on a city, regional and interregional levels (Status of Creative Industries in Genoa 2011)

The region of Nord-Ovest consists of four smaller regions with individual Smart specialization priorities. The mapping and connection with the EU priorities is presented in the Table 22.

Table 22. Smart specialization priorities in Nord-Ovest region

EU priorities	Liguria	Lombardy	Piedmont	Valle d'Aosta
Advanced manufacturing systems		Advanced manufacturing	Mechatronic; Automotive; Made in Piemonte: textile and fashion, food, style and design	
Advanced materials			Chemicals	Snow sport equipment, clothing and new materials; Sensor technologies

EU priorities	Liguria	Lombardy	Piedmont	Valle d'Aosta
Aeronautics and space		Aeronautics and space	Aerospace	
Blue growth	Maritime technologies			
Cultural and creative industries		Cultural and creative industries	Made in Piemonte: textile and fashion, food, style and design	
Digital growth				Public Wi-Fi networks, digital services; Internet-based marketing technologies, Open Data analysis
Food security & safety		Agriculture and food production		
Public health & security	Health and life science; Security and quality of life	Healthcare Industry	Life sciences	
Smart green & integrated transport systems		Sustainable mobility		
Sustainable energy & renewables				Energy, bio-processes of biomasses, applications and systems of sustainable energy management
Eco-innovations		Eco-industry		

Source: created by author

Two of the sub-regions priorities have direct connection with CCI. Lombardy has Cultural and creative industries as a priority and Piedmont focuses on the textile and fashion, style and design. The indirect connection can be attributed to Valle D'Aosta priority for designing digital services and internet-based marketing technologies, which are applicable to CCI. The priorities of Liguria are much concentrated on Public health & se-

curity domain. Overall with CCI priorities at three out of four sub-regions of Nord-Ovest region the CCI are expressed clearly as a priority and part of Smart specialization strategy.

Policy research for the region of Madrid

The documents used for the policy research for the region of Madrid is presented in the Table 23. Total number of 7 documents was analyzed, with major part covering the cluster policy and creative and innovation policy fields.

Table 23. Policy research documents for the region of Madrid

Year	Title	Institution	Policy label
2014	Cultural/creative industries: policies and programmes (Council of Europe, 2014)	Council of Europe	CCIP
2013	Creative industries in Spain (VOILA, 2013b)	VOILA	CCIP
2013	Creative industries, spatial contrasts and urban governance in Madrid (Michelini, Mendez, 2013)	Centro de Estudos de Geografia e Ordenamento do Território	CCIP
2013	Innovation and Technology in Spain (Buisan, 2013)	Consejero economico y comercial	IP
2013	Spanish innovation strategy (Gobierno de Espana, 2014) *	Gobierno de Espana	IP
2012	Science, technology and industry outlook (OECD, 2012)	OECD	IP
2008	Madrid innovation and research system (Fundacion conocimiento, 2008)	Fundacion conocimiento	RP

* - Documents adopted by officials

Source: created by author

According to data provided by the General Treasury of Social Security (2009), the creative economy in Spain includes 64,484 businesses and 706,871 workers, representing 3.7% and 4.1% of the respective totals (Michelini, Mendez, 2013; VOILA, 2013b). Spain has constantly increased the amount of resources channeled to R&D over the last decade. Indeed, growth in investment in R&D (R&D expenditure as a percentage of GDP) has outpaced GDP growth uninterruptedly, rising from 0.91% of GDP in 2000 to 1.35% in 2008 (Gobierno de Espana, 2014). The State Innovation Strategy (E2i) for 2010-2015 aims to change Spain's production model by promoting and creating structures to improve the use of scientific knowledge and technological development (OECD, 2012). The financing of CCI in Spain is increasing from 2009 (VOILA, 2013b). Another indicator displaying a favorable trend is the number of patent requests, which reflects the effort made over the last few years to invest in innovation (Gobierno de Espana, 2014). Despite little govern-

ment support in Spain to these initiatives, Spain is an industry leader in software, video games and electronic publishing (VOILA, 2013b).

By Spanish Region, expenditure on innovation is markedly concentrated in the regions of Madrid (38.5%) and Catalonia (19%), which account for 57.5% of total expenditure on innovation. (Gobierno de Espana, 2014). The Madrid Region is one of the most densely populated regions of Europe with a ratio of 743 inhabitants per km2. Of the 179 municipalities located in the Madrid Region, the most populated is the capital city of Madrid, with more than 3 million inhabitants, which is also the most populated city in Spain. (Fundacion conocimiento, 2008). Madrid Metropolitan Region contains the largest concentration of creative industries in Spain. Nine of every ten creative economy jobs are located in urban areas, with a sharp majority in Madrid (29.3%), far above Barcelona (17.9%) (Michelini, Mendez, 2013).

The Table 24 presents the summary of the content analysis while the main findings are presented after the table. The documents in the table are listed in the chronological order; the numbers represent the criteria from the Table 15.

Table 24. Score of the analysis of documents covering the region of Madrid

Title	1	2	3	4	5	6	7	8	9	10	11	12
Cultural/creative industries: policies and programmes (Council of Europe, 2014)	+									+		
Creative industries in Spain (VOILA, 2013b)	+									+	+	+
Creative industries, spatial contrasts and urban governance in Madrid (Michelini, Mendez, 2013)							+	+				
Innovation and Technology in Spain (Buisan, 2013)	+			+	+					+		
Spanish innovation strategy (Gobierno de Espana, 2014)	+	+		+	+	+	+			+		
Science, technology and industry outlook (OECD, 2012)	+			+	+							
Madrid innovation and research system (Fundacion conocimiento, 2008)	+			+				+				
Total score of the analysis	+++	-	-	++	+	-	+	+	-	++	-	-

Source: created by author

Spanish policies focus on the fields of arts, heritage and culture instead of creative economy, but there is a recent shift toward it (VOILA, 2013b). There are 15 universities in Madrid region and more than 20 public research institutions depending on the State Administration. Out of the 121 total research institutes of CSIC (Consejo Superior de Investigaciones Científicas) 48 are placed in Madrid (Fundacion conocimiento, 2008). With such a high concentration of institutions of knowledge, the criteria of education are strongly emphasized in major part of the analyzed documents. The General Strategic Plan for 2012-2015 conducted by the new government is focused on the internationalization of cultural projects and the protection of intellectual property, rather than supporting and promoting the Creative Industries (VOILA, 2013b), what brings the high priority to the aspect of orientation to global markets. The regional innovativeness is stressed as important in more than a half of the analyzed documents. Among the criteria that were not listed are the following ones:

- The need for diversified funding of CCI, including private sources (Gobierno de Espana, 2014);
- Orientation towards stronger support for the intellectual property (VOILA, 2013b);

Table 25. Smart specialization priorities in region of Madrid

EU priority	Madrid priority	Connection with CCI
Advanced manufacturing systems	Development of instrumentation, microsystems and sensors	No direct connection
Digital growth	Security software, networks and information systems; Smart grids	No direct connection
Eco-innovations	Technologies for sustainable use, restoration of the natural environment and biodiversity conservation; Waste management, waste and emissions; Management and Water Quality	No direct connection
Food security & safety	Advanced technologies for the production and characterization of functional foods, improving food quality and safety	No direct connection
Industrial biotechnology	Biotechnology, agricultural production systems (including precision agriculture) and livestock; Development of new detection methods, genomics, proteomics, metabolomics and bioinformatics	No direct connection
Public health & security	Biomedical engineering, instrumentation and information technology in biomedicine	No direct connection

Smart green & integrated transport systems	Navigation systems, traffic control and transport security; Design, development and manufacture of propulsion systems and auxiliary systems of transport vehicles	No direct connection
Sustainable energy & renewables	Sources of renewable and sustainable energy	No direct connection

Source: created by author

The Smart specialization priorities in region of Madrid have no direct connection with CCI and are very oriented to technological development and manufacturing.

Policy research for the region of Lithuania

The documents used for the policy research for the region-country of Lithuania are presented in the Table 26. Total number of 14 documents was analyzed with the similar distribution among cluster, creative and cultural industries, and regional or innovation policy fiends. Government or ministries officially adopted many of these documents.

Table 26. Policy research documents for the region of Lithuania

Year	Title	Institution	Policy label
2014	Cluster Policy in Lithuania. Clusterization of Medical Companies and Institutions (Giliene, 2014)	Mykolas Romeris University	CP
2014	Concept of cluster development in Lithuania (Ministry of Economy, 2014)	Ministry of Economy of the Republic of Lithuania	CP
2014	Cultural and creative industry development strategy for 2014-2020 (Ministry of Culture, 2014) *	Ministry of Culture of the Republic of Lithuania	CCIP
2014	Implementation program of Smart specialization priority fields and priorities (Government of the Republic of Lithuania, 2014) *	Government of the Republic of Lithuania	IP
2013	Lithuanian innovation development programme 2014-2020 (Government of the Republic of Lithuania, 2013) *	Government of the Republic of Lithuania	IP
2012	Cluster study (Jucevicius et al., 2012)	Knowledge economy forum (Žinių ekonomikos forumas)	CP
2011	Analysis of creative cluster development in Kaunas region (Tulusiene, 2011)	Kaunas regional development agency	RP

Year	Title	Institution	Policy label
2011	Creative and Cultural Industries programme. Feasibility study to stimulate the economy (Bankines konsultacijos, 2011)	Bankines konsultacijos	CCIP
2011	Creative and cultural industries sector development (Ministry of Culture, 2011) *	Ministry of Culture of the Republic of Lithuania	CCIP
2011	The future of clusters development in Lithuania (Soloveicikiene, 2011)	Ministry of Economy of the Republic of Lithuania	CP
2010	Feasibility study of creative industries in Vilnius region (Cerneviciute et al., 2010)	Vilnius Gediminas technical university	RP
2010	Lithuanian innovation strategy for 2010-2020 (Government of the Republic of Lithuania, 2010) *	Government of the Republic of Lithuania	IP
2010	Lithuania's progress strategy "Lithuania 2030" (Lithuania 2030, 2010) *	Lithuania 2030	RP
2008	Feasibility study of creative and cultural industries in Lithuania (Gelunas, et al., 2008)	Association of creative industries	CCIP

* - Documents adopted by officials

Source: created by author

Lithuanian R&D expenditure in 2012 was 0.9% from GDP (from which 0.66% was public). This is one of the lowest results in EU. Innovativeness growth in Lithuania in 2012 was one of the fastest in the EU – 5% (Government of the Republic of Lithuania, 2013), but despite that Lithuania remains one of the least innovative countries in the EU (Innovation output indicator in 2012 was 57.9 compared to EU101.6) (EC, 2014). The problems behind that are not open and attractive R&D system, low number of patents, low number of incoming PhD students (Government of the Republic of Lithuania, 2013) and low rate of business investment in R&D (European Commission, 2015). The knowledge intensity of the economy indicator in 2012 was 32.7 (EU: 51.2) during 2007-2012 was growing at 1.7%, compared to EU average growth of 1% (EC, 2014).

In 2006 – 2009 the Lithuanian CCI sector has experienced a constant growth in numbers of employees – an annual 4.7% incensement. The economic recession in 2008 – 2009 has little effect on the CCI sector; the number of employees did not decrease, but managed to increase at 5.7% (Bankines konslutacijos, 2011). In 2008 export of intellectual property related goods and services has accounted for 4,68% of GDP in Lithuania, total export of CCI sector was 4,8% of GDP and employed 4,9 % of labor force (Ministry of Culture, 2014)

It is forecasted, that creative sector in Lithuania should account for 9% of GDP in 2013 (Ministry of Culture, 2014).

Table 27. Score of the analysis of documents covering the region of Lithuania

Title	1	2	3	4	5	6	7	8	9	10	11	12
Cluster Policy in Lithuania. Clusterization of Medical Companies and Institutions (Giliene, 2014)					+					+	+	+
Concept of cluster development in Lithuania (Ministry of Economy, 2014)				+					+	+		
Cultural and creative industry development strategy for 2014-2020 (Ministry of Culture, 2014)		+		+						+	+	
Implementation program of Smart specialization priority fields and priorities (Government of the Republic of Lithuania, 2014)		+		+	+					+		
Lithuanian innovation development programme 2014-2020 (Government of the Republic of Lithuania, 2013)	+			+	+	+				+	+	+
Cluster study (Jucevicius et al., 2012)				+		+			+	+		
Analysis of creative cluster development in Kaunas region (Tulusiene, 2011)	+		+					+		+		
Creative and Cultural Industries programme. Feasibility study to stimulate the economy (Bankines konsultacijos, 2011)							+			+	+	
Creative and cultural industries sector development (Ministry of Culture, 2011)								+		+		
The future of clusters development in Lithuania (Soloveicikiene, 2011)										+	+	+
Feasibility study of creative industries in Vilnius region (Cerneviciute et al., 2010)		+					+		+			
Lithuanian innovation strategy for 2010-2020 (Government of the Republic of Lithuania, 2010)	+	+			+					+		
Lithuania's progress strategy "Lithuania 2030" (Lithuania 2030, 2010)	+	+									+	
Feasibility study of creative and cultural industries in Lithuania (Gelunas et al., 2008)	+		+									
Value	+	+	+	+	+	+	+	+	+	+++	+	+

Source: created by author

The problem with identifying the Lithuanian CCI sector is the accuracy of official statistical data. A substantial part of the identified creative sector firms does not report to the Statistics Lithuania (Department of Statistics of Republic of Lithuania). The other discrepancy is the classification of the firms only by their main field of activity what might substantially distort the data (Bankines konsultacijos, 2011).

There is strong orientation towards high-value added economy, creativity and international markets. As it is stated in the Lithuania innovation development programme 2014-2020 (Government of the Republic of Lithuania, 2013) "…a country cannot lead in every single field, so it is important to choose the appropriate sectors where Lithuanian could apply the limited resources and achieve the optimal results. The most prominent sectors in Lithuania should be those with the highest value-added, with high skilled labor force and possibility to increase their market share. It is probable that the traditional sectors will be dominant in the future, but their international competitiveness will depend on the understanding how they will apply advanced technologies".

The clusters in Lithuania are established in the most economically strong cities (Vilnius, Klaipeda, Kaunas) (Jucevicius et al., 2012), where the concentration of business and inhabitants is the highest in the country. The most clusters are established in the service sector, IT and creative industries (Giliene, 2014; Ministry of economy, 2014). Overall there is a lack of mature creative clusters (Cerneviciute et al., 2010) and existing clusters are to small and week to be attractive for foreign markets (Ministry of economy, 2014).

Analysis of the strategic documents shows that there is orientation towards every aspect of the proposed model with the very high stress on the global markets (criterion No 10) and high orientation to connectedness aspect among actors. In addition, the following aspects were mentioned as important for the further development of CCI:

- Private investments to the CCI sector, financing instruments and credits (Bankines konsultacijos, 2011; Tulusiene, 2011).
- Importance of adequate intellectual property management (Bankines konsultacijos, 2011; Government of the Republic of Lithuania, 2013).
- Entrepreneurship in the creative sectors (Bankines konsultacijos, 2011)
- The CCI supporting infrastructure (Bankines konsultacijos, 2011; Cerneviciute et al., 2010; Ministry of Culture, 2011).
- Innovation in public sector and social innovation (Government of the Republic of Lithuania, 2013; Ministry of Culture, 2011).
- The ongoing monitoring and analysis of CCI, evaluation of creative clusters impact to the economy of Vilnius and Kaunas cities (Cerneviciute et al., 2010; Ministry of Culture, 2011; Tulusiene, 2011).

Table 28. Smart specialization priorities in Lithuania

EU priority	Lithuania priority	Connection with CCI
Advanced materials	New production processes, materials and technologies	Connection through industrial design
Cultural and creative industries; Digital growth	Inclusive and creative society	Learning technologies, audiovisual technologies
Food security & safety	Agricultural innovations and food technologies	No direct connection
Public health & security; Industrial biotechnology	Health technologies and biotechnologies	No direct connection
Smart green & integrated transport systems	Transport, logistics and ICT	Connection through application of ICT
Sustainable energy & renewables	Energy and sustainable environment	No direct connection

Source: created by author

Smart specialization in Lithuania has a dedicated focus on CCI. The priority Inclusive and learning society is based on the support for CCI by developing new technologies in creative industry fields (such as new learning, process and product innovation, audiovisual technologies and etc.). There is also strong connection in the priority New production processes, materials and technologies by application of industrial design and as well as in Transport, logistics and ICT priority by application of ICT technologies for the private and public sectors.

The summarized findings of the policy analysis are presented in the Part 3 of the Thesis as an empirical input to criteria of the model for the creative cluster governance.

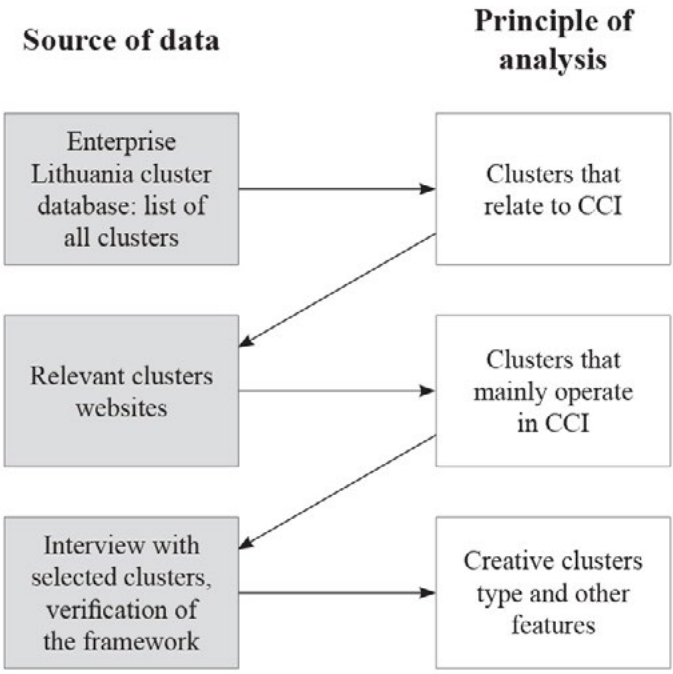
2.3. Methodology for the analysis of the creative clusters in Lithuania

This chapter presents the research methodology of the analysis of the creative clusters in Lithuania. Generally, the analysis was performed in two steps:

1. First step was to identify official existing creative clusters in Lithuania;
2. Second step was to perform an empirical research with the identified creative clusters.

Empirical research methodology is strongly based on the availability of data. One of the main problems for the identification of clusters of creative industries in Europe is the limitation of data (Domenech et al., 2011). The limitation of the research is the presumption, that non-official creative clusters might be existent which does not appear in any of the official cluster listings. An extended research would be needed to identify and analyse them. The analysis of the officially registered clusters, which are located in Lithuania, was conducted according to the database Enterprise Lithuania (Lith. Versli Lietuva). On 2013

December, there were officially registered 41 clusters (Versli Lietuva, 2013). Ministry of Economy of Lithuania maintains the list.



Source: created by author

Figure 15. Steps of the analysis of Lithuanian creative clusters

The classification of the clusters by the economic activity is conditional and limited. The cluster attribution to the sectors is superficial, while the classification of the sectors is not fully interpretable. By the following classification there are only three creative clusters in Lithuania. Additional research and evaluation was needed to fully assess the possible connections of existing clusters with CCI. All clusters were evaluated by the relevance to the CCI and given the one of the following attributes:

1. *Direct connection*. The activities and the products of the cluster participants are in the field of creative and/or cultural industries. The larger share of the cluster actors can be attributed to the CCI sector.
2. *Indirect connection*. The cluster is concentrated on the other sector than CCI, but the activities and products of the cluster participants are connected with one or more of the CCI sectors.
3. *No connection*. The cluster is not related with the CCI.

The evaluation of the cluster relation to CCI (Annex II) was based on the available information from the official cluster web sites (links are provided in Table). If the web site of the cluster was not available, the cluster database of Enterprise Lithuania (Versli Lietuva, 2013) was used instead. Along with the evaluation the explanatory information was added to the table. After evaluating the clusters by the selected criteria, 8 from the total of 41 could be attributed to the CCI or creative cluster type. Table 29 presents the extended information about them.

Table 29. Creative clusters in Lithuania

Name of cluster	Established	No of members	Coordinating organization	Institution of knowledge	Location of members (City, %)
Anykščiai Tourism Cluster	2013	20	Association "Anykščių turizmo klasteris"	-	Anykščiai, 63.2% Anykščiai district, 316% Panevėžys, 5.2%
CLEAR DIGITAL WORLD	2011	13	UAB "Clear digital world"	-	Vilnius, 69.2% Kaunas, 7.7% Kaunas district, 7.7% Riga (Latvia), 7.7% Tallinn (Estonia), 7.7%
E-services cluster	2010	16	UAB "E-verslo klasteris"	Kaunas university of technology	Kaunas, 75% Vilnius, 12.6% Vilnius district, 6.2% Šiauliai, 6.2%
ELIT Cluster	2010	4	UAB "Telesoftas"	-	Kaunas, 75% Vilnius, 25%
MEDIAPOLIS – Digital Creative Industry Cluster	2011	17	Association "Mediapolis"	Baltic Institute of Advanced Technology, College of social sciences Lithuanian innovation and technology institute, Vilnius college of design, Vilnius university	Vilnius, 82.3% Kaunas, 11.8% Klaipėda, 5.9%
REDIRECTED Cluster	2013	12	Association "Kūrybinio verslo asociacija"	International business school at Vilnius university	Vilnius, 100%
Užupis Creative Cluster	2010	22	Association "Užupis Creative Cluster"	Mykolas Romeris university, Vilnius college, Vilnius Gediminas technical university	Vilnius, 81.9% Kaunas, 13.6% London (United Kingdom), 4.5%
Vilnius film cluster	2011	11	UAB "Vilniaus kino klasteris"	Vilnius Gediminas technical university	Vilnius, 100%

Only universities, research institutes and colleges are indicated in the table as institutions of knowledge. Some of the clusters have a consultation firm as a member that acts as an institution of knowledge. The participation of the institution of knowledge in the cluster was not obligatory, but welcomed by the evaluators, until the Concept of cluster development in Lithuania (Ministry of Economy, 2014) was approved by the Ministry of Economy and the newly registered clusters has to have it in their structure. According to the new regulation participation of institution of knowledge, which is understood as science and study institution, is mandatory for all new clusters. Creative clusters in Lithuania are relatively young agglomerations. The three oldest ones were established in 2010, while the two newest ones in 2013. Clusters are mainly located in the cities of Vilnius and Kaunas. The clustering by sectors shows that cinema sector clustering is mainly concentrated in the city of Vilnius. Several clusters have a member from outside the Lithuania what is not spatial agglomeration principle and should not be a part of the cluster but it might be useful as the diversity in cluster members.

In the second step of the empirical research an appropriate qualitative research method was selected. Using one's eyes and ears is the major method of qualitative research in any setting (Silverman, 2011). The methods used to gather required data for the analysis can be the following, presented in the Table 30.

Table 30. Review of qualitative research methods for the analysis if creative clusters in Lithuania

Method	Description of the method	Appropriateness
Ethnographic observation	Ethnography is the study of people in naturally occurring settings or "field" by methods of data collection which capture their social meaning and ordinary activities, involving researchers participating directly in the setting (or activities)	Ethnographic observation is a mix of various field research methods to capture the relation and views of the research subject towards the environment and the world. In the case of cluster management organization research, it was not chosen, as it is redundant and would provide lot of unnecessary information
Interviews	A direct question and answer research method (verbal and written forms). Depending on initial question preparedness approach, interviews can vary between structured, unstructured and semi-structured interviews.	Interview was selected as best research method to obtain tacit and explicit information, to gather point of views, reactions. From the point of respondent, Interview method allows flexible approach and is resource efficient.

Method	Description of the method	Appropriateness
Focus groups	Recruitment of a small (6-8 persons) group of people who share a particular characteristic and encouraging an informal discussion with them. The difference from the interview method is that the interviewer does not ask the same questions each member of focus group; it's a rather moderated discussion	This method would impose a lot of coordination to gather representatives of all selected cluster management organizations. It would also provide a more collective view on the creative cluster governance issues than the individual cases
Texts	Text analysis is a method to identify the data consisting of words and/or images that have been recorded without the intervention of a researcher	As the method has advantages of availability (readily accessible) and accuracy, the text would reveal only a fraction of the information about the investigated cluster activities and would not deliver point of view and experience
Naturally occurring talk	The information which occurs in the situations which exist independently of the researcher's intervention	The method is not suitable to gather the required information about creative clusters and to test the hypothetical governance model
Visual images	Observation of artifacts (f. e. photographs, movies, advertisements and etc.) or real situations (how people navigate the world)	Using only visual channel of communication would be not enough to understand the preferences of cluster member organizations, nor it would be possible to get the feedback about the model

Source: adapted from Silverman, 2011.

As described in the table, the most suitable method for the purpose to verify the governance model with the clusters and have a possibility to clarify the provided data (answers in this case), was the method of interview.

Semi-structured interview with the cluster management organizations

To get the better understanding of the Lithuanian creative clusters and perform the verification of the governance framework with possible implications for the governance model, the semi-structured personal face-to-face interview with the representative of the cluster management organization was conducted during the Q1-Q3 of 2014.

Personal face-to-face interviews as synchronous communication in time and place, despite being time consuming compared to the telephone or written (email) interviews has certain benefits as longer tolerable interview time or an opportunity to observe the behaviour of the respondent. The difference between structured and unstructured interview is the presence of the script to ask the questions, independent of the answers that the

research participant provides. The unstructured interview allows taking the different directions at the discretion of the interviewer, depending on the answers provided (Jaccard, Jacoby, 2010). A synthesis of the structured and unstructured approach to the interview creates a semi-structured interview method, which has a list of questions prepared, but allows for the new questions to emerge instantly as a reaction by interviewer to the answers provided.

Semi-structured interview in Lithuanian language was chosen as the best alternative for qualitative data gathering. The structure of the interview is presented in the Figure 16; the questions of the interview are presented in the Annex III. The main questions, if necessary, could be supplemented during the interview by the specification questions in order to clarify the relevant topic. Interview was conducted in accordance with the methodological suggestions, in which the interviewer (Silverman, 2011):

1. Did not got involved in long explanations of the study;
2. Did not deviated from the sequence of questions or questions wording;
3. Was not interrupted by any other person;
4. Did not get an answer, provided by other person than the informant during the interview;
5. Did not suggest an answer to the informant;
6. Did not interpret the meaning of the question (but provided the necessary explanation if asked);

The request for an interview was communicated to the official cluster management organization email asking for a responsible person. After a reply the more detailed description of the purpose and the structure of the interview was explained over the phone. In all cases the delegated responsible person was the director or other highest management authority in the cluster. All informants agreed that the interview will be recorded, analysed and might be used in this Thesis. However, there were some limitations with the interviews:

1. Some of the identified creative clusters did not participate in the interview. This might have happened because of the several reasons: the creative cluster is not active anymore or the cluster management organization was not willing to dedicate time for the interview;
2. The planned time of the interviews did take longer than planned due to time required to agree for an interview and later postponed interviews;
3. Some of the informants were not fully familiar with the concepts of creative society, creative economy and smart specialization. Due to the limited available time there was no possibility to explain the concepts;
4. All creative clusters in Lithuania are relevantly young (the oldest was established in 2010). This might affect the strategic management practice and experience within the cluster to be revealed in incomplete manner.

The interview was the valuable source of information to understand the internal situation of the cluster and its strategic perspectives. Moreover, the interview provided infor-

mation necessary to prepare the guidelines of implementation of governance model. The schedule of the interviews is provided in the Table 31.

Table 31. The schedule of interviews with cluster managing organizations

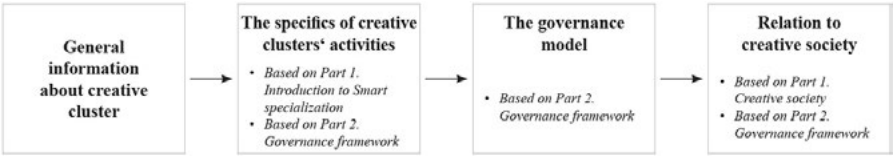
Date	Cluster
2014.02.18 (pilot interview)	Užupis creative cluster
2014.04.16	Užupis creative cluster
2014.07.17	Vilnius film cluster
2014.07.24	E-klaster
2014.08.27	MEDIAPOLIS – Digital Creative Industry Cluster
2014.09.04	Anykščiai Tourism Cluster

Source: created by author

Duration of the interviews took between 1:15 minutes to 1:55 minutes and was conducted without the brakes. The follow-up phone call was used in cases where the answers needed to be clarified. The reliability of the data can be based on the following statements:

1. The scope of the research aimed to cover all creative clusters in Lithuania (scope of research is 100%). However not all of them responded (response rate was 62,5%);
2. All informants were the direct managers of the creative clusters what indicates the relevance of the person to the matter;
3. The interview was recorded and transcribed to reproduce the information. During the interview notes were taken to characterize the important parts.

The structure of the interview was based on the theoretical parts of the Thesis (Figure 16) and is divided into four main themes. However, there are some possible connections between them and the interview revealed, that some of the questions were repeatedly answered in several parts, or the full the given answer was supplemented in other part of the interview.



Source: created by author

Figure 16. The structure of interview with cluster management organizations

The first theme of the interview was oriented to receive new and update the existing general information about the cluster, which was not available from other sources. The questions allowed assessing the establishment, composition and growth plans of the

cluster. Second theme "The specifics of the creative clusters' activities" was aimed to receive better understanding about how cluster is managed, activities in the fields of CCI and possible similarities/distinctions from other Lithuanian clusters. The first and second themes together provides an understanding about the clusters' networking abilities and with what kind of firms it usually happens, revealing the aspects of connectedness and embeddedness of the cluster. Moreover, the questions about the identity of the cluster and relation to Smart specialization concept provided information about the strategic positioning of the cluster in the country and in the region. The third theme "The governance model" was oriented to capture the specifics of the cluster operation and its relation to the development of the cluster. The questions were important in order to understand the use of policy intervention and lack of necessary instruments for the governance and development of the creative clusters. Moreover, the third part of the interview provided a better understanding of the selected criteria application for the governance model. The fourth theme took a more general approach to the development of creative society and the role of the clusters in this process providing the most important criteria in order to track the cluster development.

Answers from the interview were used in modelling of the governance of the creative clusters under Smart specialization.

Conclusions of Part 2

Framework for the governance of the creative clusters under the Smart specialization conditions should reflect the potential of creative society and project it toward the regional creative economy and implement it through creative clusters. Framework is constructed from three main domains: context (creative society and regional creative economy), priority identification and governance (Smart specialization) and priority implementation (creative clusters) and main features are brought forward: creative individual, innovativeness and regional importance/global markets. Based on the literature analysis, the framework is filled in with 11 criteria, reflecting different domains.

In order to measure the performance of creative clusters in EU, the following indicators were used: (1) proportion of jobs in the creative clusters (RI1, % of total jobs); (2) proportion of firms in the creative clusters (RI2, % of total number of firms) and (3) the share of CCI at the regional economy (%). The three highest ranked regions were: London – 0,166320515, Nord-Ovest – 0,135728064, Madrid – 0,132943176. Lithuania has scored 0,057560241.

Analysis of the policy documents were performed for the selected regions. Policy of London region reveals, that United Kingdom's creative cluster policy (with the relation to CCI policy) does not favor specialization or limited number of themes. The framework is very oriented towards education and global exports. The Smart specialization priorities for the future development of United Kingdom are heavily based on the current economic potential. They are developed in accordance with 8 Great technologies that reflect the technological specialization with some connection to CCI (Information

economy and Professional business services). Nord-Ovest region policy reveals, that criteria of connectedness and embeddeddness with the regional specifics and economical potential are strongly emphasized in the major part of the documents, education is a priority as well. Among additional criteria new management models and public-private partnership management was expressed as an important direction. In the aspect of CCI, the strong emphasis is given to the networking and participation in global value chains. Policy framework favors fashion and fashion supporting industries. Two sub-regions have CCI as a Smart specialization priority. The last of the best performing regions was Madrid, where the findings were that policy is more targeted at the fields of arts, heritage and culture instead of creative economy. Region of Madrid has very high (48 of 121) concentration of high education institutions, and policy is favorable for the criteria of education. Another aspects of the policy are orientation towards global markets and support for intellectual property. Smart specialization priorities in region of Madrid have no connection with CCI.

Comparatively Lithuania was analyzed and revealed orientation towards high-value added economy, creativity and international markets. With most clusters located in biggest cities and highest share of service clusters within them, Lithuanian policy favors all proposed criteria with the very high stress on the global markets and high orientation to connectedness aspect among actors. Private investments in CCI, dedicated infrastructure, public sector innovation, intellectual property management was among important criteria not covered by the model. Smart specialization in Lithuania has direct connection with CCI while priority Inclusive and learning society is based on the support for CCI by developing new technologies in creative industry fields (such as new learning, process and product innovation, audiovisual technologies and etc.). There are indirect connections among other 5 priorities as well.

For the identification of creative clusters, the official database was used. Out of total number of 41 clusters 8 were identified as potentially connected with CCI which are: Anykščiai Tourism Cluster, Clear digital world, E-services cluster, Elit Cluster, Mediapolis – Digital Creative Industry Cluster, Redirected Cluster, Užupis Creative Cluster, Vilnius film cluster. Creative clusters are mainly located in Vilnius and Kaunas and are relatively young agglomerations. The three oldest ones (E-services cluster, Elit Cluster, Užupis Creative Cluster) were established in 2010, while the two newest ones in 2013 (Anykščiai Tourism Cluster, Redirected Cluster). Later on, the semi-structured interview with the selected creative clusters were performed during Q1-Q3 of 2014 with the response rate 62,5%. Representatives of cluster management organization were selected as informants. The interview consisted of 4 parts with total number of 24 questions.

3. MODEL OF CREATIVE CLUSTERS GOVERNANCE UNDER THE SMART SPECIALIZATION

Third part of the Thesis is dedicated to the development of the creative clusters governance model. The model is built on the framework for creative clusters governance under the smart specialization (Figure 11), which has been constructed after theoretical analysis and reveals the relations among creative society, creative economy, creative clusters and Smart specialization. Retaining the relations among the main elements, the further step of the modeling is to find the most appropriate criteria for the elements of the model, additional relations and responsible institutions for the implementation of the model. Analysis of the most creative EU regions governance criteria is reviewed and build into the model together with the empirical verification of the governance framework (performed together with the analysis if Lithuania creative clusters). The following Chapter 3.1. presents findings from the applicable policy analysis of selected EU regions and Lithuania together with the additional recommendations. The Chapter 3.2. analyses Lithuanian creative clusters reviewing the type of clusters, state of development, type of collaboration in the clusters, growth plans, accessible markets, relation with knowledge institution and fields of applicable creative industries. The final Chapter 3.3. presents the governance model of creative clusters under the Smart specialization conditions and its implementation.

3.1 Relevance of the creative clusters governance practice

Methodological part of the Thesis presented the selection and analysis of the European Union regions with the highest composite indicator for the regional creative clusters performance. This chapter summarizes the results of the policy analysis of the highest ranked regions: London (United Kingdom), Nord-Ovest (Italy) and Madrid (Spain) regions with the comparison of Lithuanian policy analysis. Comparing the presence of the identified criteria (Table 15), the Figure 17 represents the policy preference coverage in the analyzed regions. The criteria were:

1. Education
2. Commercialization
3. Size of creative economy
4. Innovation
5. Expenditure on R&D
6. Size of high-tech and knowledge intensive services
7. Employment in technology and knowledge-intensive sectors
8. Diversity in actors
9. Number of mature creative clusters
10. Access to global markets

11. Connectedness
12. Embeddeddness

Coverage is measured in the 0 – 3 scale, with 0 being not covered at all, 1 – being important, 2 – very important and 3 – the most important. In this case the ideally covered policy would be all analyzed regions matching the criteria from 1 to 12 at the very important – "3" level.

	1	2	3	4	5	6	7	8	9	10	11	12
Nord-Ovest	3	1	0	1	1	1	1	0	0	1	3	2
London	3	1	1	1	1	1	1	1	0	2	0	0
Madrid	3	0	0	2	1	0	1	1	0	2	0	0
Lithuania	1	1	1	1	1	1	1	1	1	3	2	1

Source: created by author

Figure 17. Criteria coverage of the theoretical framework by regions

The analysis of the London, Nord-Ovest and Madrid regions reveled, that the most covered criteria is No 1, which represents education and No 10 – access to global markets. Criteria 2 (commercialization), 3 (size of creative economy), 5 (expenditure on R&D), 6 (Size of high-tech and knowledge intensive services), 7 (Employment in technology and knowledge-intensive sectors) and 8 (Diversity in actors) are covered minimally while criteria 9 (Number of mature creative clusters) is not covered at all for these regions. Comparably Nord-Ovest region is very strongly oriented towards criteria 11 (Connectedness) and 12 (Embeddedness), what shows the focus on bringing together as many relevant actors as possible with the wider impact to the regional economy. The Lithuanian analysis reveals quite week orientation to education, which would stand for the development of workforce with appropriate skills. On the other hand, comparably Lithuania has the highest orientation toward the global markets as a strategic objective. London and Madrid regions did not explicitly choose CCI as a Smart specialization priority, but in the case of London there are indirect connections. Lithuania and parts of the Nord-Ovest region did approve CCI as the part of their Smart specialization priorities.

The goal of the analysis of the region policy practices was to evaluate what are the most important criteria in the selected regions and to find new ones, if they would be proposed. Among the additional criteria, which were present in the analyzed documents, were diversified workforce, aspect of networking for CCI, global value and innovation chains, new models of management and new public-private partnerships. But only two were mentioned in more than one regional analysis case: the aspect of stable and diver-

sified funding of CCI and protection of intellectual property. The findings of creative clusters governance practice were used developing the governance model and sorting out the most important criteria in the model.

3.2. Review of creative clusters in Lithuania

The goal of the review of creative clusters in Lithuania is to analyze the official selected creative clusters by the indicators defined in the first part of the Thesis and analyze Lithuanian creative cluster development trends. This part is a requisite methodological pillar of the implementation of the governance model. Methodology is presented in the second part of the Thesis (Figure 15). Intention of the presented findings is not to show the more prominent Lithuanian clusters among others, but to find the systematic resemblances, advantages and shortages of the current situation. Table 32 presents the summarized findings and Lithuanian creative clusters comparison. However, some of the clusters have not been interviewed and the table is missing data. In these cases, if possible, the data is provided from the other sources as web site of the cluster or the information from cluster management organizations of other clusters. The criteria used in the table are as follows:

1. The cluster type is based on the three options:
    a. Creative clusters as strategies for image development and urban regeneration (Type 1);
    b. Creative clusters as a development and employment policy (Type 2);
    c. Creative districts and quarters with a "cool" subculture, creative freelancers and SMEs (Type 3).
2. State of development is based on the Table No 13. Stages of creative cluster development;
3. Type of collaboration in the cluster reflects the nature of the relations between participants of the cluster and is sorted to:
    a. Co-creation – the members of the cluster (or substantial part of the members) participate in the development of one mayor product with joint forces and clear division of tasks;
    b. Projects – the members of the cluster team up to participate in the different project activities that are casual;
    c. Friends – the members of the cluster constantly help each other in various day-to-day activities (for example provide products or services with great discounts).
4. Growth plans indicates the nearest perspective of attracting new members to the cluster. The numbers in the brackets:
    a. First number is current number of cluster members;
    b. Second number is the future plan of the members.
5. The markets section represents the cluster commercial orientation towards the sales of goods and services. Limitation to this point is that it does not cover the members of the cluster acting separately, for example if a company sells its goods

or services without the help of other cluster members, but is a member of the cluster - that was not recorded as a commercial activity of the cluster. The market section is scaled in four levels:

a. Some local – the cluster is preparing to have commercial activity at the local market, but at the moment does not perform any sales of goods and services;
b. Local – cluster works with the local market;
c. Some global – cluster works with the local market and is preparing to enter the global market with its goods and services;
d. Global – cluster is working with local and global markets.

6. The relation with the knowledge institution reflects the intensity of knowledge exchange and collaboration with the existing college or university in the cluster. The intensity of the relation is scaled in four levels:
   a. None – there is no mutual activities or projects;
   b. Low – there are some mutual activities as seminars, but no commercially oriented projects;
   c. Medium – there are some commercially oriented projects, but no actual knowledge application yet;
   d. Strong – the cluster is using the knowledge from the college or university for the commercialization and market competitiveness.
7. The fields of applicable CCI are listed according to the classification by UNCTAD (Table 11).

Table 32. Summary of analysis of the creative clusters in Lithuania

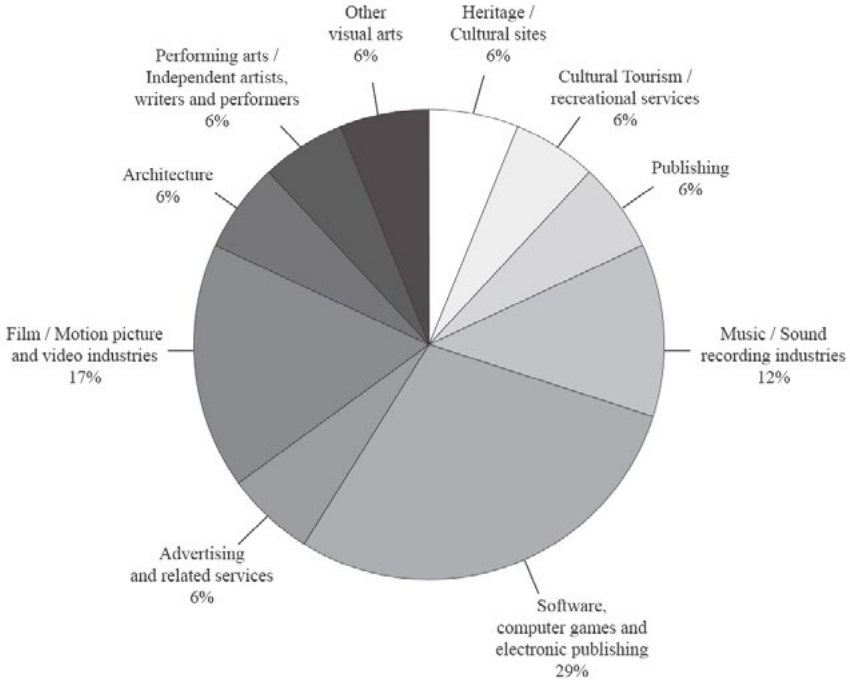
Criteria / Cluster	Type of cluster	State of development	Type of collaboration in the cluster	Growth plans	Markets	Relation with knowledge institution	Fields of applicable creative industries
Anykščiai Tourism Cluster	Type 1	Dependent	Friends	Yes (18, 20)	Some local	Low	1. Heritage / Cultural sites (Libraries and archives, museums, historic and heritage sites, other heritage institutions); 2. Cultural tourism / recreational services.
Clear digital world	ND	ND	ND	ND	ND	ND	1. Publishing; 2. Music / Sound recording industries; 3. Software, computer games and electronic publishing.
E-services cluster	Type 2	Dependent	Co-creation	No (15)	Some local	Low	1. Software, computer games and electronic publishing.
Elit Cluster	ND	ND	ND	ND	ND	ND	1. Software, computer games and electronic publishing.
Mediapolis – Digital Creative Industry Cluster	Type 3	Aspirational	Projects	No (24)	Local	Low	1. Advertising and related services; 2. Film / Motion picture & video industries; 3. Software, computer games and electronic publishing.
Redirected Cluster	ND	ND	ND	ND	Local	Low	1. Film / Motion picture & video industries.
Užupis Creative Cluster	Type 2	Aspirational	Projects	Yes (16, 30)	Local	Low	1. Architecture; 2. Music / Sound recording industries; 3. Performing arts (theatre, dance, opera, circus, festivals, live entertainment) / Independent artists, writers, & performers; 4. Software, computer games and electronic publishing; 5. Other visual arts (painting, sculpture).
Vilnius film cluster	Type 2	Aspirational	Friends	Yes (12, 23)	Some global	Low	1. Film / Motion picture & video industries;

ND – No data available

Source: Created by author

The Lithuanian creative clusters are relatively young organizations, the oldest one being established at 2010 and the youngest ones at 2013. The clusters mainly consist of SMEs, with numerous involvements of institutions of knowledge and some cases of involvement of regional authority institutions and other state bodies. For example, tourism cluster has up to 30% of state organizations as the members. Most of the clusters act as a development and employment policy tools for a particular field or industry. While most of the clusters are situated in the biggest cities of Vilnius and Kaunas, the regional ones have plans to perform urban regeneration and image development functions. Only two of the clusters could be attributed to the creative districts and creative quarters because of the concentration of infrastructure and possibly existent subculture, attributable only to a particular cluster.

The largest fields of CCI covered by the creative clusters are software, computer games and electronic publishing and film / motion picture & video industries (Figure No 18). It should be mentioned, that some of the creative clusters are working in the field of education, which is not classified as part of CCI, but with no doubt has strong connection in application of the CCI output.



Source: created by author

Figure 18. Clustering of CCI in Lithuania

Most of the Lithuanian creative clusters are working only with the local markets, though they have plans to expand its commercial activities to the foreign territories. The reason behind that is, as indicated by cluster managing organizations, the relevantly young cluster age and lack of the time for establishing competitiveness. On the other hand, the spectrum of available products and services is oriented more to the local needs than the global markets. Some of the clusters see this as a necessary stage of testing the products and services locally before the expansion to the global markets. All interviewed creative clusters exercise joint marketing activities.

It should be noted, that most of the Lithuanian creative clusters were the initiatives of the government interventions through supporting schemes "Inocluster" and "Inocluster+" (responsible Ministry of Economy). "Inocluster" was used as an instrument for the cluster management and advertising activities. The dedicated sum for the Lithuanian creative clusters was 1,29 million Euros. "Inocluster+" was used as an instrument for the development of the cluster infrastructure. The part dedicated for the Lithuanian creative clusters is 5,54 million Euros (Esparama.lt, 2014). At the moment almost all are using the EU SF support for the coordination and promotion activities.

Among the mentioned problems for the creative cluster development the most important ones were:

1. Strategic:
    a. No government strategy for the development of the CCI;
    b. Lack of integrated creative clusters policy;
    c. No policy mix.
2. Financial:
    a. Lack of maintaining the investments;
    b. Lack of funding for administration of the cluster;
    c. Insufficient intensity of funding.
3. Other:
    a. Too short time to get started with the activities;
    b. Lack of information about best practices;
    c. No cluster members in the municipality.

The separate attention must be given to the creative clusters collaboration with the institution of knowledge, which can be university, research institute or college. The existing collaboration forms are that the clusters invite students for practice and use the premises of universities for cluster events. This is not the required amount of collaboration. The main listed problems were:

1. Institution of knowledge does not supply with necessary R&D;
2. Formal participation from the institution of knowledge, no actual needs to participate in the cluster activities;
3. Hard to communicate with large institutions;
4. No innovations from social sciences.

Only one of the analyzed clusters was familiar with the concept of Smart specialization. 2 out of 5 clusters were able to explain the identity of the cluster, what was related to

the geographical uniqueness of the cluster agglomeration, which they found important. Almost all respondents indicated that the fiscal measures and workplaces are the best indicators to track the growth of the cluster. The fiscal measures also are the best tool to help the clusters grow, while the results of fiscal intervention should not be expected sooner as in 3-4 years. Benefits from the institution of knowledge should be understood as new commercially viable products or services, but at the moment these institutions lack of understanding what is the needs of the clusters. The criteria of education were strongly covered by the strategic documents of all analyzed regions, while the analysis of the Lithuanian clusters, on the contrary, did not reveal any particular importance of the education for the benefits of the clusters.

Overall, the Lithuanian creative clusters will have to take a lot of efforts to establish themselves as the competitive regional hubs of innovation. Taking into account the possible future trends of the creative clusters, the following observations can be brought forward (based on the future trends described in the Table No 8):

1. At the moment the Lithuanian creative clusters are hardly gateway to regional and global partnership. There are no established networks and communication practices. The cluster identity is not fully discovered;
2. The clusters should play an important role as the fully tuned systems for the development of the new ideas. In order to achieve that, they must have a strong internal partnership among the members, the clear identified chain of innovation and appropriate infrastructure. At the moment it is not evident that all of the necessary pillars are in the place;
3. Being young, Lithuanian creative clusters lack of regional importance. The noticeable regional recognition would allow them to enjoy the increased attention from the government and possible the stronger support for the further development;
4. Clusters still lack of the variety of members among the participants. The possible network including the public sector institutions, governmental bodies and third sector organization would provide benefits in harmonizing the relations of creative cluster and its environment.

The governance model of the creative clusters should strategically address identified issues, but on the other hand, these problems should be addressed as a policy improvement role, which is the responsibility model implementing bodies.

3.3. The governance model of creative clusters under the Smart specialization conditions

The governance model of creative clusters is based on the governance framework (described in the Part 2) and empirical findings (presented in the Part 3). Generally, governance model should define the mechanisms and interactions through which governance is put into action (Deloitte, 2013). Model should define the responsible actors, the process that should be followed or steps to be taken and measurable outcomes. The list of possible criteria for the model was developed in the Part 2, based on the theoretical analysis in Part

1. Analysis of the regions with most economically active creative clusters and later analysis of Lithuanian creative clusters helped to evaluate the possible criteria. As described in the Part 2, criteria should be understood as the area of possible policy intervention. All criteria have been attributed with indicators to measure the change. An attempt to use the established and EU wide available indicators was made, but not all criteria could be expressed in the right dimension, what created a need to develop new indicators. Selection of indicators was based on the verification of the theoretical framework and represents the shift towards empirical findings. The following table (Table 33) proposes the selected 18 indicators for the measurement of the criteria with possible data sources. It should be noted that indicators in the domain of Smart specialization and creative clusters does not have official European level statistics and should be monitored separately. Some of the indicators are quite complex and requires a sophisticated national monitoring system in order to get the required data.

Table 33. Indicators for the measurement of the criteria implementation

Criteria	Indicator	Source
1. Education	1. Citizens with higher education, %; 2. Share of public expenditure on education in GDP, %; 3. Joint study programmes with the creative clusters, number	Eurostat; Eurostat; National data
2. Commercialization	4. Registered patents, trademarks and industrial designs, number	World intellectual property organization
3. Size of creative economy	5. Creative and cultural industries in GDP, % 6. Share of venture capital investment into creative and cultural industries, %	United nations conference on trade and development (UNCTAD); National data
4. Innovation	7. Innovation index	Innovation union score board
5. Expenditure on R&D	8. Total intramural R&D expenditure, %	Eurostat
6. Size of high-tech and knowledge intensive services	9. Turnover, mil. Euro 10. Enterprises, number	Eurostat; Eurostat
7. Employment in technology and knowledge-intensive sectors	11. Employment in technology and knowledge-intensive sectors, %; 12. Share of employed persons according to the education profile, %	Eurostat; National data
8. Number of mature creative clusters	13. Mature creative clusters in the region, number	National data

Criteria	Indicator	Source
9. Orientation to global markets	14. Share of export to abroad, %	National data
10. Connectedness	15. Number of creative clusters participating in the priorities Number of sectors participating in the priorities	National data
11. Embeddeddness	16. Share of firms participating in the sector of priorities, % 18. Share of employers participating in the sector of priorities, %	National data

Source: created by author

Education criteria was indicated as very important for all analyzed systems. In order to capture the potential of the education, three indicators are proposed which should reveal the efficiency of the system and its orientation toward the needs of the creative clusters (despite lack of orientation to education from Lithuanian creative clusters). Employment criteria is measured by two indicators: the percentage of the employment in technology and knowledge-intensive sectors (indicator No 11) and share of employed persons according to the education profile (indicator No 12). The latter is not monitored by Eurostat of any other official Pan-European statistical organization and has to be addressed nationally or regionally. Intellectual property was mentioned as important criteria, it is proposed to measure the number of registered patents, trademarks and industrial design (as economical input from creativity). Financing aspect was indicated as an important and missing part of the proposed criteria. In order to capture the intensity of investments into the CCI, there is a need to measure the investments of private venture capital (private funds) into the CCI (indicator No 6). As orientation to global markets criteria was expressed in all analyzed cases, it is proposed to measure the percentage of share of export to abroad. The number of mature creative clusters (indicator 13) was not important in the document analysis but the survey of creative clusters management organizations did reveal further growth plans of the clusters. Criteria might be not of the most importance at the moment, because currently there are no mature creative clusters in Lithuania, but for the future it might be a crucial indicator for understanding the long-term effects of the policy. The evolution of the cluster is directly influenced by connectedness criteria ensuring the broad network of the cluster.

Description of the model

The following chapter brings forward the theoretical background of the modeling, the model itself and the limitations. Firstly, the main principle of the model is that the parts of the model are dependent on each other. The causality relationship in the model is built on the concept that variable X is said to be a cause of changes in the variable Y. It should be noted, that is impossible to prove, that changes in one variable produce a changes in anoth-

er. There is agreement that it might be possible in a completely isolated system. Even if the causality is difficult to demonstrate, this concept is dominant in the social scientific theories (Jaccard, Jacoby, 2010). However, creative clusters cannot be regarded as an isolated system, because they are dependent on many internal and external impacts in addition to the ones proposed in the model. The governance model of creative clusters under the Smart specialization conditions, which encompasses wide and different components as creative society, creative economy and creative clusters cannot be regarded as a model for the isolated system and applied with the expectations that the system, which is affected, will only be affected by the model itself, i. e. the analyzed system and relations between described elements will be affected by other factors. The relations among elements of the model are based on the theoretical construct of causality and should be regarded with the following conditions (*ibid)*:

1. If X causes Y, then changes in X are thought to produce changes in Y;
2. A cause must always precede an effect in time;
3. The time it takes for X to change Y can vary from instantaneous to years and decades and etc.;
4. The strength and effect that X will have on Y can vary and is dependent on the context;
5. X might influence Y in one context, but might not in another;
6. Cause and effect must be connected spatially or must be connected by a chain of intermediate events.

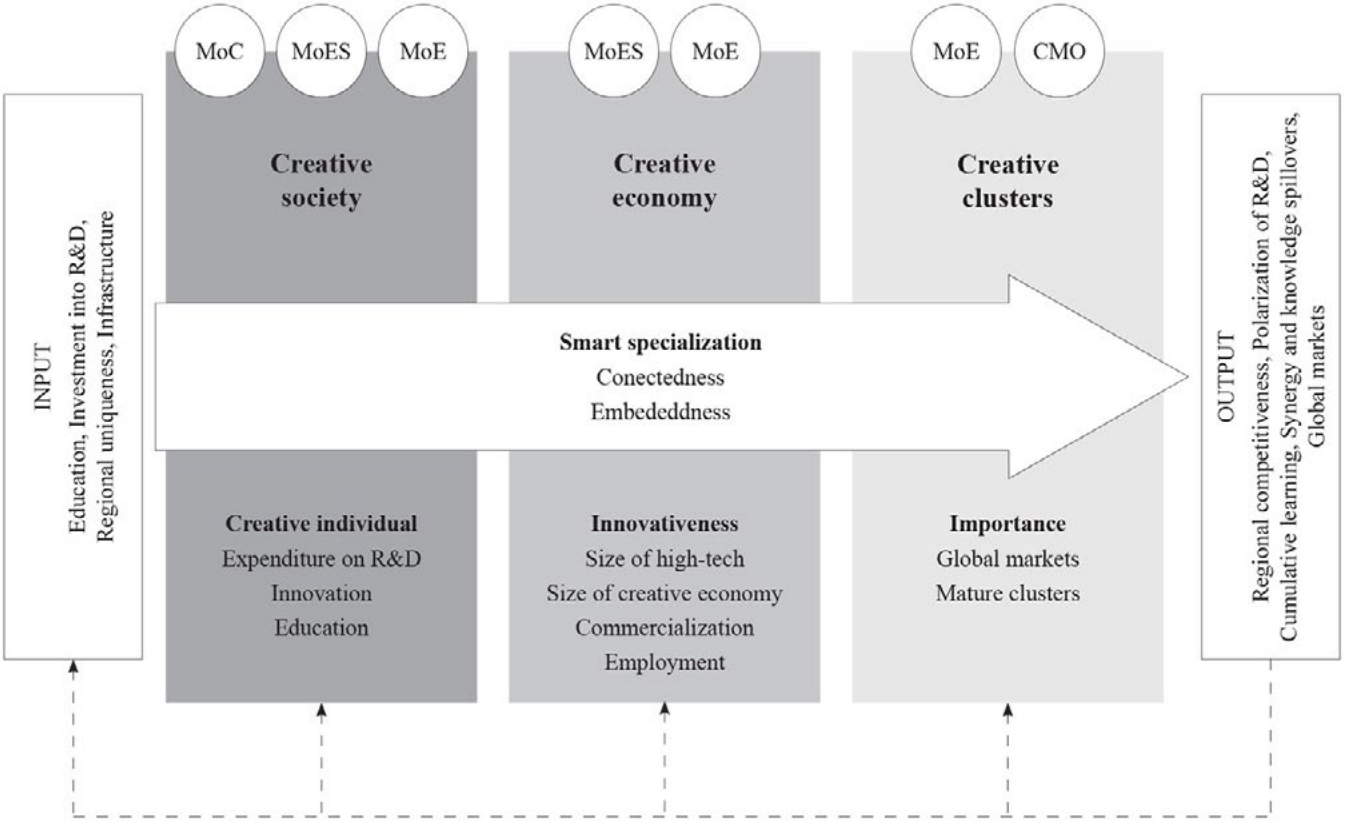
As the governance model (Figure 19), following the framework for creative clusters governance under the smart specialization (Figure 11) has four main domains – creative society, creative economy, creative clusters and smart specialization – a part connecting all three, the relations among these domains is the subject to the construct of causality listed above. Smart specialization in the model is regarded as a function with its inputs, domains and outputs. Creative society domain of the model, which is represented by the main feature of creative individual, should be activated by designing and applying policies for increasing public and private expenditure on R&D, encouraging innovation and investments into education. Creative economy domain is represented by the main feature of innovativeness, which is governed by policies of high-tech and services sector growth, the aim to increase the size of creative economy, better commercialization of creative outputs and appropriate employment policies. Creative clusters are represented by feature of importance which is achieved by the dedicated policies for better access to global markets and sustainability of the creative clusters. Smart specialization, as previously described, is the function connecting all elements together, which is represented by the concepts of connectedness and embeddedness, both representing the scope and reach of the priorities. The preferable effects are based on the coordinated stimulation of the domains of the model and input, which, as covered in Part 1, generally is:

- education;
- investment into R&D;
- regional uniqueness;
- R&D infrastructure.

All listed elements should be regarded as assets and developed as long-term investments. An important aspect of developing such investments are overall coordination among them, f. e. meaning that investment into education should planned and implemented in accordance with investment into R&D infrastructure and R&D. This particular coordination is the function of Smart specialization, which brings together the domains of governance, entrepreneurial discovery, limited number of themes and regional dimension. As discussed in the theoretical part of the Thesis, the output of the model and preferable effects of the Smart specialization (hence - of the model) are:

- regional competitiveness;
- polarization of R&D activities;
- cumulative learning;
- synergy and knowledge spillovers among different actors;
- orientation to global markets (of creative clusters).

Listed outputs are the preferable conditions for the growth of the creative clusters and overall regional innovation system. The changes in the output of the model can be measured by the indicators, proposed in the Table 33 (Indicators for the measurement of the criteria implementation), which are primarily designated for the measurement of the different parts of the model. Polarization of R&D and knowledge spillovers, among other outputs, can have positive effects on the different domains of the model. For example, the polarization of R&D should positively influence creative society and creative economy, improving conditions for R&D activities and affecting such criteria as expenditure on R&D, innovativeness, size of high-tech sector and commercialization. Knowledge spillovers should have positive effects for the development of the creative economy and overall growth of the innovative business. Partially the outputs of the model can be regarded as a new input for the constant improvement of creative society, creative economy and performance of creative clusters – forming a cycle process, governed by Smart specialization, being a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness.



Source: created by author

Figure 19. The governance model of creative clusters under the Smart specialization conditions

Implementation of the model

Implementation of the model should be regarded as adoption of the proposed logic and creation of the appropriate policies for the identified domains. For example, the first step should be the development of the creative society domain, by stimulating the element of creative individual. It is important, that the implementation of the model should be regarded as a coordinated actions by the main responsible bodies. The main implementing bodies, but not limited to, should be Ministry of Culture (MoC in the model), Ministry of Science and Education (MoES), Ministry of Economy (MoE) and Cluster management organization (CMO). Currently in Lithuania, the functions of the relevant ministries are assigned by the officially regulated description of institutional activities (Government of the Republic of Lithuania, 2015; Ministry of Culture. 2015; Ministry of Science and Education, 2015). The fields of activity partially overlap, but generally the distribution of responsibility according to the ministries' competence is presented in the Table 34.

Table 34. Responsibility of Lithuanian institutions in implementation of model

Domain	Responsible institution	Criteria
Creative society	Ministry of Culture	Education
	Ministry of Science and Education	Education, Innovation, Expenditure on R&D
	Ministry of Economy	Innovation
Creative economy	Ministry of Science and Education	Commercialization, Employment
	Ministry of Economy	Size of H/T and services, Size of creative economy, Commercialization, Employment
Creative clusters	Ministry of Economy	Global markets, mature clusters
	Cluster management organization	Global markets, mature clusters

Source: created by author

Listed ministries should set the goal values for the indicators and apply relevant policies according to the criteria. Additional research is needed to find out which combination of policy mix would be the most efficient, but in any case the policies should be aligned with one another and Smart specialization is the mechanism for such alignment. Smart specialization, as a horizontal innovation policy, should be developed together by all listed responsible actors. A coordination mechanism should be established to ensure the equal participation of involved actors and ownership of the decisions taken during the process. The ministries, cluster management organizations and entrepreneurs should participate in the entrepreneurial process of discovery together with other stakeholders and ensure the principles of connectedness and embeddedness, as described in the first part of the thesis. Generally, the following steps should be taken starting to implement the proposed governance model:

1. Set up the platform for the further coordination of the development of the creative clusters, ensuring the diversity of actors;
2. Identify the most prominent fields of CCI in reference of the regional creative economy and concentrate available resources in those fields;
3. Set up the implementation and intervention schemes according to the proposed governance model of the creative clusters (in addition to the existing schemes already in action);
4. Identify interventions schemes implementing and monitoring agencies;
5. Determine the current value of the indicators. Set up the target values and the timeframe;
6. Specifically facilitate the necessary links between creative clusters and the institutions of knowledge;

Analysis of the current status of Lithuanian creative clusters revealed certain weaknesses, that should be addresses with the appropriate policies. Evaluating the cluster development trends and the Lithuanian creative clusters situation (presented in chapter 3.2. Review of creative clusters in Lithuania), the most important suggestions are proposed in the Table 35 (General conclusions and recommendations).

However, there are limitations of implementation of the model. Firstly, the causality of the actions and changes might be influenced by external causalities, which are not foreseen and described by the model. Secondly, the implementation of model and the impact on the creative clusters is dependent on the coordinated actions, meaning, that if one of the parts of the model would not be implemented in the appropriate manner, others would suffer from such situation. For example, if the creative society domain of the model would not be addressed by policies aiming at stimulating creative individual, the creative economy domain of the model would be limited with the innovation capacity. Thirdly, Smart specialization is the function of setting the priorities in synergy with all three domains of the model. If this function would fail to reach the necessary level of connectedness and embededdness, the impact of the strategy would be limited.

Conclusions of Part 3

The comparative analysis of the regions of London, Nord-Ovest, Madrid and Lithuania revealed that all regions' policies are focused on education and orientation to global markets. Among other important criteria were: economical input from creativity, share of creative economy, expenditure on R&D, size of high-tech and knowledge intensive services, employment in technology and knowledge-intensive sectors and diversity in actors. Criteria of connectedness and embeddedness were important only for regions of Nord-Ovest and Lithuania. The number of mature clusters is not mentioned at all. Smart specialization priorities are directly connected with CCI in regions of Nord-Ovest and Lithuania, while London revealed indirect connection. Region of Madrid has no connection at all. The aspect of stable and diversified funding of CCI and protection of intellectual property were mentioned as the most important additional criteria.

Analysis of Lithuanian creative clusters revealed, that most of them could be attributed to the *creative clusters as a development and employment policy* type of the cluster. There are no *established* type clusters while the maturity level is varying from *dependent* to *aspirational*. Main forms of collaboration in the clusters are project based, when members of the cluster team up to participate in the different project activities or members of the cluster constantly help each other in various day-to-day activities (participation in the value chain). Half of the clusters are happy with the number of members while others are planning to attract more members. Lithuanian creative clusters mainly work with local markets. Relation with institution of knowledge is mainly mutual activities as seminars, but no commercially oriented projects.

The largest fields of CCI covered by the Lithuanian creative clusters are software, computer games and electronic publishing (29%), film, motion picture and video industries (17%) and music, sound recording industries (12%).

Evaluation of Lithuanian creative clusters orientation to cluster development trends revealed, that clusters are hardly gateway to regional and global partnership. There are no established networks and communication practices. The cluster identity is not fully discovered. There is limited internal partnership among the members, lack of clearly identified and expressed chain of innovation and appropriate infrastructure. Being young, Lithuanian creative clusters lack of regional importance. The noticeable regional recognition would allow them to enjoy the increased attention from the government and possible the stronger support for the further development. Clusters still lack of the variety of members among the participants. The possible network including the public sector institutions, governmental bodies and third sector organization would provide benefits in harmonizing the relations of creative cluster and its environment.

Governance model of creative clusters under the Smart specialization conditions was created based on the previous chapters: theoretical analysis, best practice analysis and empirical findings from the analysis of Lithuanian creative clusters. Model is composed of four main domains – creative society, creative economy, creative clusters and smart specialization – a part connecting all three, 11 criteria and measured by 17 indicators. Input to the model are education, investment into R&D, regional uniqueness and R&D infrastructure. The implementation of the model would deliver regional competitiveness, polarization of R&D activities, cumulative learning, synergy and knowledge spillovers among different actors, orientation to global markets (of creative clusters).

Main institutions for the implementation of the model should be Ministry of Culture, Ministry of Science and Education, Ministry of Economy and Cluster management organizations. Listed ministries should set the goal values for the indicators and apply relevant policies according to the criteria. Smart specialization, as a horizontal innovation policy, should be developed together by all listed responsible actors. A coordination mechanism should be established to ensure the equal participation of involved actors and ownership of the decisions taken during the process.

Main limitations of implementation of the model are the external causality, which are not foreseen and described by the model; not coordinated actions, meaning, that if one of the parts of the model would not be implemented successfully and in the accordance with other parts of the model, other parts would disadvantage from such situation; appropriate design and implementation of Smart specialization strategy.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The last part of the Thesis presents general conclusions of the research and recommendations for the application of the results. As the general conclusions summarizes the findings of theoretical and empirical research, they are presented according to the list of defended statements:

1. **Smart Specialization is non-linear, non-industrial, three-dimensional specialization, integrating different region-specific contexts into economically viable activities**

Smart specialization, by its definition, is aimed to concentrate available resources in a smart way – to a limited number of themes or priorities. This means concentrating limited resources as funds, infrastructure, political support and etc. at the most prominent region specific activities with economic value. The smartness of this new generation of innovation policy is in the inclusive process of specialization. Smart specialization might seem a simple concept in the theory, but is complicated to implement. It should be used as a function for finding the best way to employ the creative society for the needs of the creative economy. The creative clusters play the implementation part of this function. The path of specialization becomes the unique specialization of the geographical location, amplifying the most distinguishing and prominent features in the economical context. The definition, connecting the most important parts to describe the Smart Specialization as a type of the policy logic could be the following: *Smart Specialization is a process of the governed operation of entrepreneurial discovery to arrive to a limited number of priorities for regional competitiveness.* The Smart specialization is different from industrial specialization, which is based on the systemic logic, what means that different regions use the same patterns and logic of specialization. It might be described as the same approach to the specialization possibility, choosing the best-established and promising sector and bringing other actors around it in the economic context. Smart specialization is based on three-dimensional organizational logic, meaning that specialization should happen not only in the economical context (hence the industrial specialization), but at all possible contexts (political, cultural, social, technological and etc.). While economical context does contain fractions of other contexts, as economics is always influenced by politics, technology and other contexts, but it does not fully represent them nor does it fully influences the decision making within other contexts. Multi-layer view to the smart specialization presupposes the multi-stakeholder and multi-layer management what is decentralized and de-concentrated and is the core of the creative society. The creative society is also represented in the form of Smart specialization by bringing forward the unique combination of the geographic specialty. Smart specialization concentrates the available resources of the creative society in favor of a regional creative economy. The available regional features of creative society should be used in the smart specialization priority setting process, incorporating all the elements in order to deliver the relevant and

inclusive priorities as well as stay in the concepts of "embeddedness" and "connectedness". Both concepts represent the scope and reach of the priorities. Connectedness should be understood as the scope (or quantity) of the participating actors (science, business, government, society) in the implementation of Smart specialization. While embeddedness should be understood as the reach of the priorities within particular sectors, meaning what part of the sector can be attracted to the implementation of the Smart specialization. Together the concepts represent the integrity of the priorities. Smart specialization already exists in every region as a combination of many historical, cultural, political, geographical and etc. circumstances and existing unique relations between science, business, government and representatives of society – or as a form of the regional creative society. Beneath the current political or administrative application of this specialization is the goal to unleash R&D and innovation potential within the applicable geographical area.

2. **Creative society is a postmodern society that is a contemporary understanding of the information and knowledge society concepts. Creative society is foundation of creative economy, specific to the geographical place it is located, based on the usage of technologies, organized in non-hierarchical form and opting for exclusivity**

The term "creative society" can be used at least in the two following ways: in the first case it labels the society as being creative or interchangeably inventive. Although creativity is just the one of the possible features, likely the most important one, which can be attributed to the contemporary society. In the second case the creative society should be understood as a phenomenon. It is a name of the contemporary society, not limited only to one attribute as being creative, but emphasizing the creativity as state of the society, affecting all other attributes. Creative society is an expansion or evolution of information and knowledge society. As knowledge society does not contradict the information society – in opposite, it complements and deepens some of the common attributes, creative society is not a contradiction to the both mentioned before. The establishment of the creative society could be explained by the shift in the economy, that it's not enough just to transform knowledge into the tangible and intangible products and services (link to the knowledge economy), you have constantly to amaze and come up with something new – hence, the creative society is the basis of the creative economy. The shift in the paradigm happened with the description and understanding of entrepreneur (or entrepreneurship) – it does not anymore belong to the few elites. The creative society can be described as a foundation of the creative economy embedded to the place where it exists. It is organized in non-hierarchical form and opts for the exclusivity, with individual approach to the creation and specific roots in the education. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits. The form or the expression of the economical organization (way of arrangement) of the creative society is the creative cluster, which can be formed historically or can be promoted by the governance actions.

3. **Governance of creative clusters is based on the Smart specialization function, by aligning the potential of creative society for the benefits of creative economy. The usage of this function allows seeking for connectedness and embeddedness among science, business, government and representatives of society in a regionally unique expression**

The connection of the cluster with the region is becoming more social. The cluster can slow or reverse the migration of talent and capital out of the region, it can become the growth platform for the new companies and provide jobs, it can help local successful entrepreneurial and technical talent stay local – by creating their next startup in the region versus immigrating to other places. This particular understanding of the cluster mission shows the reemerging connection with the local community and society in general, emphasizing the very core feature of the creative society – embedment to the place where it exists and exploiting the unique resources that are available for the distinguished goods and services. There is strong relation between the geography of creativity along with entrepreneurship and between creation of new products, services and ideas. These special places showcase variety of skills, ideas, technology and culture, permissive environment enabling unconventional initiatives to be brought to the marketplace and vigorously competitive arenas that anticipate and shape wider future markets. The place becomes the very crucial aspect for clusters and it not only shapes the structure and size of the cluster, but provides uniqueness as well. A concept of entrepreneurial density, which describes a formation of alike thinking actors and their support system, is the basis for the cluster formation. Smart specialization is a continuous process of capturing the potential of creative society and applying it to the needs of creative economy, ensuring the principles of connectedness and embeddedness. The creative society is expressed in the form of Smart specialization by bringing forward the unique combination of the geographic specialty. The updated or a conceptually upgraded definition of Smart specialization can be brought forward: *Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness.* Analysis of the European regions which are the best performers in the creative economy (has the largest share of the creative industries in the regional economy) reveals that the most important criteria for the governance of the creative clusters are education and access to global markets with substantial attention to innovation and connectedness.

4. **Lithuanian creative clusters are local (not orientated to global markets and connections), project-based organizations with limited connections to the knowledge institutions and mostly dependent on state support**

The Lithuanian creative clusters are relatively young organizations, the earliest one being established at 2010 and the latest ones at 2013. Most of the Lithuanian creative clusters were the initiatives of the government interventions through supporting schemes. Lithuanian clusters mainly consist of SMEs, with numerous involvements of institutions of knowledge and in some cases with involvement of regional authority institutions and

other state bodies. Most of the clusters act as a development and employment policy tools for a particular field or industry. While most of the clusters are situated in the biggest cities of Vilnius and Kaunas, the regional ones have plans to perform urban regeneration and image development functions. Only two of the clusters could be attributed to the creative districts and creative quarters because of the concentration of infrastructure and possibly existent subculture, attributable only to a particular cluster. The biggest fields of CCI represented by the creative clusters are software, computer games and electronic publishing and film / motion picture & video industries. It should be mentioned, that some of the creative clusters are working in the field of education, which is not classified as part of CCI, but with no doubt has strong connection in application of the CCI output. Most of the Lithuanian creative clusters are working only with the local markets, though they have plans to expand its commercial activities to the foreign territories. The reason behind that is, as indicated by cluster managing organizations, the relevantly young cluster age and lack of the time for establishing competitiveness. All examined creative clusters exercise joint marketing activities, which are based on the existing (and often government financed) projects. Analysis reveals, that currently there is no government strategy for the development of the CCI, lack of integrated creative clusters policy and no policy mix for the managed implementation of the goals. The separate attention must be given to the creative clusters collaboration with the institution of knowledge, which can be university, research institute or college. The existing collaboration forms are that the clusters invite students for practice and use the premises of universities for cluster events, which is not the full exploitation of R&D possibilities that can be provided by university, research institute or college. Only few creative clusters in Lithuania are focused on one or few CCI economical activities, what could be viewed as a limited number of themes, while others creative clusters cover quite a broad spectrum of CCI economical activates and does not expose the concentration of resources as a clusters.

5. **Specialization of Lithuanian creative clusters in the most prominent fields of creative and cultural industries requires setting the priorities to exploit the potential of creative society and creative economy**

Smart specialization is the mechanism or function that should find and implement the most economically appropriate connection among creative society, creative economy and creative clusters. The most important feature of the creative society is the creative individual. It is the smallest building block of the society as a whole. Creative economy is based on the intangible assets and ideas; therefore, innovation or innovativeness is the most important element that should be addressed. The most important features of the creative clusters are regional importance and access to global markets. Gaining regional importance allows clusters to attract talent and new ideas, generate knowledge spillovers, stay competitive and grow. Based on Smart specialization, the priorities with common goals should be set exploiting available regional assets, such as education, investment into R&D, regional uniqueness and R&D infrastructure. The output of specialization should be regional competitiveness, polarization of R&D, cumulative learning, synergy and knowledge spillovers, and finally creative cluster orientation to global markets. Creative

society element of the model, which is represented by the main feature of creative individual, should be activated by designing and applying policies for increasing expenditure on R&D, encouraging innovation and investments into education. Creative economy element is represented by the main feature of innovativeness, which is governed by policies of high-tech and services sector growth, the aim to increase the size of creative economy, better commercialization of creative outputs and appropriate employment policies. Creative clusters are represented by element of importance which is achieved by the dedicated policies for better access to global markets and sustainability of the creative clusters.

In addition to the conclusions, provided as the list of defended statements, the following additional conclusions must be made:

1. The relation of creative society and innovation policy (thought Smart specialization), discussed in this Thesis, is a new concept and should be explored in more versatile approach. Further research is needed to fully understand and capture the benefits of developing the innovation strategies, based on three-dimensional organizational logic, exploring possible specializations not only in economic, but also in social, technological, political and etc. layers and most importantly – finding the unique regional specialization paths in the combination of all of them;
2. Smart specialization can be considered not only as an instrument of development of highest level (national or regional) innovation policy. The logic and benefits can be applied to the organizational level as well, providing uniqueness of actions for such organization. In addition, connections with the specializations of other organizations, performing in the same spatial context, would act as a building block of higher level strategy. The mixture of such organizational specializations (as a bottom-up) should be combined with regional level, represented by policy formulating institutions (top-down) to form a national level strategy.

Recommendations are based on the summary of the empirical findings and the structure of governance model. They are structured in accordance to the three levels: policy formulating institutions, policy implementing institutions, creative clusters. Recommendations for the policy formulating institutions are targeted at the Ministries responsible for the creative clusters development. In Lithuanian case it is the Ministry of Science and Education, Ministry of Economy and Ministry of Culture. Implementing bodies are the agencies responsible for the policy implementation through various financial and non-financial measures as well as monitoring agencies such as Lithuanian business support agency (LVPA). Recommendations for the creative clusters are targeted at the cluster management organizations of Lithuanian creative clusters, but are applicable for the cluster members as well.

Recommendations for the policy formulating institutions

The policy formulating bodies should seek a well-coordinated multi-stakeholder approach for the implementation of the model, based on the development of mutual strategy – Smart specialization. The most important suggestions are proposed in the Table 35, based on the analysis of the cluster development trends and the Lithuanian creative clusters situation.

Table 35. Policy suggestions for the responsible institutions of creative cluster development

Observed weakness	Policy suggestion	Responsible institutions
Currently Lithuanian creative clusters do not perform the role of gateway to regional and global partnership. There are no established networks and communication practices. The cluster identity is not fully discovered	**Identification of the creative potential and main actors in the existing creative clusters.** Identification of clusters potential would allow to specialize the clusters in the most economically and societally prominent fields of CCI	MoC, CMO
There is limited internal partnership among the members, lack of clearly identified and expressed chain of innovation and appropriate infrastructure	**Better cluster management based on the identified value chain and members' complementarities**. It is evident that part of the examined clusters tends to exist because of the access to the financial benefits rather than the collaboration	CMO
Being young, Lithuanian creative clusters lack of regional importance, which would allow them to enjoy the increased attention from the government and possible the stronger support for the further development	**Identification of possible international collaboration through regional networks and value chains**. As most part of Lithuanian creative clusters operations are only at a national level, policies for cluster growth through internationalization should be used	MoE, CMO
Lithuanian creative clusters still lack of the variety of members among the participants. The possible network including the public sector institutions, governmental bodies and third sector organization would provide benefits in harmonizing the relations of creative cluster and its environment	**Clusters should have a broader and more specialization based variety of members.** The possible members, among more specialized businesses, are the representatives of national and local governments, responsible ministries, knowledge institutions, other public organizations.	MoC, MoE, MoES, CMO
Participation of the knowledge institution in the cluster activities is almost not present, despite such institutions being part of the clusters	**Knowledge institutions (universities, colleges, research institutes, etc.) should be encourage and supported to participate in the creative cluster activities**. Knowledge institutions could be not only the premises for organization of seminars (as was observed during the cluster analysis), but could mutually benefit from organized training, project activities in international competitive funding, research activities in developing and testing new products and services.	MoES, CMO

Source: created by author

As the largest fields of CCI in Lithuania, covered by the creative clusters are (1) software, computer games and (2) electronic publishing and film / motion picture & video industries, sectorial strategies (in accordance with Smart specialization logic) should be developed to support these fields.

Listed policy suggestions should be activated in the accordance with the governance model of creative clusters under the Smart specialization conditions. The list of the possible immediate actions is only the first step in strengthening Lithuanian creative clusters.

Recommendation for the policy implementing institutions

Policy implementing institutions should focus on the possible actions to implement the agenda of the policy formulating institutions. At the current development status of the creative clusters in Lithuania, the most important and appropriate actions are (based on the analysis in Table 10 and Table 26):

1. Improve capacity, scale and skills of suppliers (mainly SMEs):
    a. The public intervention should continue to provide the development support for SMEs in the creative clusters;
    b. Brokering services and platforms between suppliers and purchasers should enable the clusters to be more market oriented;
2. Increase external linkages (FDI and exports):
    a. National marketing strategy of creative clusters and regions should support exports;
    b. Assistance to inward investors in the clusters;
c. Partner searches;
    d. Export networks;
3. Skilled labor force in strategic CCI:
    a. Specialized vocational and university training for the creative clusters needs. The needs have to be clearly understood and identified at the first stage;
    b. Support partnerships between groups of firms and educational institutions;
4. Increase links between research and firm needs:
    a. Support joint projects among firms and institutions of knowledge;
    b. Co-locate different actors to facilitate interaction (science parks, incubators);

Recommendations for the creative clusters

1. Most importantly, creative clusters should find the most prominent fields of CCI, where they already have reasonable amount of competence and develop a mutual organizational strategy for achieving regional importance;
2. Creative clusters should aim for closer collaboration with the knowledge institutions (universities, research institutes, colleges) in the value chain of development new products and services;
3. Closer partnership with local governments (municipality level) would allow clusters to achieve greater sustainability;
4. The concept of Smart specialization as three-dimensional strategy applicable at organizational level, should be used to allocate the potential and resources of the existing features of creative society in the best competitive way;
5. One of the most important criteria for the current stage of development are the networking capabilities. Strong networks and possible participation in the global chains of innovation should provide regional competitiveness. However, the specialization is inevitable in this case and Smart specialization logic provides a strong strategic advantage.

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ANNEXES

Annex I. Regional creative clusters performance

Table A1. The value of indicators for the regional creative clusters performance analysis

Region	RI1	RI2	SC	CCP
Açores	0,000252269	0,000605265	0,009081694	0,016436408
Alfold Es Eszak	0,002394791	0	0,010673061	0,040594119
Attiki	0,013789348	0	0,048951916	0,067326213
Baden-Württemberg	0,02440998	0,008640374	0,027152272	0,062310043
Bayern	0,029126885	0,0107254	0,027375495	0,049258367
Bassin Parisien	0,008773178	0,007049277	0,012596976	0,022857092
Berlin	0,011358304	0,004054667	0,042687189	0,015710653
Brandenburg	0,00272561	0,00128273	0,013288871	0,008558842
Bremen	0,001626739	0,00054791	0,032932382	0,009292486
Brussels	0,004206493	0,00152497	0,062686343	0,025884317
Canarias	0,003459254	0,005387329	0,026178077	0,030318238
Centralny	0,01821857	0,034640444	0,031094591	0,055493416
Centre-Est	0,008640414	0,007563448	0,017883943	0,043971633
Centro	0,028634432	0,040084454	0,035940423	0,060521
Centro (ES)	0,006696787	0,012398144	0,018290547	0,034033118
Ceska Republika	0,025189781	0,025467005	0,030898254	0,046859716
Cyprus	0,00214655	0,002246295	0,006901882	0,035313428
Continente	0,019523385	0,036745713	0,026413095	0,035196944
Danmark	0,013643492	0,012116767	0,029839947	0,025580856
Dunantul	0,002030067	0	0,010029904	0,027224547
East Midlands	0,009907297	0,005525863	0,028284537	0,027788333
East Of England	0,015287184	0,008526531	0,033521033	0,022486494
Eesti	0,002593853	0,00248921	0,037662702	0,040183406

Region	RI1	RI2	SC	CCP
Est	0,004605457	0,003650482	0,013496414	0,046584285
Este	0,032984096	0,047384743	0,034807645	0,054915363
Hamburg	0,008994732	0,002657902	0,060526316	0,028217341
Hessen	0,012936536	0,00477869	0,026207072	0,064458775
Hrvatska	0,006286074	0,006732812	0,030061711	0,059686818
Île De France	0,045236166	0,021032445	0,063168987	0,058897617
Ireland	0,008164578	0,006152513	0,028793332	0,027001315
Isole	0,005496874	0,011040516	0,016117919	0,026521619
Yorkshire And The Humber	0,013339864	0,0074404	0,034131238	0,023716618
Yugozapadna i Yuzhna Tsentralna Bulgaria	0,007684881	0,006357642	0,041282469	0,019033953
Kentriki Ellada	0,002691874	0	0,016823665	0,017147225
Kozep-Magyarorszag	0,008657199	0	0,05000189	0,01824811
Latvija	0,005798153	0,003021601	0,042976715	0,061470154
Lietuva	0,003792759	0,004329971	0,021895449	0,057560241
London	0,051879243	0,028936003	0,08550527	0,056098995
Luxembourg	0,001888239	0,001379896	0,064383055	0,006496717
Macroregiunea doi	0,002331514	0,002743597	0,004934336	0,016998851
Macroregiunea patru	0,002276965	0,002256416	0,008697845	0,01930586
Macroregiunea trei	0,012390373	0,009145099	0,039783952	0,017378513
Macroregiunea unu	0,004638522	0,004295558	0,017254582	0,038269151
Madeira	0,000349618	0,000813093	0,012395272	0,033918648
Madrid	0,033281011	0,03103922	0,068622945	0,046247087
Malta	0,000288019	0,001038464	0,013419594	0,014811683
Manner-Suomi	0,012678057	0,012743624	0,038769475	0,022351044
Mecklenburg-Vorpommern	0,001845607	0,000850879	0,014197547	0,019580284
Méditerranée	0,00782738	0,008134975	0,017745498	0,019294614
Niedersachsen	0,009907297	0,004371132	0,015965325	0,017467638
Nisia Aigaiou, Kriti	0,001559937	0	0,021365517	0,011282606

Region	RI1	RI2	SC	CCP
Noord-Nederland	0,006000404	0,007402179	0,042534206	0,032672578
Nord - Pas-De-Calais	0,003722265	0,002365054	0,016071723	0,068328071
Nord-Est	0,022949909	0,035146519	0,027612989	0,097369524
Nord-Ovest	0,041655897	0,057232273	0,036839894	0,083542075
Nordrhein-Westfalen	0,032763717	0,012602598	0,02410789	0,049274144
Noreste	0,009122461	0,012966972	0,028485849	0,01871354
Noroeste	0,007387966	0,011586401	0,024453889	0,01419553
Norra Sverige	0,002203113	0,007698401	0,018356721	0,022806235
North East	0,00460445	0,002568164	0,024535373	0,023531487
North West	0,015998672	0,008923369	0,031081945	0,030693368
Northern Ireland	0,002928365	0,001633316	0,023653742	0,024860472
Oost-Nederland	0,011766331	0,015239582	0,039216268	0,034994693
Ostösterreich	0,010165776	0,01001892	0,035775854	0,0317011
Östra Sverige	0,013062586	0,041091204	0,052637457	0,025789821
Ouest	0,008472739	0,007193677	0,015989402	0,017486604
Polnocny	0,004254496	0,013288835	0,01197864	0,016709153
Polnocno-Zachodni	0,00475937	0,016417048	0,012279577	0,015233306
Poludniowy	0,007695288	0,021281434	0,015242528	0,013459032
Poludniowo-Zachodni	0,002778649	0,010647802	0,011194131	0,011820377
Région Wallonne	0,002985096	0,001866402	0,01375058	0,010445067
Rheinland-Pfalz	0,006056632	0,00233199	0,01898611	0,014687982
Saarland	0,001403339	0,000595818	0,018629679	0,010573803
Sachsen	0,007228011	0,00267747	0,02232452	0,013051341
Sachsen-Anhalt	0,001942453	0,000989206	0,010621329	0,019147919
Schleswig-Holstein	0,003880877	0,001653176	0,017499432	0,019693075
Scotland	0,01332459	0,007431881	0,032711278	0,020036986
Severna i Iztochna Bulgaria	0,002487608	0,002984488	0,00856504	0,01131651
Slovenija	0,004224788	0,009179512	0,029723438	0,017003047

Region	RI1	RI2	SC	CCP
Slovenska Republika	0,004604114	0,002467618	0,017685969	0,044340889
Södra Sverige	0,008174145	0,026715997	0,027698813	0,053574294
South East	0,031562629	0,017604273	0,04678742	0,058253266
South West	0,013837519	0,007717971	0,034071579	0,029223898
Sud	0,012853117	0,025699125	0,01830827	0,022467192
Südösterreich	0,002533262	0,00273415	0,014904228	0,022860952
Sud-Ouest	0,007080813	0,006689627	0,016140162	0,022904424
Sur	0,013246878	0,02168022	0,022396141	0,024315484
Thüringen	0,002576733	0,001200408	0,013997082	0,015629416
Vlaams Gewest	0,008491873	0,003809727	0,018764928	0,018439787
Voreia Ellada	0,004560811	0	0,020030223	0,022311097
Wales	0,005387104	0,003004694	0,025189138	0,048564166
West Midlands	0,012363182	0,00689565	0,031033916	0,048950374
West-Nederland	0,03081388	0,055101363	0,045761753	0,040737122
Westösterreich	0,005773312	0,00564374	0,020354291	0,021642409
Wschodni	0,00414993	0,011311097	0,008736132	0,015869097
Zuid-Nederland	0,011719167	0,016761179	0,038714721	0,011719167

Source: created by author

Annex II. Evaluation of the Lithuanian clusters relation to creative and cultural industries

Name of the cluster	Active in sectors	Relation to CCI
ABBI LT cluster (www.abbi.lt)	Food and beverage manufacturing	No relation.
Advanced Orthopaedics and Rehabilitation Means Cluster*	Medicine	No relation.
Anykščiai Tourism Cluster*	Tourism	Direct relation. Cluster aims at providing services of cultural tourism, various entertainment services.
Baltic automotive components cluster (www.bacc.lt)	Engineering industry	No relation.
Banking cluster LT*	No information	No information.
Bio power development cluster*	Energy, manufacturing of machinery, ICT	No relation.
BIOKOGEN*	Energy	No relation.
Biržai tourism cluster (www.birzuklasteris.lt)	Tourism	Indirect relation. Cluster aims at collective marketing activities for the promotion of regional tourism services
CLEAR DIGITAL WORLD*	ICT	Direct relation. Cluster unites representatives from cinema, entertainment and music sector.
Cluster of Information Technology in Medicine*	ICT	Indirect relation. Cluster specializes at the IT for medicine sector.
E-services cluster (www.e-klasteris.lt)	ICT	Direct relation. Cluster does the IT part for creative services.
ELIT Cluster (elitcluster.com)	ICT	Direct relation. Cluster unites various IT subsectors raging from new applications of IT solutions to game development.

Name of the cluster	Active in sectors	Relation to CCI
Energy Cluster (encluster.lt)	Energy	No relation.
Energy-Efficient and Renovated Houses Cluster (ecovizija.lt)	Engineering, construction	No relation.
Food (fruit and vegetable) cluster*	Food and beverage manufacturing	No relation.
Home Modernisation Partners (BMP) (www.bmpnavigator.com)	Engineering, construction	No relation.
INFOBALT Information and Communication Technologies Cluster*	ICT	Indirect relation. Cluster aims at the promotion of IT skills, coordination of IT sector development according to the EU recommendations and standards.
Innovative energy supply and consumption cluster (ie-klasteris.lt)	Services that change the characteristics of the client's material goods	No relation.
Laser and engineering technology cluster (www.litek.lt)	Laser technology	No relation.
Lithuanian Automotive Component Manufacturers and Exporters Association (www.automotive-export.lt)	Engineering industry	No relation.
Lithuanian Medical Tourism Cluster (Litcare) (www.litcare.com)	Medicine, tourism	Indirect relation. Cluster aims only at the promotion of wellness and medicine services.
MEDIAPOLIS – Digital Creative Industry Cluster (www.mediapolis.lt)	Creative industries	Direct relation. Cluster aims at developing digital content based on the creative and cultural industries, various art projects.
Modern home development cluster (www.monak.lt)	Woodworking and furniture, ICT	No relation.
National Food Economy Cluster*	Ecology, food	No relation.

Name of the cluster	Active in sectors	Relation to CCI
National Software and Service Cluster (nsstp.lt)	ICT, telecommunication, management	Indirect relation. Cluster aims at the promotion of IT skills, coordination of IT sector development according to the EU recommendations and standards.
Natural mineral water cluster*	Food and beverage manufacturing	No relation.
New generation science-business cluster (www.cluster.lt)	Education ICT	Indirect relation. Cluster aims at the promotion of social sciences and humanities, innovation consulting.
Odontology Innovations Cluster*	Wellness	No relation.
Photovoltaics technology cluster (www.pv.protechnology.lt)	Electronics, manufacturing of machinery	No relation.
Plastics and New Materials Cluster*	Chemistry and plastic	No relation.
REDIRECTED Cluster (redicrected.lt)	Creative industries	Direct relation. Cluster unites cinema sector and other entertainment industry.
Secondary Raw Material Processing Technology Production and R&D Promotion Cluster*	Engineering, construction	No relation.
SMART IT cluster (www.smartitcluster.eu)	ICT	Indirect relation. Cluster does the IT for government, agriculture sectors.
Smart technology cluster (www.smartta.eu)	Energy, construction, ICT	No relation.
Smart-green city cluster (smartandgreencity.com)	ICT	Indirect relation. Cluster aims at the developing of IT based city planning solutions.
Stem cell and regeneration medicine innovation cluster*	Wellness, medicine	No relation.
Thermal Insulation Innovations Cluster*	Engineering, construction	No relation.

Name of the cluster	Active in sectors	Relation to CCI
Užupis Creative Cluster (www.ucc.lt)	ICT, creative industries	Direct relation. Cluster unites various representatives of creative and cultural industries sector.
Vilnius film cluster (www.filmcluster.eu)	Cinema, advertising	Direct relation. Cluster unites representatives of cinema and advertising sector.
Wellness cluster iVit@ (www.ivita.lt)	Wellness	Indirect relation. Cluster aims at collective marketing activities for the promotion of wellness services.
Wind Energy Promotion Cluster (VESK)*	Energy	No relation.

* Cluster does not have a dedicated web site.

Annex III. The questionnaire of Lithuanian creative clusters

1. General information about creative cluster
    a) What reasons led to the establishment of the cluster?
    b) How many members there are in the cluster at this time?
    c) What size they are? (SMEs, large companies, associated structures, other)
    d) Is there a change in the list of members? (From the establishment of the cluster)
    e) Does the cluster try to attract new members? (And how)
    f) What are the main partners of the cluster? (SMEs, large companies, associated structures, other) (National or from other countries)
2. The specifics of creative clusters' activities
    a) What are the main activities of the cluster?
    b) How these activities are specialized in the relation to other creative clusters? (if there is, what is the difference of operation of the cluster)
    c) In what creative and cultural industries do the cluster operates? (The members of the cluster)
    d) Whit what sectors does the cluster collaborates the most? (The members of the cluster)
    e) These activities are oriented more towards the national or international market?
    f) Does the cluster perform the educational activities?
    g) Does the cluster have its identity? (Is the cluster identifiable by its operation)
    h) Are you familiar with the concept of Smart specialization? (If yes, does the Smart specialization concept have any relevance to the cluster?)
3. The management model
    a) How does the cluster benefit from the state aid?
    b) What kind of aid (or measures) is missing?
    c) What is the best way to measure the benefits of state aid?
    d) Does the cluster have/aims to have regional importance?
    e) How does the institution of knowledge participate in the cluster activities?
    f) What is the best way to measure the benefits of institution of knowledge? (if there are any)
    g) Does the cluster create innovation?
4. Relation to creative society
    a) How does the cluster reflect the specifics of the creative society? (If one society differs from other society, how does the cluster can relate to that)
    b) What are the main assumptions for development of Creative economy in Lithuania?
    c) What is the main assumption for the growth of the cluster?

MYKOLAS ROMERIS UNIVERSITY

Ramojus Reimeris

MODELING OF CREATIVE CLUSTERS GOVERNANCE UNDER THE SMART SPECIALIZATION

Summary of Doctoral Dissertation
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The Doctoral Dissertation will be defended at the open meeting of the Scientific Council in the field of Management on 22 June, 2016 at 10:00 AM at Mykolas Romeris University, in the Room I-414.

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INTRODUCTION

Relevance of the research. Creativity has penetrated every aspect of the contemporary society, encompassing all activities, from the manufacturing to consummation of products and services, obliterating boundaries between work and leisure, creation and consumption. Moreover, the contemporary society, better established under the widespread label of Knowledge society is in a transition state to being labeled as Creative society. Emergence of the new form and quality of the society comes with the new forms of organization of economic activities, new forms of economical entities and relations between them, new forms of organization of labor and most importantly – new models of governance. In the presence of the new society – creative society, the appropriate attention must be given to the clusters, or particularly creative clusters, and their governance as the instrument of economical organization of creative society in European Union (EU) and the rest of the world.

Clusters are established and widely applied topic in the European Union (EC, 2008A; EC, 2010A; EC, 2010B; EC, 2013B) and global economic policy (OECD, 2010; OECD, 2012; OECD, 2014). It can be assumed that roughly 38% of all European employees work in enterprises that are part of the cluster sector (Jankowska, Pietrzykowski, 2013). The presence of clusters is related with stronger economic outcomes of the region (Ketels, Protsi, 2013). The firms in the clusters get better access to qualified workforce, an ability to pursue collaborative services and possibility of knowledge spillover effects. The same positive economic effects can be observed in the clustering of entities in the creative and cultural sector. The cluster of creative and cultural industries (CCI) - creative cluster is a type of the clusters, both similar and at the same time different compared to a regular version of industrial cluster. Creative clusters are different from their industrial clusters counterparts mainly in the sense of social connection to the location it is established at. The creative cluster can consist of vividly different actors as non-profit organizations, cultural mission institutions, art places, entrepreneurs, individual artists and knowledge institutions and etc. that all are mutually interconnected and participate in the value chain or ecosystem. CCI and cluster agenda are identified as a priority in at least 5 thematic objectives of 2014 – 2020 EU Cohesion policy (EC, 2010; European Agenda for Culture, 2012):

1. *Thematic Objective 1. RTD & Innovation*: Capacity building for the exploitation of new ideas: support for clusters, partnership, infrastructures, business advisory services, also for creative hubs and creative and cultural industries;
2. *Thematic Objective 3. Competitiveness of SMEs:* development of SMEs in emerging areas such as CCIs, new forms of tourism;
3. *Thematic Objective 6. Environment & resources*: diversification of rural & urban economies by protecting cultural heritage; rehabilitation of cultural infrastructure (integrated urban development projects);
4. *Thematic Objective 9. Social inclusion*: promotion of intercultural activities;
5. *Thematic Objective 10. Investing in Education, Skills and Lifelong Learning*: promotion of creative skills and creativity.

Clusters should be understood as tool of economic organization of creative society while the establishment of such clusters – as a goal of planned and executed governance. While CCI produce services and goods that have a creative content and high added value, therefore they are positioned at the top end of the market and tend to push to the market technological innovations that are changing every aspect of our life (Cooke, Propris, 2011), it is important to have the appropriate governance models for clustering of the CCI to pursue the positive effects of spatial agglomeration. In the presence of globalization and increasing competition among countries, regions and cities, CCI are gaining greater attention as a catalyst for economic development, especially when creativity is a limitless resource (Markova, 2014).

Creative clusters, as a EU priority, illustrate the importance of clustering of the CCI to empower the creative potential of the society. EU Member states carry out various policy interventions for CCI development in order to promote the favorable conditions for the emergence and growth of the creative clusters. However, due to the specifics of CCI, the governance of creative clusters is different from the established cluster policy approach and requires new ways of governance knowledge. Moreover, the recent change in the strategic approach to the innovation and economic development in the regional policy context – the appearance of Smart specialization concept, requires rethinking existing governance practices and their application to CCI. The term of Smart Specialization recently re-emerged in the context of the new regional innovation strategy and was introduced as *ex-ante* conditionality for all the regions in order to use the ESIF for R&D and innovation. Smart Specialization is a key action in the 'Innovation Union' flagship initiative of the Europe 2020 agenda for smart, sustainable and inclusive growth (Panorama Inforegio, 2012). In general, a specialization is a feature that gives an individual belonging to a group. In the organizational context specialization is a mean to achieve greater efficiency (Roman et al., 2013). From the economical point of view – specialization is nothing new and always affected the skills and abilities of the regional workforce. Specialization developed out of the natural human tendency to barter and exchange (Smith, 1776). Smart specialization seeks for the structural evolution of the whole region economy, from the declining activities to the promising prospects (Foray et al., 2012A). The spatial Smart specialization argument employs the concept of a domain and argues that the entrepreneurs will search out the innovation opportunities within the selected domain applying the entrepreneurial search or entrepreneurial discovery process (McCann, Ortega-Argiles, 2013). Limited resources for innovation policy call for a focused attention on excellence-based approaches to R&D (Meissner et al., 2013). As there is agreement about the positive effects of clusters and creative clusters to the regional economy, currently researchers pay little attention to the modeling and governance possibilities of creative clusters under the Smart specialization conditions.

The implementation of Smart specialization started with the new programming period of 2014-2020 and there is no historical evidence of success of its application yet. In the presence of the wide agreement of the importance of the CCI and the creative clusters, the application of Smart specialization concept is an important topic for the scholars and practitioners in this matter. Moreover, Smart specialization is the function to find regional uniqueness and it should be used to identify and empower the potential of creative society.

The level of scientific problem exploration. The review of recent literature on broad field of clusters and its relations with other economic, social, political and etc. fields of science shows that scholars are particularly interested in the topic of *the effects of clusters for regional development* (Gallardo, Stich, 2013; Dudian, 2011; Ketels, 2013; Ketels, Protsi, 2013; Torre, Wallet, 2014; Varga et al., 2014; Vaz et al., 2014; Zenka et al., 2014), *the effects of the clusters on the networks of industry* (Anderssen, 2004; Bathelt, Li, 2014; Dalmoro, 2013; Leick, 2013; Ter Wal, 2013), *with what external actors do members of clusters cooperate* (Eigenhuller et al., 2013; Giuliani, 2013; Kuah, 2002; Lorenzen, Mudambi, 2013), *the factors of clusters resilience* (Crespo et al., 2013; Elola et al., 2013; Suire, Vicente, 2014) and *the measures to be taken to support innovation in the clusters* (Jankowska, Pietrzykowski, 2013). The need for understanding *the role of spatial aspect in creative industries* (Clare, 2013; Egeraat et al., 2013; Grandadam et al., 2013; Vaan et al., 2013;) is addressed broadly by various scholars, but there is limited amount of attention to *creative and cultural clusters* (Kong, 2011). The topic of *relation of smart specialization with clusters* (Querejeta, Wilson, 2013; Thissen et al. 2013;) is gaining attention increasingly, mainly due to the European Commission's adoption of Smart specialization as regional innovation strategy. CCI are varied, ranging from large and well-resourced, well-connected conglomerates to small, unorganized and poorly resourced micro entities. The understanding of CCI remains limited due to the following reasons (EC, 2016):

1. Lack of understanding of CCI business models
2. Poor valuation among financial institutions of the intangible assets of CCI
3. Lack of data and statistics
4. Complexity of culture sector business plans and models

The review of the literature reveals, that the question of modeling and governance of creative clusters clearly lacks attention as well as the relation of creative clusters to the Smart specialization concept and strategy. Creative clusters, as the special type of clusters have a rather fragmentally explored and unique perspective to be managed according to the presence of new form of the society and regional specialization. The emergence of Smart specialization, which can shape the cluster and its environment by combining the new elements of regional uniqueness, incorporates more components beyond understanding of economical specialization.

Goal of the Thesis is to create a governance model for Lithuanian creative clusters under the smart specialization conditions.

Objectives of the thesis. As the topic of creative clusters and their connection to Smart specialization is studied fragmentally, the following objectives were formulated accordingly:

1. To investigate theoretical understanding of Smart specialization and propose possible extensions;
2. To describe theoretical understanding of creative society and define main features;
3. To investigate theoretical understanding of clusters, to define creative clusters and their governance;
4. To develop a conceptual framework for creative clusters governance under the Smart specialization conditions;

5. To evaluate the proportion of jobs and firms in the creative clusters and share of CCI in the European Union at the regional level (NUTS2) and analyze relevant governance practice in the selected regions;
6. To analyze the officially registered Lithuanian creative clusters;
7. To build the model for governance of Lithuanian creative clusters under the Smart specialization conditions;
8. To provide recommendations for implementation of the model.

Methodological provisions. The research methodology is qualitative, except for the evaluation of the proportion of jobs, firms and share of CCI in the European Union at the regional level (NUTS2). The first part is based on the review of the literature, while empirical part is based on the case study and statistical analysis. The research questions with the methods of analysis and sources of data used are presented in the table No 1.

Table 36. Research questions of the thesis

Research questions	Source of data	Method of analysis
1. What is the understanding of Smart specialization and what are possible theoretical and practical extensions?	Scientific literature	Literature analysis, structural analysis, synthesis
2. What is the understanding of creative society and what features does it have?	Scientific literature	Literature analysis, structural analysis, synthesis
3. What is the understanding of creative clusters and what are their governance features?	Scientific literature	Literature analysis, structural analysis, synthesis
4. What is the proportion of jobs and firms in creative clusters and what is the share of CCI in the European Union at the NUTS2 regional level?	Statistical data	Statistical analysis
5. What is the relevant practice of governance of creative clusters in the selected regions?	Scientific literature, reviews, strategic documents	Literature analysis, case study, content analysis, synthesis
6. How should creative clusters be governed?	Results from research questions 1, 2, 3, 4 and 5	Synthesis, modeling
7. What is current situation of the official Lithuanian creative clusters?	Cluster management organizations	Semi-structured interview, case study
8. How should creative clusters be governed ensuring development under the smart specialization conditions?	Results from research questions 6 and 7	Synthesis, modeling

Source: created by author.

Limitations. The research of the Smart specialization currently is theory based, as there is no practical evidence about implementation yet. Analysis of the EU creative regions was based on the available documents, presented in English (with the exception for the Lithuania, as part of the documents were analyzed in Lithuanian language). Part of the documents could be not analyzed due to the unavailability in English language. The empirical research methodology is based on the availability of data. One of the main problems for the identification of clusters of creative industries in Europe is the limitation of data (Domenech et al., 2011). Only the officially registered clusters were analyzed with some empirical limitations (f. e. not every representative of the cluster has participated in the interview). This approach does not include the non-official creative clusters in the scope of the research. The limitations of applicability of the results are limited to the different cultural contexts.

Defended statements

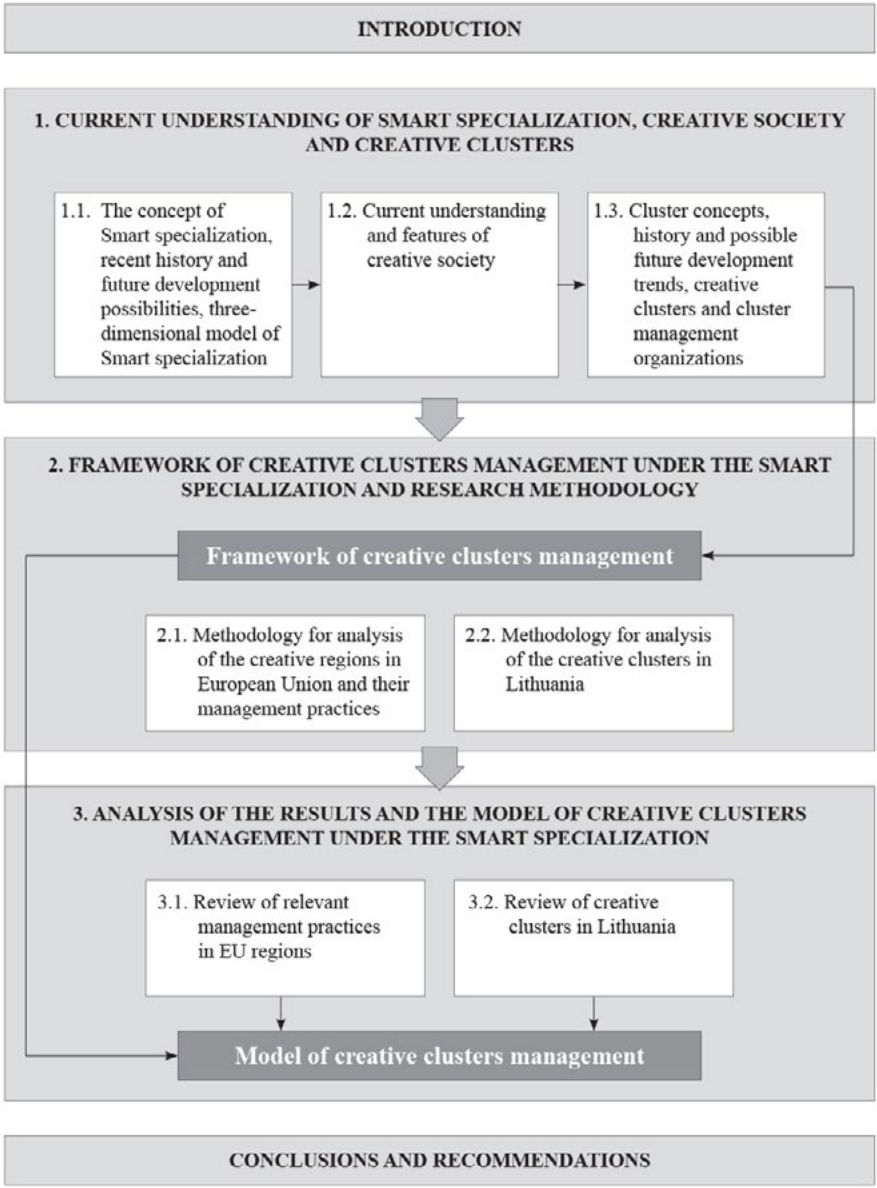
1. Smart Specialization is non-linear, non-industrial, three-dimensional specialization, integrating different region-specific contexts into economically viable activities;
2. Creative society is a postmodern society that is a contemporary understanding of the information and knowledge society concepts. Creative society is foundation of creative economy, specific to the geographical place it is located, based on the usage of technologies, organized in non-hierarchical form and opting for exclusivity;
3. Governance of creative clusters is based on the Smart specialization function, by aligning the potential of creative society for the benefits of creative economy. The usage of this function allows seeking for connectedness and embeddedness among science, business, government and representatives of society in a regionally unique expression;
4. Lithuanian creative clusters are local (not orientated to global markets and connections), project-based organizations with limited connections to the knowledge institutions and mostly dependent on state support;
5. Specialization of Lithuanian creative clusters in the most prominent fields of creative and cultural industries requires setting the priorities to exploit the potential of creative society and creative economy.

Novelty and significance of the thesis:

1. Broadened understanding about the concept of Smart specialization as a governance function of aligning the potential of creative society for the benefits of creative economy;
2. Broadened understanding about the phenomenon of creative society as a foundation of creative economy, embedded to the place where it exists, organized in non-hierarchical form and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits;

3. A comprehensive review about the development of the clusters with particular attention to creative clusters presented;
4. A new methodology was developed and applied to measure the economical intensity of the clusters of creative industries across European Union;
5. Research of Lithuanian creative clusters performed, analyzing the type of cluster, state of development, type of collaboration in the cluster, growth plans, relation with knowledge institution and fields of applicable creative industries;
6. Governance model for creative clusters was developed, specifying the actors, criteria and indicators.

Structure of the Thesis is presented in the Figure No 1. It consists of Introduction, three main parts and conclusion and recommendation part. The figure indicates the steps taken and logic behind the development of the Model of creative clusters governance under the Smart specialization conditions.



Source: created by author

Figure 20. The structure and logic of the Thesis

1. Chapter 1.1. summarizes theoretical background of Smart specialization concept, recent history and future development possibilities, proposes a definition and a three-dimensional model of Smart specialization;
2. Chapter 1.2. summarizes theoretical literature, proposes the possible understanding and features of creative society;
3. Chapter 1.3. is dedicated to the theoretical analysis of cluster concepts, history of cluster development, future development trends, cluster management organizations and cluster policy; creative clusters, their comparison to the standard cluster concept and the most important features;
4. Part 2, based on previous parts develops a governance framework, which is based on theoretical aspects of creative society and Smart specialization.
5. Chapter 2.1 presents the methodology for analysis of the EU NUTS2 level regions and their CCI intensity with relation to the creative clusters and Smart specialization priorities.
6. Chapter 2.2 presents the methodology for the analysis of Lithuanian creative clusters, addressing the governance practice, economic development conditions, regional identity and further development plans.
7. Part 3 proposes the governance model for Lithuanian creative clusters ensuring development under the smart specialization conditions together with the review of the relevant governance practices (Chapter 3.1) and review of the analysis of the Lithuanian clusters (Chapter 3.2);
8. "Conclusions" presents conclusions of the Thesis grouped by the defended statements;
9. "Recommendations" formulates recommendations for the main stakeholders of the Lithuanian creative industries.

Dissemination of results was based on participation in the scientific conferences, publishing scientific articles in peer-reviewed journals and public discussions with stakeholder's groups. The research on Smart specialization was practically applied while developing Lithuanian Smart specialization strategy in 2012 – 2014 (author has coordinated the development of Lithuania Smart specialization strategy in Research and Higher Education Monitoring and Analysis Center under the Ministry of Science and Education).

Scientific publications:

1. Reimeris, R. 2016. New rules, same game. Case of Lithuanian Smart specialization. *European planning studies (accepted).*
2. Augustinaitis, A., Reimeris, R. 2016. Concept of Smart specialization as multi-layered specialization. *International journal of knowledge based development (submitted).*
3. Reimeris, R. 2016. Theoretical features of the Creative society. *Creativity studies* Vol 9(1) *(in press).*
4. Reimeris, R. 2015. Smart Specialisation: A Look Further, European Structural and Investment Funds Journal Vol 3(2015), pp. 194 – 200.

5. Paliokaite, A., Martinaitis, Z., Reimeris, R. 2014. Foresight methods for Smart Specialisation Strategy development in Lithuania. *Technological Forecasting & Social Change.*
6. Reimeris, R. 2013. Preparation of Smart Specialisation Strategy: The Lithuanian Case. *European Structural and Investment Funds Journal* Vol 1(1).
7. Augustinaitis, A., Reimeris, R. 2012. Management of creative centers in the context of triple helix model. *7th International Scientific Conference Business and Management proceedings.*
8. Reimeris, R. 2012. The identity of creative centers: Strategic management and communicational aspects. *Filosofija, Komunikacija* Vol 20(1).
9. Levickaite, R., Reimeris, R. 2011. Pentagon of Creative Economy. Santalka: *Filosofija, Komunikacija* Vol 19(1).

Presentations in scientific conferences:

1. Reimeris, R. Kūrybinės visuomenės ypatybės [Features of creative society]. *Kūrybos visuomenės ir ekonomikos plėtra*, 2014.10.10.
2. Reimeris, R. Sumani specializacija: teorinai aspektai [Smart specialization: theoretical aspects]. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2014.06.12, Vilnius.
3. Reimeris, R. Kūrybinių klasterių valdymas Sumanios specializacijos sąlygomis [Governing creative clusters under Smart specialization]. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2013.06.06, Vilnius.

The further research should be continued on the topic of Smart specialization to supplement the theoretical constructs with the positivistic data from various contexts of implementation. The concept of innovation policy at European Union level will be known as Smart specialization at least until year 2020. Most likely regional specialization and spatial economics will play an important role in the innovation policy after year 2020 as well. In addition, the continuous research of the innovation and society relation is very important to fully understand the emergence and sustainability of regional competences and its application for the regional competitiveness. The emergence of concept of the creative society should be explored in more depth and in various regional dimensions. As the concept of clusters has been the research topic for many scholar, the type of creative clusters still requires more attention and more research, especially in the connection with the innovation policy. Development of the models, which could be applied to strengthen creativity of the society or particular sectors and its conversion to the economic benefits, by any doubts, will remain very important topic in the activities of the policy makers, researchers and practitioners.

1. SMART SPECIALIZATION, CREATIVE SOCIETY AND CREATIVE CLUSTERS

The concept of economical specialization is not new, but with the goal of becoming the most competitive and dynamic knowledge-based economy in the world EU made a decision to rethink and redesign its innovation policies. The new element was the regional dimension as previously introduced innovation policies were "space blind". Smart specialization was adopted as an *ex-ante* conditionality to access the EU SF support for R&D and innovation activities as a third generation of innovation policies. Smart specialization builds upon following elements: governance scheme involving as many possible stakeholders; continuous entrepreneurial discovery process to keep the strategy "alive"; limited number of themes for concentration of all available resources; and regional dimension as understanding the regional challenges and possibilities to be exploited. The current understanding of Smart specialization proposes the following description "a process of the governed operation of entrepreneurial discovery to arrive to a limited number of priorities for regional competitiveness". Yet the current understanding of Smart specialization is too general and insensitive to regional specialties. Smart specialization is still understood more like an industrial specialization – a combination of best economic scenarios rather than really exploring more available contexts. The new understanding of Smart specialization should focus on multi-stakeholder and multi-layer governance what is decentralized and de-concentrated and is the core of the creative society. The new description of Smart specialization could be upgraded to the following "Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness". The further development of Smart specialization concept and regional specialization in general will heavily depend on the forthcoming implementation and practice analysis.

Currently there is no universal and established definition of creative society, but it should be understood as an evolution of information and knowledge society with particular expression of regional features. Creative society is fundamental layer of the creative economy and is embedded to the place where it exists. It is organized in non-hierarchical form and is exploiting its creative potential for the exclusivity. Every individual is a creator and active economical unit. Specific roots in the education shape creative society. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits. Creative society can be described by the concept of *creative milieu,* what is the degree to which people feel like a part of the region and is the factor for regional innovativeness. Hence, the creative society has the connection with Smart specialization that is a function of entrepreneurial discovery for the regional competitiveness.

Economical and managerial concepts of cluster are well established among many scholars. Generally, clusters can be defined by spatial boundary of actors; thematic bound-

ary of actors; and interconnections between them. The crucial element among different actors of the cluster is the integration and level of it. There are many definitions of cluster, focusing on different aspects of clustering phenomenon or economical/regional benefits of clustering. The modern understanding of clusters is generally attributed to works of Porter what is also called industrial cluster school. Among others there are Nordic school – focusing on mutual learning aspects; Californian school – focusing on mutual rules and reduced costs of transaction; and Industrial districts – focusing on cooperation based on geographical proximity of the actors. Cluster history can be traced back to Middle ages, where the regional accumulation of know-how was already a substantial competitive advantage. Later on, the regional concentration of resources and specialized labor force was a dominant precondition for clusters. In the creative society conditions, main factor of clustering is the local community and it's features. Clusters are gateways to regional and global partnerships, an ecosystem for fast idea development and commercialization. Clusters will remain of high regional importance, attracting new knowledge from cluster adapted knowledge institutions. Clusters will be composed of more diversified participants, including public sector. In a competitive economic environment clusters are affected not only by market conditions, but also by innovation, fiscal, labor and etc. policies. Cluster policy should introduce or amplify specific actions and target selected cluster participant – firms, intermediary institutions or cluster management organizations, what plays a major role in cluster development. Cluster management organizations provide not only internal management operations, but also represent the cluster to the external actors and other organizations (other clusters among them). Creative clusters can be seen as spatial concentration of various actors, active in the field of CCI, which benefit from spillovers and other external economies. Creative clusters tend to appear in dense urban areas. Innovation process is more inter-sectorial (hence the benefit from the external economies). Comparably to traditional clusters (industrial clusters), creative clusters tend to have a strong social connection to the environment. Development cycle is similar to the traditional clusters, starting with being dependent from the external support; aspirational, with some independent cluster members, but generally underdeveloped markets and dependent on public support; emergent, with access to global markets and specialized infrastructure; and mature, with global markets and large anchor companies.

2. METHODOLOGY AND FRAMEWORK FOR CREATIVE CLUSTERS GOVERNANCE

Framework for the governance of the creative clusters under the Smart specialization conditions should reflect the potential of creative society and project it toward the regional creative economy and implement it through creative clusters. Framework is constructed from three main domains: context (creative society and regional creative economy), priority identification and governance (Smart specialization) and priority implementation (creative clusters) and main features are brought forward: creative individual, innovativeness and regional importance/global markets. Based on the literature analysis, the framework is filled in with 11 criteria, reflecting different domains.

In order to measure the performance of creative clusters in EU, the following indicators were used: (1) proportion of jobs in the creative clusters (RI1, % of total jobs); (2) proportion of firms in the creative clusters (RI2, % of total number of firms) and (3) the share of CCI at the regional economy (%). The three highest ranked regions were: London – 0,166320515, Nord-Ovest – 0,135728064, Madrid – 0,132943176. Lithuania has scored 0,057560241.

Analysis of the policy documents were performed for the selected regions. Policy of London region reveals, that United Kingdom's creative cluster policy (with the relation to CCI policy) does not favor specialization or limited number of themes. The framework is very oriented towards education and global exports. The Smart specialization priorities for the future development of United Kingdom are heavily based on the current economic potential. They are developed in accordance with 8 Great technologies that reflect the technological specialization with some connection to CCI (Information economy and Professional business services). Nord-Ovest region policy reveals, that criteria of connectedness and embeddeddness with the regional specifics and economical potential are strongly emphasized in the major part of the documents, education is a priority as well. Among additional criteria new management models and public-private partnership management was expressed as an important direction. In the aspect of CCI, the strong emphasis is given to the networking and participation in global value chains. Policy framework favors fashion and fashion supporting industries. Two sub-regions have CCI as a Smart specialization priority. The last of the best performing regions was Madrid, where the findings were that policy is more targeted at the fields of arts, heritage and culture instead of creative economy. Region of Madrid has very high (48 of 121) concentration of high education institutions, and policy is favorable for the criteria of education. Another aspects of the policy are orientation towards global markets and support for intellectual property. Smart specialization priorities in region of Madrid have no connection with CCI.

Comparatively Lithuania was analyzed and revealed orientation towards high-value added economy, creativity and international markets. With most clusters located in big-

gest cities and highest share of service clusters within them, Lithuanian policy favors all proposed criteria with the very high stress on the global markets and high orientation to connectedness aspect among actors. Private investments in CCI, dedicated infrastructure, public sector innovation, intellectual property management was among important criteria not covered by the model. Smart specialization in Lithuania has direct connection with CCI while priority Inclusive and learning society is based on the support for CCI by developing new technologies in creative industry fields (such as new learning, process and product innovation, audiovisual technologies and etc.). There are indirect connections among other 5 priorities as well.

For the identification of creative clusters, the official database was used. Out of total number of 41 clusters 8 were identified as potentially connected with CCI which are: Anykščiai Tourism Cluster, Clear digital world, E-services cluster, Elit Cluster, Mediapolis – Digital Creative Industry Cluster, Redirected Cluster, Užupis Creative Cluster, Vilnius film cluster. Creative clusters are mainly located in Vilnius and Kaunas and are relatively young agglomerations. The three oldest ones (E-services cluster, Elit Cluster, Užupis Creative Cluster) were established in 2010, while the two newest ones in 2013 (Anykščiai Tourism Cluster, Redirected Cluster). Later on, the semi-structured interview with the selected creative clusters were performed during Q1-Q3 of 2014 with the response rate 62,5%. Representatives of cluster management organization were selected as informants. The interview consisted of 4 parts with total number of 24 questions.

3. MODEL OF CREATIVE CLUSTERS GOVERNANCE UNDER THE SMART SPECIALIZATION

The comparative analysis of the regions of London, Nord-Ovest, Madrid and Lithuania revealed that all regions' policies are focused on education and orientation to global markets. Among other important criteria were: economical input from creativity, share of creative economy, expenditure on R&D, size of high-tech and knowledge intensive services, employment in technology and knowledge-intensive sectors and diversity in actors. Criteria of connectedness and embeddedness were important only for regions of Nord-Ovest and Lithuania. The number of mature clusters is not mentioned at all. Smart specialization priorities are directly connected with CCI in regions of Nord-Ovest and Lithuania, while London revealed indirect connection. Region of Madrid has no connection at all. The aspect of stable and diversified funding of CCI and protection of intellectual property were mentioned as the most important additional criteria.

Analysis of Lithuanian creative clusters revealed, that most of them could be attributed to the *creative clusters as a development and employment policy* type of the cluster. There are no *established* type clusters while the maturity level is varying from *dependent* to *aspirational*. Main forms of collaboration in the clusters are project based, when members of the cluster team up to participate in the different project activities or members of the cluster constantly help each other in various day-to-day activities (participation in the value chain). Half of the clusters are happy with the number of members while others are planning to attract more members. Lithuanian creative clusters mainly work with local markets. Relation with institution of knowledge is mainly mutual activities as seminars, but no commercially oriented projects.

The largest fields of CCI covered by the Lithuanian creative clusters are software, computer games and electronic publishing (29%), film, motion picture and video industries (17%) and music, sound recording industries (12%).

Evaluation of Lithuanian creative clusters orientation to cluster development trends revealed, that clusters are hardly gateway to regional and global partnership. There are no established networks and communication practices. The cluster identity is not fully discovered. There is limited internal partnership among the members, lack of clearly identified and expressed chain of innovation and appropriate infrastructure. Being young, Lithuanian creative clusters lack of regional importance. The noticeable regional recognition would allow them to enjoy the increased attention from the government and possible the stronger support for the further development. Clusters still lack of the variety of members among the participants. The possible network including the public sector institutions, governmental bodies and third sector organization would provide benefits in harmonizing the relations of creative cluster and its environment.

Governance model of creative clusters under the Smart specialization conditions was created based on the previous chapters: theoretical analysis, best practice analysis and

empirical findings from the analysis of Lithuanian creative clusters. Model is composed of four main domains – creative society, creative economy, creative clusters and smart specialization – a part connecting all three, 11 criteria and measured by 17 indicators. Input to the model are education, investment into R&D, regional uniqueness and R&D infrastructure. The implementation of the model would deliver regional competitiveness, polarization of R&D activities, cumulative learning, synergy and knowledge spillovers among different actors, orientation to global markets (of creative clusters).

Main institutions for the implementation of the model should be Ministry of Culture, Ministry of Science and Education, Ministry of Economy and Cluster management organizations. Listed ministries should set the goal values for the indicators and apply relevant policies according to the criteria. Smart specialization, as a horizontal innovation policy, should be developed together by all listed responsible actors. A coordination mechanism should be established to ensure the equal participation of involved actors and ownership of the decisions taken during the process.

Main limitations of implementation of the model are the external causality, which are not foreseen and described by the model; not coordinated actions, meaning, that if one of the parts of the model would not be implemented successfully and in the accordance with other parts of the model, other parts would disadvantage from such situation; appropriate design and implementation of Smart specialization strategy.

GENERAL CONCLUSIONS AND RECOMMENDATIONS

The last part of the Thesis presents general conclusions of the research and recommendations for the application of the results. As the general conclusions summarizes the findings of theoretical and empirical research, they are presented according to the list of defended statements:

1. **Smart Specialization is non-linear, non-industrial, three-dimensional specialization, integrating different region-specific contexts into economically viable activities**

Smart specialization, by its definition, is aimed to concentrate available resources in a smart way – to a limited number of themes or priorities. This means concentrating limited resources as funds, infrastructure, political support and etc. at the most prominent region specific activities with economic value. The smartness of this new generation of innovation policy is in the inclusive process of specialization. Smart specialization might seem a simple concept in the theory, but is complicated to implement. It should be used as a function for finding the best way to employ the creative society for the needs of the creative economy. The creative clusters play the implementation part of this function. The path of specialization becomes the unique specialization of the geographical location, amplifying the most distinguishing and prominent features in the economical context. The definition, connecting the most important parts to describe the Smart Specialization as a type of the policy logic could be the following: *Smart Specialization is a process of the governed operation of entrepreneurial discovery to arrive to a limited number of priorities for regional competitiveness.* The Smart specialization is different from industrial specialization, which is based on the systemic logic, what means that different regions use the same patterns and logic of specialization. It might be described as the same approach to the specialization possibility, choosing the best-established and promising sector and bringing other actors around it in the economic context. Smart specialization is based on three-dimensional organizational logic, meaning that specialization should happen not only in the economical context (hence the industrial specialization), but at all possible contexts (political, cultural, social, technological and etc.). While economical context does contain fractions of other contexts, as economics is always influenced by politics, technology and other contexts, but it does not fully represent them nor does it fully influences the decision making within other contexts. Multi-layer view to the smart specialization presupposes the multi-stakeholder and multi-layer management what is decentralized and de-concentrated and is the core of the creative society. The creative society is also represented in the form of Smart specialization by bringing forward the unique combination of the geographic specialty. Smart specialization concentrates the available resources of the creative society in favor of a regional creative economy. The available regional features of creative society should be used in the smart specialization priority setting process, incorporating all the elements in order to deliver the relevant

and inclusive priorities as well as stay in the concepts of "embeddedness" and "connectedness". Both concepts represent the scope and reach of the priorities. Connectedness should be understood as the scope (or quantity) of the participating actors (science, business, government, society) in the implementation of Smart specialization. While embeddedness should be understood as the reach of the priorities within particular sectors, meaning what part of the sector can be attracted to the implementation of the Smart specialization. Together the concepts represent the integrity of the priorities. Smart specialization already exists in every region as a combination of many historical, cultural, political, geographical and etc. circumstances and existing unique relations between science, business, government and representatives of society – or as a form of the regional creative society. Beneath the current political or administrative application of this specialization is the goal to unleash R&D and innovation potential within the applicable geographical area.

2. **Creative society is a postmodern society that is a contemporary understanding of the information and knowledge society concepts. Creative society is foundation of creative economy, specific to the geographical place it is located, based on the usage of technologies, organized in non-hierarchical form and opting for exclusivity**

The term "creative society" can be used at least in the two following ways: in the first case it labels the society as being creative or interchangeably inventive. Although creativity is just the one of the possible features, likely the most important one, which can be attributed to the contemporary society. In the second case the creative society should be understood as a phenomenon. It is a name of the contemporary society, not limited only to one attribute as being creative, but emphasizing the creativity as state of the society, affecting all other attributes. Creative society is an expansion or evolution of information and knowledge society. As knowledge society does not contradict the information society – in opposite, it complements and deepens some of the common attributes, creative society is not a contradiction to the both mentioned before. The establishment of the creative society could be explained by the shift in the economy, that it's not enough just to transform knowledge into the tangible and intangible products and services (link to the knowledge economy), you have constantly to amaze and come up with something new – hence, the creative society is the basis of the creative economy. The shift in the paradigm happened with the description and understanding of entrepreneur (or entrepreneurship) – it does not anymore belong to the few elites. The creative society can be described as a foundation of the creative economy embedded to the place where it exists. It is organized in non-hierarchical form and opts for the exclusivity, with individual approach to the creation and specific roots in the education. By its nature the creative society is very place-specific and specialized by education and enabled by technology, constantly exploiting its specialization for the innovation activities and economic benefits. The form or the expression of the economical organization (way of arrangement) of the creative society is the creative cluster, which can be formed historically or can be promoted by the governance actions.

3. **Governance of creative clusters is based on the Smart specialization function, by aligning the potential of creative society for the benefits of creative economy. The usage of this function allows seeking for connectedness and embeddedness among science, business, government and representatives of society in a regionally unique expression**

The connection of the cluster with the region is becoming more social. The cluster can slow or reverse the migration of talent and capital out of the region, it can become the growth platform for the new companies and provide jobs, it can help local successful entrepreneurial and technical talent stay local – by creating their next startup in the region versus immigrating to other places. This particular understanding of the cluster mission shows the reemerging connection with the local community and society in general, emphasizing the very core feature of the creative society – embedment to the place where it exists and exploiting the unique resources that are available for the distinguished goods and services. There is strong relation between the geography of creativity along with entrepreneurship and between creation of new products, services and ideas. These special places showcase variety of skills, ideas, technology and culture, permissive environment enabling unconventional initiatives to be brought to the marketplace and vigorously competitive arenas that anticipate and shape wider future markets. The place becomes the very crucial aspect for clusters and it not only shapes the structure and size of the cluster, but provides uniqueness as well. A concept of entrepreneurial density, which describes a formation of alike thinking actors and their support system, is the basis for the cluster formation. Smart specialization is a continuous process of capturing the potential of creative society and applying it to the needs of creative economy, ensuring the principles of connectedness and embeddedness. The creative society is expressed in the form of Smart specialization by bringing forward the unique combination of the geographic specialty. The updated or a conceptually upgraded definition of Smart specialization can be brought forward: *Smart specialization – is a constant process of entrepreneurial discovery to set the limited number of geographically unique, multi-layer innovation priorities for regional connectedness and embeddedness.* Analysis of the European regions which are the best performers in the creative economy (has the largest share of the creative industries in the regional economy) reveals that the most important criteria for the governance of the creative clusters are education and access to global markets with substantial attention to innovation and connectedness.

4. **Lithuanian creative clusters are local (not orientated to global markets and connections), project-based organizations with limited connections to the knowledge institutions and mostly dependent on state support**

The Lithuanian creative clusters are relatively young organizations, the earliest one being established at 2010 and the latest ones at 2013. Most of the Lithuanian creative clusters were the initiatives of the government interventions through supporting schemes. Lithuanian clusters mainly consist of SMEs, with numerous involvements of institutions of knowledge and in some cases with involvement of regional authority institutions and

other state bodies. Most of the clusters act as a development and employment policy tools for a particular field or industry. While most of the clusters are situated in the biggest cities of Vilnius and Kaunas, the regional ones have plans to perform urban regeneration and image development functions. Only two of the clusters could be attributed to the creative districts and creative quarters because of the concentration of infrastructure and possibly existent subculture, attributable only to a particular cluster. The biggest fields of CCI represented by the creative clusters are software, computer games and electronic publishing and film / motion picture & video industries. It should be mentioned, that some of the creative clusters are working in the field of education, which is not classified as part of CCI, but with no doubt has strong connection in application of the CCI output. Most of the Lithuanian creative clusters are working only with the local markets, though they have plans to expand its commercial activities to the foreign territories. The reason behind that is, as indicated by cluster managing organizations, the relevantly young cluster age and lack of the time for establishing competitiveness. All examined creative clusters exercise joint marketing activities, which are based on the existing (and often government financed) projects. Analysis reveals, that currently there is no government strategy for the development of the CCI, lack of integrated creative clusters policy and no policy mix for the managed implementation of the goals. The separate attention must be given to the creative clusters collaboration with the institution of knowledge, which can be university, research institute or college. The existing collaboration forms are that the clusters invite students for practice and use the premises of universities for cluster events, which is not the full exploitation of R&D possibilities that can be provided by university, research institute or college. Only few creative clusters in Lithuania are focused on one or few CCI economical activities, what could be viewed as a limited number of themes, while others creative clusters cover quite a broad spectrum of CCI economical activates and does not expose the concentration of resources as a clusters.

5. Specialization of Lithuanian creative clusters in the most prominent fields of creative and cultural industries requires setting the priorities to exploit the potential of creative society and creative economy

Smart specialization is the mechanism or function that should find and implement the most economically appropriate connection among creative society, creative economy and creative clusters. The most important feature of the creative society is the creative individual. It is the smallest building block of the society as a whole. Creative economy is based on the intangible assets and ideas; therefore, innovation or innovativeness is the most important element that should be addressed. The most important features of the creative clusters are regional importance and access to global markets. Gaining regional importance allows clusters to attract talent and new ideas, generate knowledge spillovers, stay competitive and grow. Based on Smart specialization, the priorities with common goals should be set exploiting available regional assets, such as education, investment into R&D, regional uniqueness and R&D infrastructure. The output of specialization should be regional competitiveness, polarization of R&D, cumulative learning, synergy and knowledge spillovers, and finally creative cluster orientation to global markets. Creative

society element of the model, which is represented by the main feature of creative individual, should be activated by designing and applying policies for increasing expenditure on R&D, encouraging innovation and investments into education. Creative economy element is represented by the main feature of innovativeness, which is governed by policies of high-tech and services sector growth, the aim to increase the size of creative economy, better commercialization of creative outputs and appropriate employment policies. Creative clusters are represented by element of importance which is achieved by the dedicated policies for better access to global markets and sustainability of the creative clusters.

In addition to the conclusions, provided as the list of defended statements, the following additional conclusions must be made:

1. The relation of creative society and innovation policy (thought Smart specialization), discussed in this Thesis, is a new concept and should be explored in more versatile approach. Further research is needed to fully understand and capture the benefits of developing the innovation strategies, based on three-dimensional organizational logic, exploring possible specializations not only in economic, but also in social, technological, political and etc. layers and most importantly – finding the unique regional specialization paths in the combination of all of them;
2. Smart specialization can be considered not only as an instrument of development of highest level (national or regional) innovation policy. The logic and benefits can be applied to the organizational level as well, providing uniqueness of actions for such organization. In addition, connections with the specializations of other organizations, performing in the same spatial context, would act as a building block of higher level strategy. The mixture of such organizational specializations (as a bottom-up) should be combined with regional level, represented by policy formulating institutions (top-down) to form a national level strategy.

Recommendations are based on the summary of the empirical findings and the structure of governance model. They are structured in accordance to the three levels: policy formulating institutions, policy implementing institutions, creative clusters. Recommendations for the policy formulating institutions are targeted at the Ministries responsible for the creative clusters development. In Lithuanian case it is the Ministry of Science and Education, Ministry of Economy and Ministry of Culture. Implementing bodies are the agencies responsible for the policy implementation through various financial and non-financial measures as well as monitoring agencies such as Lithuanian business support agency (LVPA). Recommendations for the creative clusters are targeted at the cluster management organizations of Lithuanian creative clusters, but are applicable for the cluster members as well.

Recommendations for the policy formulating institutions

The policy formulating bodies should seek a well-coordinated multi-stakeholder approach for the implementation of the model, based on the development of mutual strategy – Smart specialization. The most important suggestions are proposed in the Table 35, based on the analysis of the cluster development trends and the Lithuanian creative clusters situation.

Table 37. Policy suggestions for the responsible institutions of creative cluster development

Observed weakness	Policy suggestion	Responsible institutions
Currently Lithuanian creative clusters do not perform the role of gateway to regional and global partnership. There are no established networks and communication practices. The cluster identity is not fully discovered	**Identification of the creative potential and main actors in the existing creative clusters.** Identification of clusters potential would allow to specialize the clusters in the most economically and societally prominent fields of CCI	MoC, CMO
There is limited internal partnership among the members, lack of clearly identified and expressed chain of innovation and appropriate infrastructure	**Better cluster management based on the identified value chain and members' complementarities**. It is evident that part of the examined clusters tends to exist because of the access to the financial benefits rather than the collaboration	CMO
Being young, Lithuanian creative clusters lack of regional importance, which would allow them to enjoy the increased attention from the government and possible the stronger support for the further development	**Identification of possible international collaboration through regional networks and value chains**. As most part of Lithuanian creative clusters operations are only at a national level, policies for cluster growth through internationalization should be used	MoE, CMO
Lithuanian creative clusters still lack of the variety of members among the participants. The possible network including the public sector institutions, governmental bodies and third sector organization would provide benefits in harmonizing the relations of creative cluster and its environment	**Clusters should have a broader and more specialization based variety of members.** The possible members, among more specialized businesses, are the representatives of national and local governments, responsible ministries, knowledge institutions, other public organizations.	MoC, MoE, MoES, CMO
Participation of the knowledge institution in the cluster activities is almost not present, despite such institutions being part of the clusters	**Knowledge institutions (universities, colleges, research institutes, etc.) should be encourage and supported to participate in the creative cluster activities**. Knowledge institutions could be not only the premises for organization of seminars (as was observed during the cluster analysis), but could mutually benefit from organized training, project activities in international competitive funding, research activities in developing and testing new products and services.	MoES, CMO

Source: created by author

As the largest fields of CCI in Lithuania, covered by the creative clusters are (1) software, computer games and (2) electronic publishing and film / motion picture & video industries, sectorial strategies (in accordance with Smart specialization logic) should be developed to support these fields.

Listed policy suggestions should be activated in the accordance with the governance model of creative clusters under the Smart specialization conditions. The list of the possible immediate actions is only the first step in strengthening Lithuanian creative clusters.

Recommendation for the policy implementing institutions

Policy implementing institutions should focus on the possible actions to implement the agenda of the policy formulating institutions. At the current development status of the creative clusters in Lithuania, the most important and appropriate actions are (based on the analysis in Table 10 and Table 26):

1. Improve capacity, scale and skills of suppliers (mainly SMEs):
    a. The public intervention should continue to provide the development support for SMEs in the creative clusters;
    b. Brokering services and platforms between suppliers and purchasers should enable the clusters to be more market oriented;
2. Increase external linkages (FDI and exports):
    a. National marketing strategy of creative clusters and regions should support exports;
    b. Assistance to inward investors in the clusters;
    c. Partner searches;
    d. Export networks;
3. Skilled labor force in strategic CCI:
    a. Specialized vocational and university training for the creative clusters needs. The needs have to be clearly understood and identified at the first stage;
    a. Support partnerships between groups of firms and educational institutions;
4. Increase links between research and firm needs:
    a. Support joint projects among firms and institutions of knowledge;
    b. Co-locate different actors to facilitate interaction (science parks, incubators);

Recommendations for the creative clusters

1. Most importantly, creative clusters should find the most prominent fields of CCI, where they already have reasonable amount of competence and develop a mutual organizational strategy for achieving regional importance;
2. Creative clusters should aim for closer collaboration with the knowledge institutions (universities, research institutes, colleges) in the value chain of development new products and services;
3. Closer partnership with local governments (municipality level) would allow clusters to achieve greater sustainability;

4. The concept of Smart specialization as three-dimensional strategy applicable at organizational level, should be used to allocate the potential and resources of the existing features of creative society in the best competitive way;
5. One of the most important criteria for the current stage of development are the networking capabilities. Strong networks and possible participation in the global chains of innovation should provide regional competitiveness. However, the specialization is inevitable in this case and Smart specialization logic provides a strong strategic advantage.

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2011 – till now	Research and higher education monitoring and analysis centre (MOSTA). Head of innovation policy analysis unit.
2012 – 2014	Kazimieras Simonavičius University. Lecturer.
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Education

From 2011	Doctoral studies in Management, Mykolas Romeris University
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Languages	Lithuanian (mother tongue), English, German, Russian
Research interests	Communication, creative industries, creative clusters, innovation policy

Publications in peer-reviewed journals:

1. Reimeris, R. 2016. New rules, same game. Case of Lithuanian Smart specialization. *European planning studies* (*accepted*).
2. Reimeris, R. 2016. Theoretical features of the Creative society. *Creativity studies* Vol 9(1).
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12. Reimeris, R; Levickaitė, R. Franchise business model: Theoretical insights, *Verslas: teorija ir praktika,* Vol. 11, No. 2 (2010), p. 134-142.

Presentations in scientific conferences:

1. Presentation "Features of creative society" in national conference "Development of creative society and economy", 10th of October, 2014, Vilnius.
2. Presentation "Theoretical aspects of creative clusters management" in international conference "Social transformations in contemporary society 2013", 5-6th of June, 2013, Vilnius.
3. Presentation "Governance of creative clusters under the Smart specialization conditions" in national conference "Challenges of politics, management and public administration of XXI century for the young researchers", 6th of June, 2013, Vilnius.
4. Presentation "EUWIN – European network of work-place innovation" in conference "Guidelines of Lithuanian employment 2014-2020", 17th of May, 2013, Vilnius.
5. Presentation "Vision based hand gesture control technique for mobile devices" in international conference "Smithy of ideas 2011", 30th of June, 2011, Trakai.
6. Presentation „Internet environment adoption for visually impaired (with Daltons) users" in conference „Vizuality: images and identities in mediated culture", 4-5th of June, 2010, Vilnius.
7. Presentation „Creative industries: communication of creativity" in conference „Change of culture in networked society in terms of communication and information", 12-13th of April, 2010, Vilnius.

Participation in projects:

1. From 2016. Coordinator (Lithuania) of Interreg Europe project „Innovation and Knowledge for Regional Actions and Systems (INKREASE).
2. From 2016. Coordinator (Lithuania) of Interreg Europe project „Interregional policy learning and exchange of experiences on important aspects influencing the regional innovation ecosystems in the field of advanced materials (P2L2).
3. 2014 – 2015. Coordinator and researcher of FP7 project "Social Innovation – Driving Force of Social Change (SI-DRIVE)" (www.si-drive.eu).
4. 2013 – 2015. Coordinator (Baltic States) of European Commission project "European Workplace Innovation Network (EUWIN) (http://ec.europa.eu/enterprise/policies/innovation/policy/workplace-innovation/euwin/index_en.htm).

MYKOLO ROMERIO UNIVERSITETAS

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Socialiniai mokslai, vadyba (03 S)

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TRUMPINIAI

BVP – bendras vidaus produktas

EBPO – ekonominio bendradarbiavimo ir plėtros organizacija

EK – Europos Komisija

ES – Europos Sąjunga

ES SF – Europos sąjungos struktūriniai fondai

IRT – informacinės ir ryšių technologijos

KKI – kūrybinės ir kultūrinės industrijos

MTEP – moksliniai tyrimai ir eksperimentinė plėtra

MVĮ – maža vidutinė įmonė

NUTS - teritorinių statistinių vienetų nomenklatūra

RIS3 – trečios kartos MTEP ir inovacijų strategija

S3 – sumanios specializacijos strategija

TUI – tiesioginės užsienio investicijos

UNCTAD – Jungtinių tautų prekybos ir plėtros konferencija

APIBRĖŽTYS

Ekosistema (kūrybinių ir kultūrinių industrijų sektoriaus) – iš tarpusavyje sąveikaujančių organizacijų ir individų sudaryta ekonominė bendruomenė, gebanti identifikuoti, kurti ir absorbuoti resursus.

Informacinė visuomenė – specifinė socialinio organizavimo forma, kurioje informacijos generavimas, apdorojimas ir perdavimas yra produktyvumo ir jėgos pagrindas (Castels, 1996).

Inovacijų politika – konkretūs valdžios institucijų veiksmai, kuriais siekiama plėtoti inovacijų sistemą, kurti naujas technologijas ir remti inovacijas. Inovacijų politika atsirado kaip mokslo, technologijų ir pramonės politikos derinys.

Klasteris – susijusių įmonių, susiduriančių su tais pačiais iššūkiais ir galimybėmis, geografinė koncentracija (UNIDO, 2013).

Klasterių politika – politika, nukreipta į klasterių paramą su tikslu stiprinti pasirinktą regioninę ir tuo pačiu nacionalinę ekonomiką (OECD, 2010).

Klasterių valdymo organizacija – oficiali įstaiga, atsakinga už klasterių vidaus ir išorės veiklos administravimą ir plėtrą, atstovaujanti klasterių interesams ir tiesiogiai susijusi su klasterio vertės grandine (LR ūkio ministerija, 2014).

Kūrybinės ir kultūrinės industrijos (toliau – KKI) – industrijos, turinčios kultūrinę dimensiją ir naudojančios kultūrą kaip indėlį, nors jų išgava yra daugiausiai funkcinė. Šioms industrijoms galima priskirti architektūrą ir dizainą, kurie integruoja kūrybinius elementus į platesnius procesus (EC, 2011).

Kūrybinių ir kultūrinių industrijų politika – politika, nukreipta į kūrybinių ir kultūrinių industrijų sektorius, kuri taip pat yra Valstybės investicijos į meną.

Kūrybos ekonomika – ekonomika, paremta idėjomis, o ne fiziniu kapitalu, sukurta informacinių ir ryšių technologijų pagrindu (Howkins, 2007).

Kūrybos visuomenė – kūrybos ekonomikos, integruotos į jos buvimo vietovę, pagrindas. Kūrybos visuomenės valdymas yra nehierarchinis, o savo kūrybos potencialą ji naudoja išskirtinumui pasiekti. Kūrybos visuomenės pobūdis priklauso nuo vietovės, konkrečią specializaciją jai suteikia švietimo sistema, įgalina technologijos; kūrybos visuomenė nuolat išnaudoja savo specializaciją inovacinei veiklai vykdyti ekonominės naudos vardan.

Regioninė inovacijų politika – inovacijų politika, pritaikyta specifiniams konkretaus regiono poreikiams tenkinti.

Su verslumu susijusios paieškos procesas – inovacinių galimybių paieška pasirinktoje srityje, taikant su verslumu susijusią paiešką (McCann, Ortega-Argiles, 2013).

Sumani specializacija – nuolatinis su verslumu susijusios paieškos procesas, skirtas nustatyti ribotą geografiškai unikalių, daugiaplotmio integruotumo ir sąryšingumo prioritetų skaičių.

Valdymas - ekonominės , politinės ir administracinės valdžios galios taikymas valdyti šalies reikalus visuose lygmenyse. Valdymas susideda iš mechanizmų, procesų ir institucijų, sudarytų iš piliečių ir grupių, kurie išreiškia savo interesus ir teises, vykdo savo įsipareigojimus ir tarpininkauja dėl skirtumų (The World Bank, 2016).

Vertės grandinė – veiksmų seka, kurią naudoja įmonė, veikianti specifinėje industrijoje, kad sukurtų ir rinkai pateiktų vertingą produktą ar paslaugą (Porter, 1985).

Žinių institucija – institucija atliekanti fundamentinius arba taikomuosius mokslinius tyrimus. Tai gali būti mokslinių tyrimų institutas arba universitetas.

Žinių visuomenė – visuomenė, taikanti žinių gavimą, kūrimą, skleidimą ir taikymą ekonominei ir socialinei plėtrai (GESCI, 2016).

Žinių persiliejimas – žinios, keliaujančios tarp skirtingų sektorių įmonių, skatinančios inovacijas ir augimą (Jacobs, 1960).

ĮVADAS

Tyrimo aktualumas. Kūrybiškumas tapo susijęs su kiekvienu šiuolaikinės visuomenės aspektu, apimantis visas veiklas, nuo produktų ir paslaugų gamybos iki sunaudojimo, tirpdantis ribas tarp darbo poilsio, kūrybos ir vartojimo. Be to, šiuolaikinė visuomenė, su įsitvirtinusia žinių visuomenės etikete yra pereinamoje būsenoje į kūrybos visuomenės koncepciją. Naujos formos ir kokybės visuomenės atsiradimas įneša naujas ekonominių veiklų organizavimo ir ekonominių santykių formas, naujas darbo organizavimo formas ir svarbiausiai – naujus valdymo modelius. Naujos visuomenės – kūrybos visuomenės atsiradimo akivaizdoje, tinkamas dėmesys turi būti skiriamas klasteriams, o tiksliau kūrybiniams klasteriams kaip Europos sąjungos kūrybos visuomenės ekonominio organizavimo valdymo instrumentams.

Teigiama klasterių įtaka ekonomikos plėtrai pripažįstama daugelio akademikų ir praktikų. Klasterio sąvoka šiuolaikinėje terminijoje yra gerai žinoma, o su klasteriais susijusios temos įvairiapusiškai aptariamos ES politikoje (EC, 2008A; EC, 2010A; EC, 2010B; EC, 2013B). Skaičiuojama, kad maždaug 38 proc. visų Europos darbuotojų dirba klasterių sektoriui priklausančiose įmonėse (Jankowska, Pietrzykowski, 2013). Klasterių veikla regione lemia geresnius jo ekonominius rezultatus (Ketels, Protsi, 2013). Klasteriuose veikiančios įmonės turi geresnes galimybes samdyti kvalifikuotus darbuotojus, teikti kolektyvines paslaugas ir skleisti žinias. Panašus teigiamas poveikis pastebimas ir kūrybos bei kultūros sektoriuose veikiančiose įmonėse. Kūrybos ir kultūros įmonių klasteris yra panašus į įprastą pramoninį klasterį, bet nuo jo skiriasi. Kūrybiniai klasteriai skiriasi nuo pramonės sektoriuje veikiančių klasterių ne tik savo socialine sąsaja su vietove, bet ir klasterio narių pobūdžiu. Kūrybinį klasterį gali sudaryti iš esmės skirtingi nariai, tokie kaip pelno nesiekiančios, kultūrinės misijos institucijos, meno įstaigos, verslininkai, individualūs menininkai ir kiti asmenys, kurie visi skirtingais būdais yra susiję su žinių institucijomis. KKI ir jų santykis su aglomeracijos procesu laikomi prioritetinės svarbos uždaviniu apibrėžiant ES sanglaudos politikos teminius tikslus (EK, 2010; Europos kultūros darbotvarkė, 2012):

1. *1 teminis tikslas.* MTEP ir inovacijos. Naujų idėjų naudojimo pajėgumo didinimas: parama klasteriams, partnerystėms, infrastruktūroms, verslo konsultacinėms paslaugoms, taip pat kūrybos centrams bei KKI.
2. *3 teminis tikslas.* MVĮ konkurencingumas; MVĮ plėtra naujai atsirandančiose srityse, tokiose kaip KKI; naujos turizmo formos.
3. *6 teminis tikslas.* Aplinka ir ištekliai: kaimo ir miesto ekonomikos diversifikacija saugant kultūros paveldą; kultūros infrastruktūros atkūrimas (integruoti miesto plėtros projektai).
4. *9 teminis tikslas.* Socialinė integracija: tarpkultūrinių veiklų skatinimas.
5. *10 teminis tikslas.* Investicijos į švietimą, įgūdžius ir mokymąsi visą gyvenimą: kūrybinių įgūdžių ir kūrybiškumo skatinimas.

KKI plėtoja kūrybinio turinio produktus ir dėl to priskiriamos aukščiausios kokybės rinkos segmentui, be to, jos dažnai į rinkas atneša technologines inovacijas, kurios pakeičia kiekvieną mūsų gyvenimo aspektą (Cooke, Propris, 2011). Teigiamo aglomeracijos poveikio užtikrinimui yra svarbu sukurti ir taikyti tinkamą klasterių kūrimo valdymo sistemą. Veikiant globalizacijos sąlygoms ir didėjant konkurencijai tarp šalių, regionų ir miestų, KKI sulaukia vis didesnio dėmesio kaip ekonomikos augimo katalizatorius, ypač atsižvelgiant į tai, kad kūrybingumas yra neišsenkantis išteklius (Markova, 2014).

ES šalys-narės įgyvendina įvairiausias politikos priemones, skatinančias KKI, siekdamos sudaryti palankias sąlygas kūrybinių klasterių atsiradimui ir augimui. Tačiau dėl konkrečių industrijų ypatumų kūrybinių klasterių kūrimas ir jų valdymas skiriasi nuo kitų įprastų klasterių; be to, šie procesai reikalauja daugiau išsamių mokslinių žinių. Atsižvelgus į pastarojo laikotarpio strateginio požiūrio į inovacijas ir ekonominę plėtrą regioninės politikos kontekste pokyčius – sumanios specializacijos sąvokos atsiradimą, šiuo metu galiojančią praktiką būtina peržiūrėti iš naujo. Neseniai sumanios specializacijos idėja vėl iškilo naujosios regioninės inovacijos strategijos kontekste, kai sumani specializacija buvo pristatyta kaip *ex-ante* sąlyga visiems regionams pretenduoti gauti struktūrinių fondų paramą MTEP ir inovacijoms. Sumani specializacija yra vienas pagrindinių pažangaus, tvaraus ir integracinio augimo strategijos „Europa 2020“ pavyzdinės iniciatyvos „Inovacijų sąjunga“ veiksmų (Panorama Inforegio, 2012). Apskritai, specializacija yra savybė, būdinga asmeniui priklausančiam specifinei grupei. Organizacijų kontekste, specializacija yra priemonė didesnio veiksmingumo pasiekti (Roman *et al.*, 2013). Ekonominiu požiūriu specializacija nėra naujas reiškinys; specializacija visada darydavo įtaką regiono darbo jėgos įgūdžių lavinimui ir gebėjimų skatinimui. Specializacija kilo iš natūralaus žmogaus poreikio keistis ir vykdyti mainus (Smith, 1776). Sumania specializacija siekiama įgyvendinti visos regiono ekonomikos – nuo nykstančių iki daug žadančių perspektyvių veiklų – struktūrinius pokyčius (Foray *et al.*, 2011). Erdvinė sumani specializacija naudoja srities sąvoką ir teigia, kad verslininkai ieško inovacijų diegimo galimybių pasirinktoje srityje taikydami su verslininkyse susijusios paieškos arba verslininkiškų atradimų procesą (McCann, Ortega-Argiles, 2013). Dėl ribotų inovacijos politikos išteklių yra būtina didžiausią dėmesį skirti kompetencija grindžiamoms strategijoms (Meissner *et al.*, 2013). Nors teigiamas klasterių ir kūrybinių klasterių poveikis regiono ekonomikai abejonių nekelia, šiuo metu tyrėjai kūrybinių klasterių valdymo galimybėms sumanios specializacijos sąlygomis skiria fragmentišką dėmesį. Akivaizdu, kad sumanios specializacijos įgyvendinimo procesas yra naujas reiškinys, ir kol kas šioje srityje nėra sukaupta jokios istorinės patirties. Plačiai sutariant dėl KKI ir kūrybinių klasterių svarbos, sumanios specializacijos taikymas ir įgyvendinimas tampa svarbia tema mokslininkams ir praktikams. Be to, sumani specializacija yra priemonė regiono unikaliam pobūdžiui nustatyti, ji turėtų padėti greičiau formuotis kūrybos visuomenei.

Problemos ištirtumas. Pastaruoju metu įvairiais su klasteriais ir jų santykių su ekonomikos, socialiniais ir politiniais mokslais klausimais skelbtų šaltinių apžvalga parodė, kad nemažai mokslininkų domisi klasterių poveikiu regiono plėtrai (Gallardo, Stich, 2013; Dudian, 2011; Ketels, 2013; Ketels, Protsi, 2013; Torre, Wallet, 2014; Varga et al., 2014; Vaz et al., 2014; Zenka et al., 2014), taip pat analizuojama ši problematika: kokį

poveikį klasteriai daro pramonės tinklams (Anderssen, 2004; Bathelt, Li, 2014; Dalmoro, 2013; Leick, 2013; Ter Wal, 2013), su kokiomis išorės šalimis bendradarbiauja klasterių nariai (Eigenhuller et al., 2013; Giuliani, 2013; Kuah, 2002; Lorenzen, Mudambi, 2013), kokie yra klasterių atsparumo veiksniai (Crespo et al., 2013; Elola et al., 2013; Suire, Vicente, 2014), kokių priemonių reikėtų imtis inovacijoms klasteriuose remti (Jankowska, Pietrzykowski, 2013). Įvairūs mokslininkai gana plačiai nagrinėjo būtinybę suprasti erdvinių aspektų kūrybinėse industrijose vaidmenį (Clare, 2013; Egeraat et al., 2013; Grandadam et al., 2013; Vaan et al., 2013;), tačiau kūrybiniams ir kultūriniams klasteriams dėmesio buvo skirta nepakankamai (Kong, 2011). EK sumanią specializaciją pripažinus regionine inovacijų strategija vis didesnio dėmesio sulaukia sumanios specializacijos santykio su klasteriais tema (Querejeta, Wilson, 2013; Thissen et al., 2013). Akivaizdžiai nepakankamai dėmesio skiriama kūrybinių klasterių valdymo temai, kaip ir kūrybinių klasterių santykiui su sumanios specializacijos sąvoka ir strategija. Kūrybinių klasterių, kaip ypatingos klasterių rūšies, perspektyva, kuri turi būti valdoma pagal naują specializacijos supratimą, yra unikali ir mažai tyrinėta. Sumanios specializacijos, galinčios turėti įtakos klasterio ir jo aplinkos pobūdžiui derinant ir apjungiant naujus regiono unikalumo elementus, atsiradimas apima daugiau elementų nei ekonominė specializacija.

KKI sektoriai ir įmonės yra nevienodi, nuo didelių, turinčių daug išteklių ir ryšių iki mažų, prastai organizuotų ir ribotais ištekliais besitenkinančių mikro įmonių. KKI ištirtumas ir supratimas išlieka ribotas dėl šių priežasčių (EC, 2016):

1. Trūksta supratimo apie KKI verslo modelius;
2. Ribotos neapčiuopiamųjų KKI išteklių vertinimo galimybės;
3. Duomenų ir statistikos trūkumas;
4. Kultūros sektoriaus verslo planų ir modelių kompleksiškumas.

Literatūros analizė atskleidė, kad kūrybinių klasterių valdymo modeliavimui ir jų galimos sąsajos su sumania specializacija analizei trūksta reikiamo dėmesio. Kūrybiniai klasteriai, kaip specialios rūšies klasteriai, turi gan ribotai ištirtas galimybes būti valdomi atsižvelgiant į naujas visuomenės koncepcijas ir regioninę specializaciją. Sumanios specializacijos atsiradimas, galintis formuoti klasterius ir jų aplinką derinant naujus regioninio unikalumo elementus, savyje derina daugiau komponentų nei vien tik ekonominė specializacija.

Disertacijos tikslas yra sukurti Lietuvos kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis modelį.

Disertacijos uždaviniai. Kūrybinių klasterių ir jų santykio su sumania specializacija tema tyrinėta fragmentiškai, todėl siekiant suprasti abu reiškinius ir jų tarpusavio ryšį buvo suformuoti aštuoni uždaviniai:

1. Ištirti teorinį Sumanios specializacijos supratimą ir pasiūlyti galimus plėtinius;
2. Apibūdinti teorinį kūrybos visuomenės supratimą ir apibrėžti pagrindines jos savybes;
3. Ištiri teorinį klasterių supratimą, apibūdinti kūrybinius klasterius ir jų valdymą;
4. Sudaryti konceptualią kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis struktūrą;
5. Išanalizuoti darbo vietų ir įmonių skaičių kūrybiniuose klasteriuose bei KKI dalį BVP regioniniame NUTS2 lygmenyje, išanalizuoti pasirinktų atvejų valdymo praktikas;

6. Išanalizuoti oficialiai registruotus Lietuvos kūrybinius klasterius;
7. Sudaryti Lietuvos kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis modelį;
8. Pateikti modelio įgyvendinimo rekomendacijas.

Metodologinės nuostatos. Darbe naudota kokybinio tyrimo metodologija, išskyrus darbo vietų ir įmonių skaičių kūrybiniuose klasteriuose bei KKI dalį BVP regioniniame NUTS2 lygmenyje tyrimą. Pirmoji dalis yra paremta literatūros analize, empirinė dalis – atvejo studijomis, statistine analize ir interviu. Tyrimo klausimai ir tyrimo metodai yra pateikiami lentelėje Nr. 1.

1 lentelė. Disertacijos mokslinio tyrimo klausimai

Tyrimo klausimai	Duomenų šaltinis	Analizės metodas
1. Koks yra dabartinis Sumanios specializacijos supratimas ir kokie galimi jo teoriniai ir praktiniai plėtiniai?	Mokslinė literatūra	Literatūros analizė, struktūrinė analizė, sintezė
2. Kokie yra teoriniai požiūriai į kūrybos visuomenę ir kokios jos savybės?	Mokslinė literatūra	Literatūros analizė, struktūrinė analizė, sintezė
3. Kokie yra teoriniai požiūriai į kūrybinius klasterius ir kokios jų valdymo ypatybės?	Mokslinė literatūra	Literatūros analizė, struktūrinė analizė, sintezė
4. Kokia yra darbo vietų ir įmonių proporcija bei KKI dalis BVP ES regionuose NUTS2 lygmeniu?	Statistiniai duomenys	Statistinė analizė
5. Kokia geroji kūrybinių klasterių valdymo patirtis pasirinktuose regionuose?	Mokslinė literatūra, apžvalgos, strateginiai dokumentai	Apžvalga, atvejų analizė, turinio analizė, sintezė
6. Kaip kūrybiniai klasteriai turėtų būti valdomi?	1, 2, 3, 4 ir 5 tyrimo klausimų rezultatai	Sintezė, modeliavimas
7. Kokia esama oficialių Lietuvos kūrybinių klasterių būklė?	Klasterių valdymo organizacijos	Pusiau struktūrizuotas interviu, atvejo analizė
8. Kaip turėtų būti valdomi kūrybiniai klasteriai, užtikrinant jų plėtrą Sumanios specializacijos sąlygomis?	6 ir 7 tyrimo klausimų rezultatai	Sintezė, modeliavimas

Šaltinis: sudaryta autoriaus

Tyrimo apribojimai. Dabartiniai Sumanios specializacijos tyrimai yra teoriniai, nes kol kas nėra sukaupta jokios praktinės sumanios specializacijos įgyvendinimo patirties. ES kūrybiniai regionai analizuojami remiantis strateginės svarbos dokumentais anglų kalba (išskyrus Lietuvos kūrybinius regionus, kurie buvo analizuojami remiantis dokumentais lietuvių kalba). Kai kurių dokumentų nepavyko išanalizuoti dėl vertimo į anglų kalbą nebuvimo. Empirinė tyrimo metodologija labai priklauso nuo galimybės gauti reikalingus duo-

menis. Viena didžiausių problemų identifikuojant kūrybinių industrijų klasterius Europoje yra riboti duomenys (Domenech *et al.*, 2011). Tyrimo metu pavyko atlikti tik ribotą (t. y. apklausoje dalyvavo ne visi atstovai) oficialiai registruotų klasterių analizę. Taigi neoficialių kūrybinių klasterių disertacijoje atliktas tyrimas neapėmė. Rezultatų taikymas yra ribojamas kultūrinių skirtumų tarp valdymo praktikų skirtinguose regionuose.

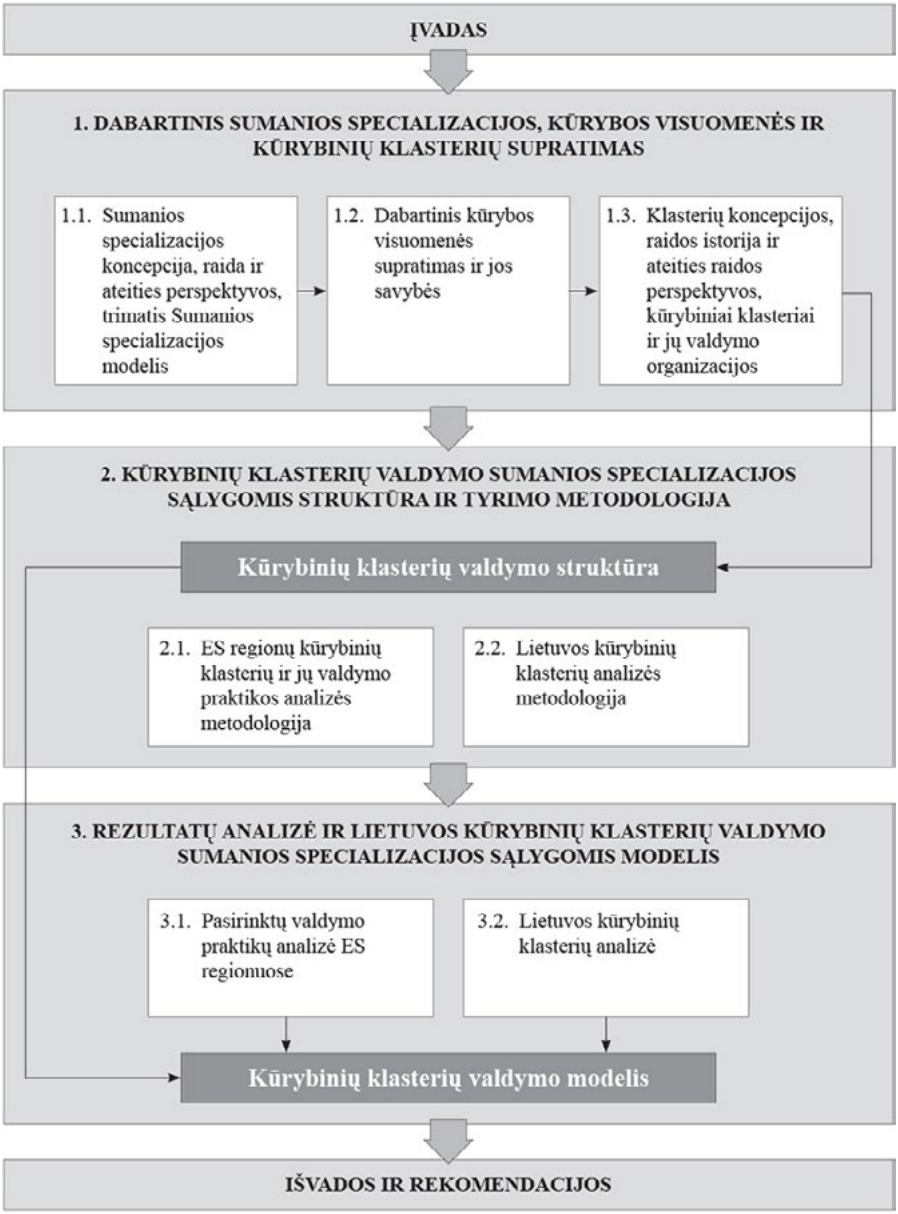
Ginamieji teiginiai

1. Sumani specializacija yra ne linijinė, ne pramoninė, o trimatė specializacija, kompleksiškai integruojanti skirtingus regionui specifinius kontekstus į ekonomiškai pagrįstas veiklas;
2. Kūrybos visuomenė – postmoderni visuomenė, atspindinti šiuolaikinį informacinės ir žinių visuomenės koncepcijų supratimą. Kūrybos visuomenė yra kūrybos ekonomikos pagrindas, specifiška geografinei vietai, grindžiama technologijų panaudojimu, organizuota nehierarchine forma ir siekianti išskirtinumo;
3. Kūrybinių klasterių valdymas yra paremtas Sumanios specializacijos funkcija, pritaikant kūrybos visuomenės potencialą kūrybos ekonomikos naudai. Funkcijos panaudojimas leidžia siekti sąryšingumo (angl. *conectedness*) ir integruotumo (angl. *embeddedness)* tarp mokslo, verslo, valdžios ir visuomenės atstovų unikalia regionui išraiška;
4. Lietuvos kūrybiniai klasteriai yra lokalūs (neorientuoti į globalias rinkas ir ryšius), daugiausiai projektine veikla paremtos organizacijos, turinčios ribotus ryšius su žinių institucijomis ir daugiausiai priklausančios nuo valstybės pagalbos;
5. Lietuvos kūrybinių klasterių specializacija patraukliausiuose KKI srityse reikalauja prioritetų nustatymo, kad būtų tinkamai išnaudotas kūrybos visuomenės ir kūrybos ekonomikos potencialas.

Disertacijos naujumas ir aktualumas:

1. Išplėstas Sumanios specializacijos koncepcijos supratimas, kaip kūrybos visuomenės potencialo pritaikymo kūrybos ekonomikai valdymo funkcijos;
2. Išplėstas kūrybos visuomenės fenomeno supratimas, kaip kūrybos ekonomikos pagrindo, įsitvirtinusios geografinėje vietoje, kurioje egzistuoja, organizuotos nehierarchine forma ir įgalintos technologijomis, nuolatos išnaudojančios savo specializaciją inovacinėms veikloms vykdyti ir ekonominei naudai kurti;
3. Pateikta išsami klasterių koncepcijos plėtros apžvalga, su išskirtiniu dėmesiu kūrybiniams klasteriams;
4. Sukurta ir pritaikyta kūrybinių klasterių ekonominės veiklos vertinimo metodika;
5. Atliktas Lietuvos kūrybinių klasterių tyrimas, išanalizuoti klasterių tipai, plėtros etapas, bendradarbiavimo tipai, plėtros planai, ryšiai su žinių institucijomis ir KKI veiklų sritys.
6. Sukurtas valdymo modelis, nurodantis veikėjus, matavimo kriterijus ir rodiklius.

Disertacijos struktūra pateikiama 1 paveiksle. Disertacija sudaryta iš įžangos, trijų pagrindinių dalių, išvadų ir rekomendacijų. Paveiksle yra nurodyti valdymo modelio kūrimo žingsniai.



Šaltinis: sudaryta autoriaus

1 pav. Disertacijos struktūra ir tyrimų loginė schema

1. Skyriuje 1.1. apibendrinti teoriniai požiūriai į Sumanią specializaciją, koncepcijos raida ir ateities raidos perspektyvos, pasiūlytas apibrėžimas ir trimatis Sumanios specializacijos modelis;
2. Skyriuje 1.2. apibendrini teoriniai požiūriai į kūrybos visuomenę, pasiūlyti kūrybinės visuomenės bruožai;
3. Skyriuje 1.3. pristatoma teorinė klasterių koncepcijos analizė, klasterių raidos istorijos apžvalga, ateities plėtros perspektyvos, klasterių valdymo organizacijų funkcijos ir klasterių politikos koncepcija. Taip pat analizuojami kūrybiniai klasteriai, jų skirtumai su klasteriais ir svarbiausios savybės;
3. Antrojoje dalyje, remiantis pirmoje dalyje atlikta teorine analize, modeliuojama kūrybinių klasterių valdymo struktūra;
4. Skyriuje 2.1. pristatoma tyrimo metodologija, skirta analizuoti ES regionus NUTS2 lygmenyje;
5. Skyriuje 2.2. pristatoma tyrimo metodologija, skirta analizuoti Lietuvos kūrybiniams klasteriams, jų būklę, valdymą ir plėtros planus;
6. Trečiojoje dalyje apžvelgiami svarbiausi tyrimo rezultatai, kurių pagrindu sudaromas kūrybinių klasterių valdymo modelis;
7. Skyriuje 3.1. apžvelgiami pasirinktų ES regionų valdymo praktikų analizės rezultatai;
8. Skyriuje 3.2. apžvelgiami Lietuvos kūrybinių klasterių analizės rezultatai;
9. Išvadose pagrindžiami ginamieji teiginiai;
10. Rekomendacijose, atsižvelgiant į pagrindines suinteresuotųjų šalių grupes, pateikiami siūlymai modelio įgyvendinimui.

Rezultatų sklaida paremta pranešimais mokslinėse konferencijose, straipsniais recenzuojamuose moksliniuose žurnaluose ir diskusijomis su suinteresuotomis grupėmis. Sumanios specializacijos tyrimai buvo praktiškai pritaikyti koordinuojant Lietuvos Sumanios specializacijos strategijos rengimą 2012 – 2014 m. Mokslo ir studijų stebėsenos ir analizės centre.

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Pristatymai mokslinėse konferencijose:

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11. Reimeris, R. Sumani specializacija: teorinai aspektai. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2014.06.12, Vilnius.
12. Reimeris, R. Kūrybinių klasterių valdymas Sumanios specializacijos sąlygomis. *XXI a. iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse*, 2013.06.06, Vilnius.

Tolimesni tyrimai Sumanios specializacijos tema turėtų būti tęsiami toliau, siekiant papildyti jau esamus teorinius konstruktus pozityvistiniais duomenimis iš įvairių įgyvendinimo kontekstų. Inovacijos politikos įgyvendinimas regioninės specializacijos ir erdvinės ekonomikos atžvilgiu išliks svarbus mažiausiai iki 2020 m., kol bus įgyvendinama Europa2020 strategija. Tikėtina, jog regioninė specializacija ir erdvinė ekonomika bus svarbūs inovacijų politikos veiksniai ir po 2020 metų. Be to, tolimesni kūrybos visuomenės reiškinio tyrimai yra itin svarbūs siekiant suprasti regioninių kompetencijų atsiradimą ir jų tvarumą bei jų taikymą užtikrinant regionų konkurencingumą. Kūrybos visuomenės koncepcijos atsiradimas turėtų būti ištirtas nuodugniau, pritaikant įvairias regionines dimensijas. Kūrybiniai klasteriai yra daugelio tyrėjų tyrimų objektas, jų specifiškumas reikalauja didesnio dėmesio, ypač siejant jų unikalias savybes su inovacijų politika. Modelių galinčių sustiprinti bendrą visuomenės ar tam tikrų sektorių kūrybingumą ir jį pritaikyti ekonominei naudai išliks svarbi tema politikų, tyrėjų ir praktikų veikloje.

1. SUMANIOS SPECIALIZACIJOS, KŪRYBOS VISUOMENĖS IR KŪRYBINIŲ KLASTERIŲ TEORIJA IR PLĖTRA

1.1. Sumanios specializacijos koncepcija

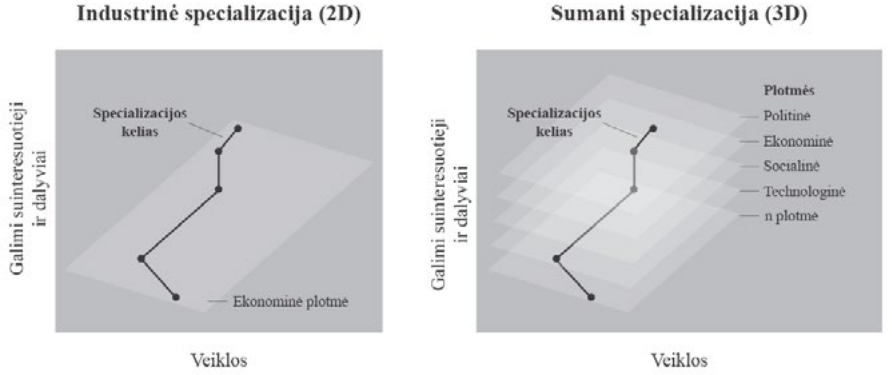
Sumanios specializacijos sąvoka 2007 metais buvo pristatyta naujos regioninės inovacijų strategijos ES šalyse-narėse kontekste. Vėlesnės plačios diskusijos šiuo klausimu buvo susijusios su naujuoju 2014–2020 m. programavimo laikotarpiu. Sumani specializacija buvo pristatyta kaip *ex-ante* sąlyga visiems regionams pretenduoti į struktūrinių fondų paramą MTEP ir inovacijoms. Sumani specializacija yra vienas pagrindinių pažangaus, tvaraus ir integracinio augimo strategijos „Europa 2020" pavyzdinės iniciatyvos „Inovacijų sąjunga" veiksmų (Panorama Inforegio, 2012). Anot kitos plačiai remiamos nuomonės, sumanios specializacijos principas buvo sukurtas siekiant mažinti MTEP spragą tarp Europos ir kai kurių pagrindinių jos prekybos partnerių (Camagn, Capello, 2013). Vis dėlto, pasak Dominique Foray, Ekonominio bendradarbiavimo ir plėtros organizacijos (EBPO) ir EK konsultanto, „ši idėja jau buvo žinoma metų metus, o gal net dešimtmečius" (Foray *et al.*, 2011). Sumanios specializacijos koncepcija gimė kaip atsakas į įvairius iššūkius, susijusius su inovacijos politikos struktūra ES, ir tapo pagrindine Inovacijų sąjungos ir ES sanglaudos politikos reformos varomąja jėga (McCann, Ortega-Argiles, 2013). Įgyvendinant šį naują požiūrį į politikos formavimą, stengiamasi suinteresuotoms šalims ne nurodyti kaip nustatyti kas turėtų būti daroma, o paskatinti jas pačias tai atrasti, taip pat padėti vyriausybėms kurti ir įgyvendinti inovacijų politiką vadovaujantis teoriniais modeliais, kurie turėtų spręsti praktines problemas. Camagni ir Capello (2013) apibrėžė tokius pagrindinius Sumanios specializacijos tikslus:

- galimybė poliarizuoti ir paskirstyti mokslo tiriamąją veiklą erdvės požiūriu;
- geriau išnaudoti esamą regionų potencialą;
- sukurti kumuliacines pažangios MTEP veiklos mokymosi galimybes;
- sukurti sinerginį technologijos priėmimo ir taikymo poveikį.

Šiuo metu galiojantis Sumanios specializacijos supratimas ir jos taikymo galimybės yra pernelyg bendro pobūdžio ir todėl negali apimti visų konkretaus regiono ypatybių; kitaip jis galėtų būti apibūdintas kaip pernelyg „plokščias". Be to, savo ribotu temų skaičiumi Sumani specializacija primena pramoninę specializaciją. Pramoninė specializacija turėtų būti suprantama kaip lyginamasis darbo jėgos ir geografinės gamybos koncentracijos pranašumas (Diamond, Simon, 1990).

Pramoninė specializacija grindžiama sistemine logika; tai reiškia, kad skirtingi regionai taiko tuos pačius modelius ir specializacijos logiką. Tai taip pat galėtų būti apibūdinama kaip toks pats požiūris į specializacijos galimybę, kai pasirenkamas geriausių rodiklių ir perspektyviausias sektorius ir aplink jį suburiami kiti veikėjai ekonominiame kontekste. Regioniniai inovacijų modeliai smarkiai priklauso nuo teritorinių elementų, tokių kaip visuomenė, jos istorija, kultūra ir mokymosi procesas (Camagni, Capello, 2013). Sumani

specializacija apjungia įvarius kontekstus unikaliu, konkrečiam regionui būdingu būdu. Tokios rūšies specializacija apjungia įvairias sritis ir sluoksnius, kurie anksčiau buvo laikyti ekonominiu požiūriu atskirais ir tarpusavyje nesutampančiais, pvz., mokslas, kultūra, valdymas, regiono istorija ir kt. Tokie iš pirmo žvilgsnio skirtingi ir kontekstualūs specializacijos modeliai sudaro galimybes siekti naujos regioninio konkurencingumo dimensijos.



Šaltinis: sudaryta autoriaus

2 pav. Industrinė specializacija ir Sumani specializacija

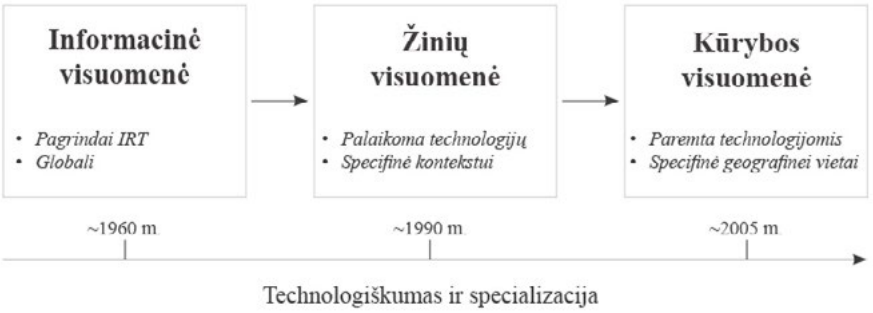
Sumani specializacija grindžiama trimate organizacijos logika. Sumani specializacija suvienija atitinkamus subjektus ir suinteresuotas šalis įvairioms galimoms veikloms sujungiant įvairius socialinės realybės sluoksnius (2 pav.). Šis modelis tampa unikalia geografinės vietovės specializacija, ekonomikos kontekste sustiprinančia labiausiai išskirtines ir svarbiausias savybes. Daugiasluoksnis požiūris į Sumanią specializaciją reiškia jos daugiasluoksnį valdymą dalyvaujant daugeliui suinteresuotų šalių, kuris taip pat yra decentralizuotas ir dekoncentruotas bei sudaro kūrybos visuomenės šerdį. Kūrybos visuomenė taip pat išreiškiama kaip tam tikra Sumanios specializacijos forma, išryškinanti unikalias geografinio specifiškumo kombinacijas. Tyrėjai sutinka, kad Sumaniai specializacijai ypač svarbios dvi pagrindinės sąvokos – „integruotumas“ ir „sąryšingumas“ (Camagni, Capello, 2013), tačiau disertacijos autoriaus siūlomas trimatis požiūris į Sumanią specializaciją šias sąvokas pagilina ir praplečia. Todėl galima pasiūlyti atnaujintą ir konceptualiai patikslintą Sumanios specializacijos apibrėžtį: ***Sumani specializacija*** *– nuolatinis su verslumu susijusios paieškos procesas, skirtas nustatyti ribotą geografiškai unikalių, daugiaplotmio integruotumo ir sąryšingumo prioritetų skaičių.*

Apibendrintai, Sumani specializacija yra plačiai pripažinta, nors ir skirtingai aiškinama sąvoka. Sumanią specializaciją patvirtinus oficialia ES inovacijų politika, buvo užtikrinta galimybė šią inovacijų politiką plačiai taikyti įvairiuose ES regionuose. Šiuo metu Sumanios specializacijos praktika aplenkia teoriją, kadangi jos taikymas buvo spontaniškas, ir grindžiamas mokymusi daugiau veikiant nei remiantis įrodymais. Pati spe-

cializacijos sąvoka nėra nauja, tačiau Sumani specializacija įveda trimatę organizacijos logiką, kuri išreiškia naują požiūrį į regioninę inovacijų politiką. Sumanios specializacijos pagrindas yra sukurtos valdymo schemos, inicijuotas ir besitęsiantis verslininkiškų atradimų procesas, pasirinktas ribotas temų skaičius ir jų taikymas regiono mastu. Tolimesnė Sumanios specializacijos raida priklausys nuo dabartinės praktikos sėkmės, tačiau galima neabejoti, kad erdvinės ekonomikos ir daugiasluoksnio valdymo strategija išliks svarbi ir ateityje.

1.2. Kūrybos visuomenės supratimas ir jos savybės

Sąvoka „kūrybos visuomenė" gali būti vartojama dviem būdais: pirmuoju atveju sąvoka apibūdina visuomenę kaip kūrybingą arba, vartojant pakaitinį terminą, – išradingą. Nors kūrybingumas yra tik viena iš galimų šiuolaikinės visuomenės savybių, manoma, ji yra pati svarbiausia. Antruoju atveju kūrybos visuomenė turėtų būti suprantama kaip reiškinys. Tai yra šiuolaikinės visuomenės apibūdinimas, kuris neapsiriboja vien tik kūrybingumo požymiu, bet ir pabrėžia kūrybingumą kaip visuomenės būklę, kuri daro įtaką visiems kitiems jos požymiams. Šiuo metu nėra vieno, plačiai priimto ar universalaus kūrybos visuomenės apibūdinimo; vis dėlto plačiai sutariama, kad šiuolaikinė visuomenė gali būti apibūdinta ne tik kaip kūrybiška, bet taip pat kaip grindžiama kūrybingumu, įgijusi naujų savybių arba naujais būdais derinanti savo tradicines savybes. Aiškesnį šios postmodernistinės visuomenės, kuri save išreiškia nuolat kurdama ir vartodama „ką nors naujo", vaizdą galima būtų sukurti iš aiškesnių ir jau gerai žinomų idėjų bei sąvokų.



Šaltinis: sudaryta autoriaus

3 pav. Informacinės visuomenės progresija

Kūrybos visuomenė yra informacinės ir žinių visuomenės praplėtimas, arba koncepcijos evoliucija. Kadangi žinių visuomenė nepriešstarauja informacinei visuomenei, netgi atvirkščiai, ji papildo ir pagilina kai kurias bendrąsias savybes, kūrybos visuomenė nepriešstarauja nė vienai iš pirmiau minėtųjų. Žinių visuomenė turėtų būti suprantama kaip nuolatinis vystymosi procesas. Dvi pagrindinės dimensijos, iliustruojančios

vykstančius pokyčius, yra plačiai paplitusios technologijos ir jų taikymas kūrybingumui ir specializacijai (3 pav.).

Visų pirma kūrybos visuomenė yra postmodernistinė visuomenė, įgyvendinusi esminius pokyčius gamybos srityje, o poilsio ir pramogų sektoriuje ją galima būtų vadinti pokūrybine visuomene (Kačerauskas, 2014). Be to, kūrybos visuomenė gali būti suprantama kaip klestinti, inovacija grindžiama visuomenė, kurioje išnaudojamas kiekvieno jos nario kūrybinis potencialas. Sėkmė grindžiama gebėjimais sukurti daugiau vertės nei daugiau produktų. Technologija tampa išskirtiniu visuomenės bruožu (Webster, 2009). Ekonominiu požiūriu ekonomikos modeliai apibūdina visuomenės būklę. Pavyzdžiui, žinių ekonomika remiasi žinių visuomene ir žinių valdymu. Ta pačia logika vadovaujantis kūrybos visuomenė suvokiama kaip kūrybos ekonomikos ir KKI pagrindas. Kūrybos visuomenė transformuoja vietą, kurioje ji yra, atstovaudama „integruotumo" arba sąryšingumo su buvimo vietos geografine vietove, elementams. Anot Coonerty, naujajai ekonomikai ir jos „pusiau klajokliškai darbo jėgai" reikės naujų vietų rinktis, dirbti, gyventi ir bendrauti (Coonerty, 2014). Be to, vyriausybės visame pasaulyje nuolat konkuruoja siekdamos sukurti geresnę aplinką, į kurią galėtų pritraukti talentingų darbuotojų – kūrybos visuomenės darbuotojų (Yigitcanlar, 2009). Ekonomikos augimas dažnai suprantamas kaip grindžiamas kūrybingumu, naujais veiklos receptais, naujais vietos kapitalo deriniais ir inovacijų centrais (Breznitz, Noonan, 2013). Technologija yra svarbiausia kūrybos visuomenės sąlyga. Kaip teigia Schiller (2014), „darymas (ta prasme kūrimas)" tampa populiarus. Žmonės, kurie niekada savęs nelaikė „kūrybingais" tradicine prasme, pradeda įgyti naujų įgūdžių, tokių kaip programavimas, projektavimas, meno kūryba ir kiti, ir, būdami kūrybos visuomenės nariais, pasiūlo naudingų ir praktinių tokių įgūdžių pritaikymo būdų. Išanalizavus esamas minties mokyklas ir kryptis, galima daryti išvadą, kad kūrybos visuomenė yra informacinės visuomenės ir žinių visuomenės tęsinys, nors ir turintis kitokių savybių. Kūrybos visuomenė yra kūrybos ekonomikos, integruotos į jos buvimo vietovę, pagrindas. Kūrybos visuomenės (valdymo) struktūra yra nehierarchinė; ji (kūrybos visuomenė) siekia išskirtinumo, vyrauja individualus požiūris į kūrybą, o specifinės šaknys yra išsilavinimas. Kūrybos visuomenės pobūdis labai priklauso nuo vietovės, konkrečią specializaciją jai suteikia švietimo sistema, įgalina technologijos; kūrybos visuomenė nuolat išnaudoja savo specializaciją inovacinei veiklai vykdyti ir tai daro vardan ekonominės naudos. Sumani specializacija yra kūrybos visuomenės forma, grindžiama regionine specifika.

1.3. Klasteriai ir kūrybiniai klasteriai

Su klasteriais susijusiems reiškiniams ir teritoriniams jų ryšiams apibūdinti akademinių sluoksnių atstovai ir politikos formuotojai naudoja įvairias apibrėžtis, tokias kaip „lokalizuoti žinių tinklai" (Crespo *et al.*, 2013); „geografiškai sutelkti tinklai", „mokymosi tinklai" (Dudian, 2011), „pramoniniai rajonai" (Reckendress, 2012, Sedita *et al.*, 2012), „naujos pramoninės erdvės", „lanksčioji specializacija", „tinklų kūrimas", „vietinės gamybos sistemos", ir daug platesne prasme – „regioninės inovacijų sistemos" (EBPO, 2010).

Plačiai sutariama, kad klasteriai yra beveik kiekvienos išsivysčiusios regioninės ekonomikos bruožas. Klasterių kūrimas didina darbo vietų skaičių ir darbuotojų pajamas (Dudian, 2011). Klasterio buvimas regione parodo, kad rajono konkurencingumas daugiausiai remiasi ne įmonėmis, o tinklu (Kuah, 2002). Klasterių iniciatyvos gali būti pati veiksmingiausia priemonė kurti inovacijoms palankesnę aplinką (Andersson, 2004). Daugelis tyrėjų sutinka, kad klasteris gali būti suprantamas kaip pagrindinė konkurencingumo ir augimo prielaida (Choe, Roberts, 2011; Crespo *et al.*, 2013; Dudian, 2011).

Klasteris gali būti apibrėžtas naudojant tris pagrindinius sąryšingumo elementus: tai erdvinė veikėjų riba, teminė veikėjų riba ir jų tarpusavio sąryšis. Mokslininkai yra pasiūlę įvairių klasterių apibrėžčių, sudarytų remiantis įvairiais aspektais, tokiais kaip santykis su pramone, sandara, homogeniškumas, veikėjai ir jų vaidmenys, santykių pobūdis ir kt. Šiuolaikinį klasterio reiškinio aiškinimą galima susieti dar su Michael Porter darbais (Porter, 1998; 2000), kuriuose autorius teigė, kad klasteriai yra geografinės tarpusavyje susijusių įmonių, specializuotų tiekėjų, paslaugų teikėjų, susijusiuose sektoriuose veikiančių įmonių ir asocijuotų institucijų (pvz., universitetų, standartų agentūrų ar prekybos asociacijų) santalkos konkrečioje srityje, kurioje jos tarpusavyje konkuruoja, bet taip pat ir bendradarbiauja. Vis dėlto ši apibrėžtis buvo daug kartų atnaujinta papildant ją įvairiais svarbiais kriterijais. Pavyzdžiui, Christencen apibrėžia klasterius kaip atstovaujančius inovacijų infrastruktūrai, kurią sudaro įmonės, MTEP institucijos ir universitetai, besispecializuojantys konkrečioje pramonės šakoje ar žinių srityje (Christensen *et al.*, 2012). Jungtinių Tautų Pramonės plėtros organizacija apibrėžia klasterius kaip geografiškai artimas tarpusavyje susijusių įmonių ir asocijuotų institucijų, kurias sieja bendri iššūkiai ir galimybės, grupes (UNIDO, 2013). Kūrybiniai klasteriai plačiąja prasme gali būti apibrėžti kaip KKI klasterių kūrimas. Savo charakteristikomis kūrybinių industrijų klasteriai skiriasi nuo kitose verslo šakose sudarytų klasterių, pvz., lanksti organizacinė struktūra, laikinai, tik konkrečiam projektui įgyvendinti samdoma darbo jėga, MVĮ sudaro didžiąją klasterio narių dalį. KKI dažniausiai klasterius kuria geografiškai artimose vietovėse, kur gali pasinaudoti sklaidos ir kita išorės ekonomikos teikiama nauda (Cooke, Propris, 2011). KKI yra imlios ir atviros tarpsektorinėms inovacijoms ir technologijų perdavimui. Kitaip tariant, konkretus KKI sektorius lengvai pritaiko iš kito KKI sektoriaus perimtas technologijas. Galima daryti tokias išvadas (Domenech *et al.*, 2011):

1. KKI yra daugiau sutelktos erdvės atžvilgiu nei pagal ūkinės veiklos sritį.
2. KKI dažniausiai telkiasi didelėse arba vidutinio dydžio urbanizuotuose vietovėse ir miestuose.
3. Vienoje urbanizuotoje vietovėje ar mieste gali būti daugiau nei vienas tos pačios ūkio šakos ar dydžio klasteris.

2 lentelė. Įprastų ir kūrybinių klasterių palyginimas

Kriterijai	**Įprastas klasteris**	**Kūrybinis klasteris**
Tinklai	Įmonių tinklai	Asmenų tinklai
Vieta	Specialiai skirtos vietos	Miestai, miestų teritorijos

Kriterijai	Įprastas klasteris	Kūrybinis klasteris
Inovacijos	Sektorinis	Tarpsektorinis
Skaitlingumas	Vienas konkrečios rūšies toje pačioje vietovėje	Daugiau nei vienas toje pačioje vietovėje
Ryšys su regionu	Daugiausiai ekonominis	Ekonominis ir socialinis

Šaltinis: sudaryta autoriaus

Kūrybiniai klasteriai skiriasi nuo pramoninių klasterių (2 lentelė) savo socialiniu ryšiu su vietove. Jie dažniausiai sukuria įvairios naudos vietovėms, kuriose jie veikia, – piliečiai plačiau dalyvauja visuomeniniame gyvenime, auga gyventojų skaičius, kyla būsto kainos, mažėja skurdas. „Menininkai tapo socialiniais verslininkais, parduodančiais savo viziją, kaip ir savo darbus“ (Stern, Seifert, 2010). Kultūra ir menas, kurie yra neatskiriama šiuolaikinės visuomenės dalis, yra komercijos subjektas ir ne tik kuria ekonominę naudą, bet ir atlieka socialinę funkciją. Kūrybiniai klasteriai grindžiami kūrybos visuomene, nepriklausomai nuo to, ar jie susiformavę istoriškai (natūraliai), ar su tiksline pagalba. Kūrybiniai klasteriai yra glaudžiai susiję su regiono kūrybos ekonomika. Visų pirma dėl to, kad kūrybiniai klasteriai yra KKI komercinės veiklos santalka. Antra, geografinio aspekto ir sisteminio inovacijų pobūdžio derinys sudaro prielaidas atsirasti tokioms sąvokoms kaip „nacionalinė inovacijų sistema“, „regioninė inovacijų sistema“ ir „mokymosi regionas“, kas pabrėžia teritorinio aspekto – teritorijai būdingo socialinių sąlygų derinio – svarbą (Sleuwaegen, Boiardi, 2014). Kūrybiniai klasteriai yra vietovės socialinės būklės atspindys. Apibendrinus, kūrybiniai klasteriai – yra plačios klasterių sąvokos dalis, tačiau šie klasteriai skiriasi savo narių sudėtimi ir ryšiu su aplinka ir kitais aspektais.

Klasterių politika yra pagrindinis įrankis, kuriuo vadovaujantis klasteriai kuriami, remiami, keičiami ir formuojami. Klasterių politika turi būti kuriama ir taikoma atsižvelgiant į tikslo, konteksto arba aplinkos savybes. „Klasterių politika turi būti pritaikyta prie konteksto, kuriame ji taikoma – regiono sąlygų ir konkrečios klasterio rūšies (EPBO, 2010). Klasterių politika gali būti įgyvendinta kartu arba derinama su tokiomis politikos kryptimis kaip regioninė ekonomikos plėtros politika, mokslo ir technologijų inovacijų politika, pramonės ir įmonių inovacijų politika ir aukštojo mokslo politika (*ibid*). Dažniausiai klasterių politika įgyvendinama trimis lygmenimis: regionų, nacionaliniu ir viršnacionaliniu (kaip ES). Būtina pažymėti, kad Sumani specializacija nėra klasterių politika (Forey *et al.*, 2011). ES Sumanios specializacijos ir klasterių politikos vadove teigiama: „Klasterių politika suteikia svarbius atsvaros taškus S3, tačiau klasteriai negali būti prilyginami S3: klasterių politika yra vienas iš galimų S3 politikos įrankių, tačiau Sumanios specializacijos turi platesnes funkcijas“ (EK, 2013B). Skirtumai ir galimi panašumai pateikiame 3 lentelėje.

3 lentelė. Sumanios specializacijos ir klasterių strategijos panašumai ir skirtumai

Sumanios specializacijos strategijos	**Klasterių strategijos**
Panašumai	
• Varomosios pažangos jėgos: produktyvumas ir inovacijos yra itin svarbi tvaraus augimo sąlyga. • Produktyvumui ir inovacijoms įtaką daro daugybė veiksnių. • Artumo ir vietos sklaidos svarba ir lemiamas vietos konteksto vaidmuo.	
Skirtumai	
Besiformuojančių rinkų galimybių analizė	Kritinė masė
Žinių sklaidos tarp žinių sričių skatinimas	Išorės poveikis per bendrą infrastruktūrą ir žaliavinių produktų rinkas
Įvairovės išnaudojimas skirtingose žinių srityse	Įmonių grupės susijusiuose ūkio sektoriuose
Struktūrinių ekonomikos pokyčių skatinimas integruojant inovatyvias praktikas ekonomikoje ir visuomenėje	Susijusių įmonių grupės veiklos rezultatyvumo didinimas

Šaltinis: adaptuota autoriaus pagal EC (2013B)

1.4. 1 skyriaus išvados

Ekonominės specializacijos sąvoka nėra nauja, tačiau siekdama tapti konkurencingiausia ir dinamiškiausia žiniomis grįsta ekonomika pasaulyje ES nusprendė pergalvoti ir pertvarkyti savo inovacijos politikos nuostatas. Buvo įvestas naujas elementas – regioninis aspektas, kadangi ankstesnės inovacijų politikos laikytos „neatsižvelgiančiomis į erdvę (vietą)“. Sumani specializacija buvo patvirtina kaip *ex-ante* sąlyga pasinaudoti ES struktūrinių fondų parama MTEP ir inovacinėms veikloms, kaip trečios kartos inovacijų politikos nuostata. Sumani specializacija grindžiama tokiais elementais: valdymo schema įtraukiant kiek galima daugiau suinteresuotų šalių; nuolatinis su verslumu susijusios paieškos procesas, siekiant palaikyti strategiją „gyvą“, ribotas temų skaičius siekiant sutelkti visus turimus išteklius ir regioninis aspektas, pasireiškiantis kaip regioninių iššūkių ir galimų išnaudoti galimybių pažinimas. Pagal šiuo metu galiojantį supratimą, Sumani specializacija apibūdinama kaip „valdomos su verslumu susijusios paieškos veiklos procesas, kuriuo siekiama nustatyti ribotą regioninio konkurencingumo prioritetų skaičių“. Tačiau esamas Sumanios specializacijos supratimas pernelyg bendras, juo neatsižvelgiama į regionų specifiką. Sumani specializacija vis dar suprantama daugiau kaip pramoninė specializacija – geriausių ekonominių scenarijų derinys, o ne kaip galimybė išnaudoti daugiau galimų kontekstų. Naujasis Sumanios specializacijos supratimas didesnį dėmesį turėtų skirti jos daugiasluoksniam valdymui dalyvaujant daugeliui suinteresuotų šalių, kuris taip pat yra decentralizuotas ir dekoncentruotas bei sudaro kūrybos visuomenės šerdį. Pagal naują Sumanios specializacijos supratimą ji galėtų būti apibrėžiama kaip “nuolatinis su verslumu susijusios paieškos procesas, skirtas nustatyti ribotą geografiš-

kai unikalių, daugiaplotmio integruotumo ir sąryšingumo prioritetų skaičių". Tolimesnė Sumanios specializacijos ir regioninės specializacijos sąvokos plėtotė neišvengiamai priklausys nuo jų įgyvendinimo ir praktikos analizės.

Šiuo metu nėra vienos universalios ir visuotinai priimtos kūrybos visuomenės apibrėžties, tačiau ji turėtų būti suprantama kaip tolesnis informacinės ir žinių visuomenės evoliucijos etapas su papildomomis regioninėmis charakteristikomis. Kūrybos visuomenė yra kūrybos ekonomikos, integruotos į jos buvimo vietovę, pagrindas. Kūrybos visuomenės valdymas yra nehierarchinis, o savo kūrybos potencialą ji naudoja išskirtinumui pasiekti. Kiekvienas asmuo yra kūrėjas ir aktyvus ekonomikos vienetas. Kūrybos visuomenę formuoja jos specifinės išsilavinimo etape įgytos savybės. Kūrybos visuomenės pobūdis priklauso nuo vietovės, konkrečią specializaciją jai suteikia švietimo sistema, įgalina technologijos; kūrybos visuomenė nuolat išnaudoja savo specializaciją inovacinei veiklai vykdyti ekonominės naudos vardan. Kūrybos visuomenė gali būti apibūdinta vartojant kūrybos aplinkos (angl. *creative milieu*) sąvoką, t. y. kiek žmonės jaučiasi esantys savo regiono dalis; ši sąvoka yra svarbus regiono inovatyvumo veiksnys. Taigi, kūrybos visuomenė yra susijusi su Sumania specializacija kaip su verslumu susijusios paieškos funkcija regiono konkurencingumo tikslais.

Ekonominė ir vadybinė klasterio sąvokos yra gerai žinomos ir plačiai vartojamos daugelio mokslininkų. Klasteris gali būti apibrėžtas remiantis tokiomis sąvokomis kaip „erdvinė veikėjų riba", „teminė veikėjų riba" ir jų tarpusavio sąryšis. Svarbiausias klasterius sudarančių veikėjų elementas yra jų tarpusavio integracija ir tokios integracijos lygmuo. Yra daug klasterio apibrėžčių, jos remiasi įvairiais klasterių fenomeno aspektais arba klasterių sukuriama ekonomine ar regionine nauda. Šiuolaikinis klasterių supratimas dažniausiai siejamas su Michael Porter, kuris taip pat vadinamas pramoninių klasterių mokyklos kūrėju, darbais. Pažymėtinos ir Šiaurės šalių mokykla, grindžiama abipusio mokymosi aspektais; Kalifornijos mokykla, pagal kurią svarbiausi klasterių aspektai yra abipusiai pripažįstamos taisyklės ir mažesnės sandorių sąnaudos; pramoninių rajonų samprata, daugiausia dėmesio sutelkianti į veikėjų geografinį artumą.

Klasterių istorijos pradžią galima rasti dar Viduramžiuose, kai praktinės patirties sankaupa jau savaime buvo reikšmingas konkurencinis pranašumas. Vėliau regioninė išteklių koncentracija ir specializuota darbo jėga tapo pagrindine išankstine klasterių sąlyga. Kūrybos visuomenės sąlygomis pagrindinis veiksnys kuriant klasterius yra vietos bendruomenės ir jų savybės. Klasterių plėtros projektų analizėse klasteriai apibūdinami kaip vartai į regionines ir pasaulines partnerystes, greitam idėjų vystymuisi ir komercializacijai palanki ekosistema. Regionų mastu klasteriai išliks itin svarbus veiksnys, pritraukiantis naujas žinias iš klasteriams pritaikytų žinių institucijų. Klasterius sudarys įvairesni dalyviai, įskaitant platesnį viešojo sektoriaus atstovų dalyvavimą. Konkurencingoje ekonominėje aplinkoje klasteriams įtaką daro ne tik rinkos sąlygos, bet ir inovacijų, finansų, darbo ir kt. politikos nuostatos. Klasterių politika turėtų pristatyti arba veiksmingiau įgyvendinti konkrečius veiksmus, skirtus pasirinktiems klasterių dalyviams – įmonėms, tarpininkų įstaigoms ir klasterių valdymo organizacijoms, kurios vaidina itin svarbų vaidmenį plėtojant klasterius. Klasterių valdymo organizacijos užtikrina klasterių vidaus

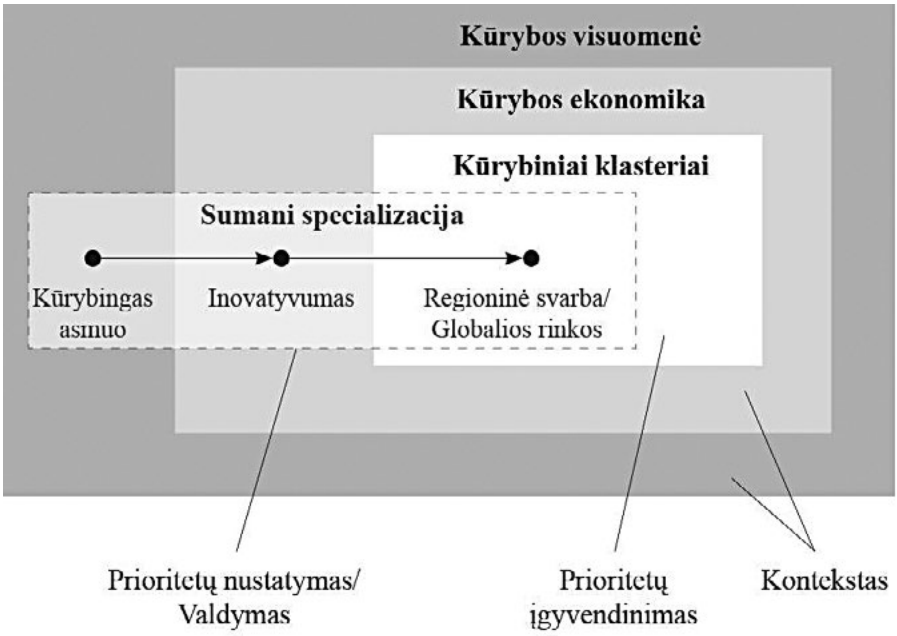
valdymą, be to, jos atstovauja klasteriams santykiuose su kitais išorės veikėjais ir kitomis organizacijomis (tarp jų ir kitais klasteriais).

Kūrybiniai klasteriai gali būti suvokiami kaip erdvinė įvairių KKI srityje veikiančių veikėjų grupė, gaunanti naudos iš sklaidos ar kitos išorės ekonomikos. Kūrybiniai klasteriai dažniausiai kuriasi tankiai apgyvendintose miesto vietovėse. Inovacijų procesas yra daugiau tarpsektorinis (todėl naudojasi išorės ekonomikos teikiama nauda). Palyginti su tradiciniais klasteriais (pramoniniais), kūrybiniai klasteriai dažniausiai išlaiko stiprius socialinius ryšius su aplinka. Kūrybinių klasterių vystymosi ciklas panašus į tradicinių klasterių – veiklą pradeda *priklausomi* nuo išorės paramos, kai susiburia keli nepriklausomi klasterio nariai, tačiau dažniausiai mažai išsivysčiusiose rinkose, ir veikia priklausydami nuo viešosios paramos; *siekiantieji*, su keletu nepriklausomų narių, tačiau bendrai neišvystytomis rinkomis ir priklausomi nuo viešosios paramos; toliau – *kylantys*, veikiantys pasaulio rinkoje ir turintys galimybę naudotis specializuota infrastruktūra; ir *brandūs*, veikiantys pasaulio rinkose, susibūrę apie dideles pagrindines įmones.

2. KŪRYBINIŲ KLASTERIŲ VALDYMO SUMANIOS SPECIALIZACIJOS SĄLYGOMIS STRUKTŪRA IR TYRIMO METODOLOGIJA

Antrojoje dalyje, remiantis pirmojoje dalyje atlikta teorijos analize, yra pristatoma teorinė kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis struktūra, kuri yra pagrindas kuriamam kūrybinių klasterių valdymo modeliui. Pagrindinis struktūros tikslas – pateikti loginį pagrindinių sudedamųjų valdymo modelio elementų išdėstymą ir tarpusavio ryšius. Šioje dalyje taip pat aprašoma modeliui sudaryti reikalingų tyrimų metodologija.

Struktūra (Pav. 4) pasiūlo koncepciją, kaip Sumani specializacija turėtų būti panaudota inicijuojant, atrandant ir plėtojant ir valdant kūrybinius klasterius. Bendrai, kūrybinių klasterių valdymo struktūra remiasi pirmojoje dalyje analizuotais elementais: kūrybos visuomene ir kūrybos ekonomika kaip kontekstu, kūrybiniais klasteriais kaip prioritetų įgyvendinimo elementu ir Sumania specializacija kaip prioritetų nustatymo elementu, taip pat – svarbiausiai – kaip valdymo elementu, jungiančiu visus kitus elementus.



Šaltinis: sudaryta autoriaus

4 pav. Kūrybinių klasterių valdymo sumanios specializacijos sąlygomis struktūra

Tokį elementų išdėstymo logiką ir tarpusavio ryšius pasiūlytoje struktūroje galima apibūdinti šiais paaiškinimais:

1. Kūrybos visuomenė struktūroje yra kontekstinis visus kitus elementus apimantis elementas. Tai yra kūrybos ekonomikos ir kūrybinių klasterių egzistavimo pagrindas;
2. Kūrybos ekonomika egzistuoja kūrybos visuomenės pagrindu ir formuoja kūrybinius klasterius;
3. Ryšys tarp kūrybos visuomenės, kūrybos ekonomikos ir kūrybinių klasterių yra struktūrinis, nes kūrybos visuomenė formuoja kūrybos ekonomika ir kūrybos ekonomika formuoja klasterius;
4. Sumani specializacija yra visus elementus jungianti funkcija. Tokie veiksniai kaip finansinis kapitalas, informacija, konsoliduotos technologijos ir kodifikuotos žinios yra virtualiai prieinamos visur, tačiau gebėjimai organizuoti šiuos veiksnius į inovatyvų gamybinį procesą, egzistuoja tik tam tikrose vietose (Camagni, Capello, 2013).
5. Sumani specializacija turi panaudoti įvairius kūrybos visuomenės resursus regioninės kūrybos ekonomikos naudai ir atrasti geriausia šių resursų išdėstymą. Kūrybos visuomenės unikalios savybės turi būti panaudotos Sumanios specializacijos procese, siekiant atrasti tinkamus ir suburiančius prioritetus, o taip pat išlaikyti integruotumo ir sąryšingumo principus (*ibid)*;
6. Prioritetų įgyvendinimo lygmuo atsako į klausimą „Koks yra kūrybinių klasterių ryšys su kūrybos visuomene ir regionine kūrybos ekonomika?“ ir suteikia klasterių aplinkai ekonominį kontekstą;
7. Klasterių atitikimas kūrybos visuomenei yra svarbus, nes žinių indėlis į regioninę ekonomiką, jei jis atitinka egzistuojančius technologines kryptis, skatina augimą (McCann, Ortega-Argiles, 2013);
8. Egzistuoja tvirtas sutarimas, kad lokali ir regioninė ekonomika gauna naudą iš klasterių įvairiais būdais. Pavyzdžiui, klasteriai į regioną pritraukia naujas industrijas ir skatina augimą jau egzistuojančiuose (Dudian, 2011). Ryšys su regionine ekonomika yra dvipusis, nes tvari regioninė ekosistema geba augti atsijungdama nuo nykstančių technologinių ciklų (Crespo et al., 2013).
9. Remiantis literatūros analize, kiekvienam elementui buvo pasiūlytos pagrindinės sričių savybės: kūrybingas asmuo, inovatyvumas ir regioninė svarba/globalios rinkos.

2.1. ES regionų kūrybinių klasterių ir jų valdymo praktikos analizės metodologija

Siekiant sudaryti kūrybinių klasterių valdymo sumanios specializacijos sąlygomis modelį, būtina ištirti gerąją Europos patirtį ir Lietuvos kontekstą. Atlikus tokią analizę, valdymo struktūros pagrindu gali būti sukurtas modelis. Siekiant nustatyti esamą geriausią strateginio valdymo patirtį buvo atlikti tokie veiksmai:

1. nustatyti regiono analizei reikalingi rodikliai, kurių normalizuotų reikšmių pagrindu buvo sudarytas sudėtinis rodiklis;
2. surinkti tyrimui aktualūs duomenys;
3. atliktas regionų vertinimas;
4. sudaryta nacionalinių ir regioninių strategijų analizės struktūra;
5. išanalizuota geroji patirtis ir įvertinta, kaip ji atitinka ar papildo kūrybinių klasterių valdymo sumanios specializacijos sąlygomis sistemą.

Pasirinktas sudėtinių rodiklių modelis ES regionams įvertinti. Sudėtiniam rodikliui sudaryti buvo pasirinkti trys ekonominiai rodikliai; tokie rodikliai buvo normalizuoti, kad netaptų dominuojančiais didelius regionus lyginant su mažesniais. Siekiant įvertinti, kurie ES regionai ekonominiu požiūriu yra aktyviausi KKI srityje, buvo pasirinkti šie rodikliai:

1. darbo vietų kūrybiniuose klasteriuose dalis;
2. kūrybiniuose klasteriuose dalyvaujančių įmonių dalis;
3. KKI dalis regiono ekonomikoje.

Geriausias būdas nustatyti, kokią dalį regiono ekonomikoje užima KKI, yra apskaičiuoti KKI dalį regiono BVP. Kadangi iš daugumos ES dalių tokių duomenų gauti nepavyko, vietoje to vidutinio atlyginimo KKI sektoriuose dalis buvo palyginta su vidutiniu regiono atlyginimu. Tokia dalis buvo apskaičiuota taip:

$$SC = \frac{CW \cdot CJ}{RW \cdot RJ} \quad (1)$$

Šaltinis: sudaryta autoriaus

kur SC – atlyginimų lygis KKI, palyginti su vidutiniu regiono atlyginimu; CW – vidutinis atlyginimas KKI sektoriuose; CJ – darbo vietų KKI skaičius; RW – vidutinis regiono atlyginimas; RJ – darbo vietų skaičius regione. Darant prielaidą, kad įmonės yra racionalios dalyvės ir moka atlyginimus, proporcingus sukurtai vertei, šis rodiklis koreliuoja su dalimi BVP. Sudėtinis regioninių kūrybinių klasterių veiklos rezultatų rodiklis apskaičiuojamas taip:

$$CCP = RI1 + RI2 + SC \quad (2)$$

Šaltinis: sudaryta autoriaus

kur RI1 – darbo vietų kūrybiniuose klasteriuose dalis; RI2 – kūrybiniuose klasteriuose dalyvaujančių įmonių dalis; SC – atlyginimų lygis KKI, palyginti su vidutiniu regiono atlyginimu. Rezultatai pateikti 4 lentelėje.

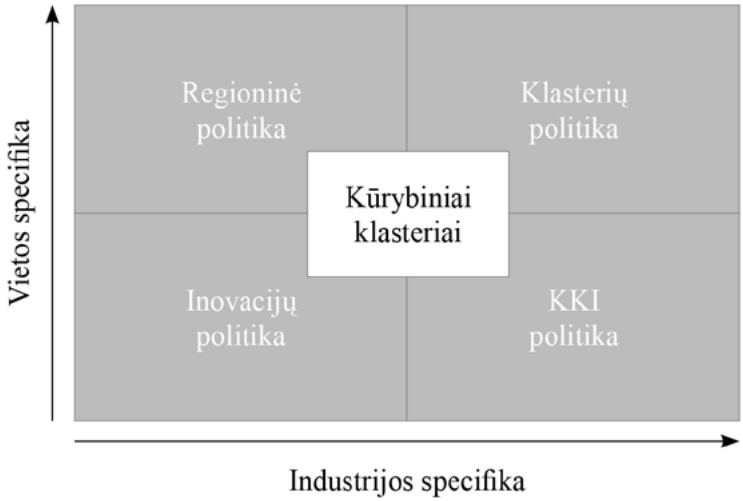
4 lentelė. Sudėtinis regioninių kūrybinių klasterių veiklos rezultatų rodiklis

Šalis	Regionas	CCP
Jungtinė Karalystė	**Londonas**	0,166320515
Italija	**Nord-Ovest**	0,135728064

Šalis	Regionas	CCP
Ispanija	**Madridas**	0,132943176
Nyderlandai	**West-Nederland**	0,131676996
Prancūzija	**Île De France**	0,129437598
Ispanija	**Este**	0,115176484
Švedija	**Östra Sverige**	0,106791247
Italija	**Centro**	0,104659309
Jungtinė Karalystė	**Pietryčiai**	0,095954323
Italija	**Nord-Est**	0,085709417

Šaltinis: sudaryta autoriaus

Gerajai patirčiai analizuoti kaip informatyviausias metodas buvo pasirinkta dokumentų analizė. Regionams įtaką darančių politikos nuostatų skaičius ir jų pobūdis priklauso nuo nacionalinės ar regiono vyriausybių, todėl tokia politika nebūtinai vienoda visuose ES regionuose. Dažniausiai inovacijų politika yra bendra visiems sektoriams skirta strategija, o regioninė politika yra pritaikyta konkrečiam regionui. Klasterių politika nebūtinai taikoma vien tik kūrybiniams klasteriams, o KKI politika yra pritaikyta konkrečiam sektoriui ir nebūtinai taikoma tik įmonių klasterių kūrimui. Bet kurių šių keturių sričių derinys sukuria kūrybinių klasterių politikos pagrindą. Kūrybinių klasterių politiką aprašantiems dokumentams analizuoti naudota struktūra yra pateikiama 5 paveiksle.



Šaltinis: sudaryta autoriaus

5 pav. Kūrybinių klasterių politikos tyrimo struktūra

Iš viso buvo analizuoti 14 su Londono regionu susijusių dokumentų, 14 – su Nord-Ovest regionu, 7 – su Madrido regionu ir 14 – su Lietuva susijusių dokumentų.

2.2. Lietuvos kūrybinių klasterių analizės metodologija

Analizė buvo atlikta dviem etapais:

1. Pirmiausia siekta nustatyti oficialiai Lietuvoje veikiančius kūrybinius klasterius;
2. Kitame etape atlikta pusiau struktūrizuota nustatytų klasterių valdymo organizacijų apklausa.

Lietuvoje veikiančių oficialiai registruotų klasterių analizė buvo atlikta vadovaujantis VšĮ „Versli Lietuva" duomenų baze. 2013 m. gruodžio mėn. Lietuvoje buvo oficialiai registruotas 41 klasteris. Įvertinus klasterius pagal pasirinktus kriterijus, 8 iš 41 klasterio buvo priskirti KKI arba kūrybinių klasterių tipui.

Norint geriau suprasti Lietuvos kūrybinių klasterių būklę ir verifikuoti siūlomą teorinę valdymo struktūrą, su identifikuotais kūrybiniais klasteriais 2014 m. pirmąjį – trečiąjį ketvirčiais buvo atliktas asmeninis pusiau struktūruotas interviu, bendraujant tiesiogiai. Interviu prašymas buvo nusiųstas oficialiai klasterių valdymo organizacijai, prašant nurodyti atsakingą už klasterio valdymą asmenį. Visais atvejais, deleguotas klasterio atstovas buvo organizacijos vadovas.

Pirmoji interviu dalis buvo skirta gauti naują ir papildyti jau turimą informaciją apie kūrybinį klasterį. Klausimai leido geriau suvokti klasterio sąrangą, veiklas ir plėtros planus. Antroji interviu dalis buvo skirta pagilinti supratimą apie klasterio veiklos specifiką, klasterio veiklos sektorius ir KKI intensyvumą, veiklos panašumą/skirtumus su kitais Lietuvos kūrybiniais klasteriais, tinklaveikos apimtis ir su kokiomis organizacijomis tai vyksta. Klausimai apie klasterio identitetą ir ryšį su Sumania specializacija suteikė informacijos apie klasterio pozicionavimą šalyje ir regione. Trečioji interviu dalis buvo skirta geriau suvokti klasterio veiklos modelį ir plėtros planus. Klausimai buvo skirti išgryninti kokios Valstybinės intervencijos trūksta, kokios priemonės yra veiksmingos ir kokių trūksta. Trečioji interviu dalis leido geriau parinkti kuriamo valdymo modelio kriterijus. Ketvirtoji dalis buvo skirta kūrybos visuomenės ir klasterių vaidmens joje analizei. Gauti atsakymai buvo panaudoti kuriant kūrybinių klasterių valdymo modelį Sumanios specializacijos sąlygomis.

2.3. 2 skyriaus išvados

Kūrybinių klasterių strateginio valdymo sumanios specializacijos sąlygomis struktūra turėtų atspindėti kūrybos visuomenės potencialą ir nukreipti jį regiono kūrybos ekonomikai kurti. Struktūrą sudaro trys pagrindinės sritys: kontekstas (kūrybos visuomenė ir regioninė kūrybos ekonomika), prioritetų nustatymas (Sumani specializacija) ir prioritetų įgyvendinimas (kūrybiniai klasteriai), o pagrindinės sričių savybės yra kūrybingas asmuo, inovatyvumas ir regioninė svarba/globalios rinkos. Remiantis literatūros analize, struktūros pagrindu kuriamam modeliui buvo pasiūlyti 11 veiklos kriterijų.

Kūrybinių klasterių veiklai ES įvertinti pasirinkti tokie rodikliai: (1) darbo vietų kūrybiniuose klasteriuose dalis (RI1, % nuo visų darbo vietų); (2) kūrybiniuose klasteriuose dalyvaujančių įmonių dalis (RI2, % nuo bendro įmonių skaičiaus) ir (3) KKI dalis regiono ekonomikoje (%). Aukščiausiai įvertinti regionai buvo šie: Londonas – 0,166320515, Nord-Ovest – 0,135728064, Madridas – 0,132943176. Lietuvos įvertinimas – 0,057560241.

Analizuojant geriausias valdymo praktikas, buvo atlikta aukščiausiai įvertintų regionų strateginių dokumentų analizė. Su Londono regionu susijusių strateginių dokumentų analizė parodė, kad Jungtinės Karalystės kūrybinių klasterių politika (palyginti su KKI politika) neremia specializacijos ar riboto temų skaičiaus. Pagal sistemą labai svarbiais veiksniais laikomi švietimas ir pasaulinis eksportas. Su Jungtinės Karalystės vystymusi ateityje susiję Sumanios specializacijos prioritetai smarkiai priklauso nuo esamo ekonominio potencialo. Tokie prioritetai apibrėžiami remiantis aštuoniomis didžiosiomis technologijomis, kurios atspindi technologinę specializaciją, tam tikrais ryšiais susijusią su KKI (informacinė ekonomika ir profesinės verslo paslaugos). Su Nord-Ovest regionu susijusių strateginių dokumentų analizė parodė, kad didžiojoje dalyje dokumentų didelė reikšmė teikiama sąryšingumui ir integruotumui su regiono specifika ir ekonominiu potencialu; švietimas taip pat laikomas svarbiu prioritetu. Tarp papildomų kriterijų kaip svarbūs buvo įvardyti nauji valdymo modeliai bei viešųjų ir privačiųjų partneryščių valdymas. Vertinant KKI, itin svarbiais aspektais laikomi tinklų kūrimas ir dalyvavimas pasaulinėse vertės grandinėse. Politikos sistemoje išreiškiama parama mados ir susijusioms industrijoms. Dviejuose subregionuose KKI įvardyta kaip sumanios specializacijos prioritetas. Su Madrido regionu susijusių dokumentų analizė parodė, kad politika didesniu mastu skirta meno šakoms, paveldui ir kultūrai, o ne kūrybos ekonomikai. Madrido regione susikoncentravusi didelė dalis šalies aukštojo mokslo institucijų (48 iš 121), ir politika remia švietimo kriterijus. Kiti politikos aspektai yra orientavimasis į pasaulines rinkas ir parama intelektinei nuosavybei. Sumanios specializacijos prioritetai Madrido regione nėra susiję su KKI. Lietuvos regionui taikomuose strateginiuose dokumentuose orientuojamasi į didelės pridėtinės vertės ekonomiką, kūrybingumą ir tarptautines rinkas. Lietuvoje dauguma klasterių veikia didžiuosiuose miestuose ir didžiąją jų dalį sudaro paslaugų klasteriai; Lietuvos politika remia visus pasiūlytus kriterijus, ypač didelį dėmesį teikiant pasaulinėms rinkoms, taip pat svarbiu laikomas sąryšingumo tarp dalyvių aspektas. Keli svarbūs modelyje neminimi kriterijai yra privačios investicijos į KKI, paskirtoji infrastruktūra, viešojo sektoriaus inovacijos ir intelektinės nuosavybės valdymas. Sumani specializacija Lietuvoje yra tiesiogiai susijusi su KKI, o prioritetas „Įtrauki ir kūrybinga visuomenė“ grindžiamas parama KKI kuriant naujas technologijas kūrybinės industrijos srityje (tokias kaip nauji mokymosi metodai, procesų ir produktų inovacijos, audiovizualinės technologijos ir kt.). Netiesioginis ryšys yra ir tarp kitų penkių prioritetų.

Kūrybiniams klasteriams nustatyti buvo remiamasi oficialia „Versli Lietuva“ (LR Ūkio ministerija) duomenų baze. 8 iš 41 klasterio buvo apibūdinti kaip glaustai susiję su KKI: Anykščių turizmo klasteris, „Clear digital world“, e. paslaugų klasteris, „Elit Cluster“, „Mediapolis“ – skaitmeninių kūrybinių industrijų klasteris, „Redirected“, Užupio kūrybinis klasteris, Vilniaus filmų klasteris. Kūrybiniai klasteriai daugiausiai įsisteigę Vilniuje

bei Kaune ir yra santykinai naujos aglomeracijos. Trys seniausi klasteriai (e. paslaugų klasteris, „Elit“ klasteris, Užupio kūrybinis klasteris) buvo įsteigti 2010 m., o du naujausieji – 2013 m. (Anykščių turizmo klasteris ir „Redirected“ klasteris).

Pusiau struktūrizuotos pasirinktų klasterių apklausos buvo atliktos 2014 m. I–III ketvirčiais; atsakomumo lygis – 62,5 %. Kaip informatoriai buvo pasirinkti klasterių valdymo organizacijų atstovai. Apklausą sudarė 4 dalys, kiekvieno interviu metu buvo užduoti iš anksto suplanuoti 24 klausimai ir papildomi tikslinamieji klausimai.

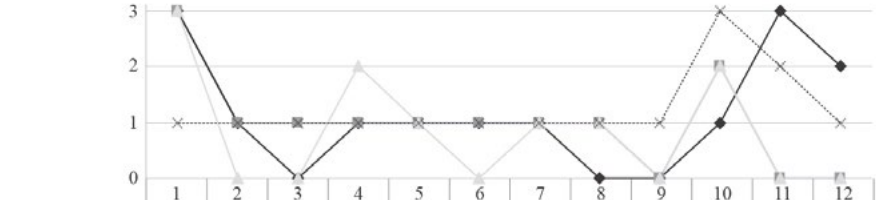
3. REZULTATŲ ANALIZĖ IR LIETUVOS KŪRYBINIŲ KLASTERIŲ VALDYMO SUMANIOS SPECIALIZACIJOS SĄLYGOMIS MODELIS

3.1. Pasirinktų valdymo praktikų analizė ES regionuose

Remiantis metodinėje disertacijos dalyje pristatyta ES regionų kūrybinių klasterių analize ir sudėtinio rodiklio reikšme, aukščiausiai įvertinti buvo Londonas (Jungtinė Karalystė), Nord-Ovest regionas (Italija) ir Madridas (Ispanija). Regionų strateginiai dokumentai buvo analizuojami norint nustatyti teorinės dalies pagrindu pasiūlytų kriterijų svarbą, taip pat ieškant naujų kriterijų. Į tyrimą buvo įtraukta ir Lietuva. Analizuoti kriterijai buvo:

1. Švietimas
2. Komercinimas
3. Kūrybos ekonomikos dydis
4. Inovacijos
5. Išlaidos MTEP
6. Aukštųjų technologijų sektoriaus dydis
7. Užimtumas žiniomis grįstuose sektoriuose
8. Klasterio narių įvairovė
9. Brandūs klasteriai
10. Prieiga prie globalių rinkų
11. Sąryšingumas
12. Intergruotumas

Kriterijų svarba buvo matuota 0-3 skalėje, kurios reikšmės buvo: 0 – nesvarbus, 1 – svarbus, 2 – labai svarbus, 3 – svarbiausias. Rezultatai pateikiami 6 paveiksle.



	1	2	3	4	5	6	7	8	9	10	11	12
Nord-Ovest	3	1	0	1	1	1	1	0	0	1	3	2
London	3	1	1	1	1	1	1	1	0	2	0	0
Madrid	3	0	0	2	1	0	1	1	0	2	0	0
Lithuania	1	1	1	1	1	1	1	1	1	3	2	1

Šaltinis: sudaryta autoriaus

6 pav. Teorinės valdymo struktūros kriterijų padengimas analizuotuose ES regionuose

Londono, Nord-Ovest ir Madrido regionų analizė atskleidė, kad svarbiausi kriterijai yra švietimas ir prieiga prie globalių rinkų. Kaip svarbūs buvo minimi kriterijai komercinimas, kūrybos ekonomikos dydis, išlaidos MTEP, aukštųjų technologijų sektoriaus dydis, užimtumas žiniomis grįstuose sektoriuose ir klasterio narių įvairovė. Nord-Ovest regionas didelę reikšmę suteikia sąryšingumui ir integruotumui. Lietuvos analizė atskleidė mažesnę orientaciją į švietimą, kas turėtų būti suprantama kaip tinkamos darbo jėgos rengimas ir reikiamų įgūdžių suteikimas. Palygintinai, Lietuva yra labiausiai orientuota į globalias rinkas. Londonas ir Madridas KKI nepasirinko kaip Sumanios specializacijos strategijos sudedamosios dalies, nors Londono regionas turi netiesiogines sąsajas. Lietuva ir Nord-Ovest regionai turi KKI kaip Sumanios specializacijos strategijos dalis.

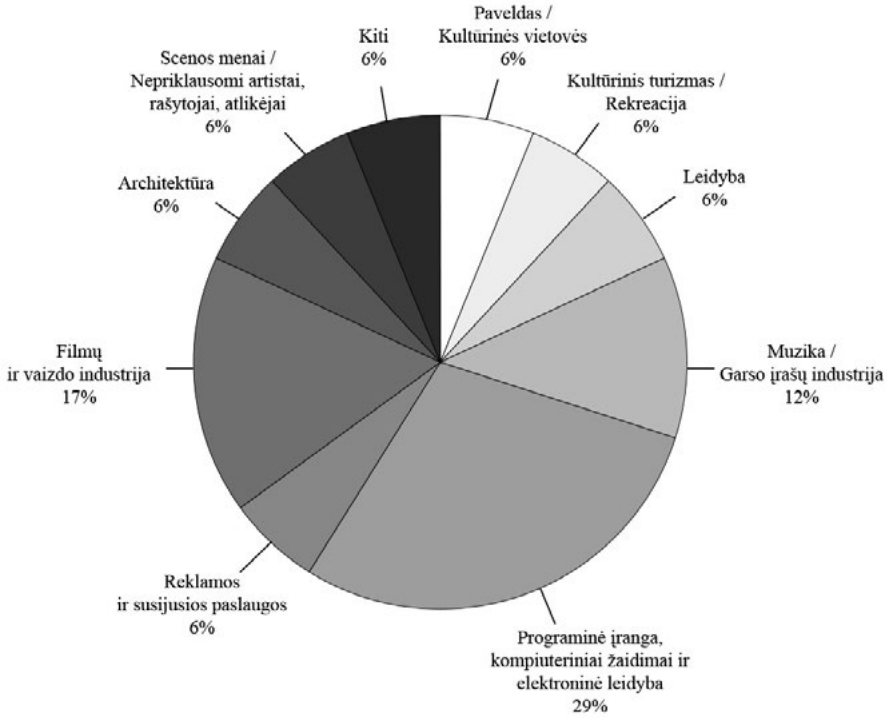
3.2. Lietuvos kūrybinių klasterių analizė

Lietuvos kūrybiniai klasteriai yra santykinai jaunos aglomeracijos. Trys seniausiai veikiantys klasteriai buvo įsteigti 2010 m., o patys naujausi – 2013 m. Didžioji dauguma klasterių veikia Vilniaus ir Kauno miestuose. Klasterių pagal sektorius analizė parodė, kad kino filmų sektoriaus klasteriai daugiausiai koncentruojasi Vilniuje. Keliuose klasteriuose yra narių ne iš Lietuvos; tai neatitinka erdvinės aglomeracijos principo; klasteriuose neturėtų būti užsienio narių (jie gali dalyvauti kaip partneriai), tačiau tai gali būti naudinga paįvairinant klasterių narystę. Didžiausio KKI kūrybinių klasterių atstovaujami sektoriai yra programinės įrangos, kompiuterinių žaidimų kūrimas ir elektroninė leidyba, kino filmų ir vaizdajuosčių pramonė (7 pav.). Reikėtų pažymėti, kad kai kurie kūrybiniai klasteriai veikia švietimo srityje, kuri nėra priskiriama KKI, tačiau neabejotinai yra glaudžiai susijusi su KKI rezultatų ir produkcijos taikymu.

Dauguma Lietuvos kūrybinių klasterių veikia tik vietos rinkose, tačiau turi planų plėsti savo komercinę veiklą ir užsienyje. Kaip pažymėjo klasterių valdymo organizacijos, taip yra dėl to, kad klasteriai yra santykinai jauni ir dar neturėjo laiko tapti konkurencingais. Viena vertus, produktų ir paslaugų spektras yra daugiau orientuotas į vietinius poreikius nei į pasaulines rinkas. Kai kurie klasteriai tokį apsiribojimą vietos rinkomis laiko būtinu produktų (prekių ir paslaugų) išbandymo etapu prieš plečiantis į pasaulines rinkas. Visi tyrimo metu vertinti klasteriai vykdo bendrą rinkodaros veiklą. Svarbiausiomis iš pirmiau aptartų su klasterių veikla susijusių problemų turėtų būti laikomos šios:

1. Strateginė:
   a. nėra vyriausybės parengtos KKI plėtros strategijos;
   b. trūksta integruotos kūrybinių klasterių politikos;
   c. nėra patvirtintų politikos krypčių.
2. Finansinė:
   a. nepakankama parama investicijoms;
   b. neskiriamas finansavimas klasteriams administruoti;
   c. nepakankamas investavimo intensyvumas.
3. Kitos:
   a. pernelyg mažai laiko veiklai pradėti;

b. informacijos apie gerąją patirtį trūkumas;
c. nėra klasterių narių savivaldybėse.



Šaltinis: sudaryta autoriaus

7 pav. KKI klasterizacija Lietuvoje

3.3. Kūrybinių klasterių valdymo modelis

Skyriuje aprašomas kūrybinių klasterių valdymo modelis Sumanios specializacijos sąlygomis. Pirmiausiai, modelis remiasi teorinėje dalyje analizuotomis dalimis ir prielaida, kad vienos modelio dalys yra priklausimos nuo kitų. Priežastiniai ryšiai remiasi koncepcija, jog yra laikoma, kad kintamasis X turi poveikį kintamajam Y. Būtina pastebėti, kad neįmanoma įrodyti, jog tik X veikia Y, nes tai būtų įmanoma tik visiškai uždaroje sistemoje. Tačiau, net jei priežastingumas yra sunkiai pademonstruojamas, tokie ryšiai ir prielaidos yra dominuojančios socialiniuose moksluose (Jaccard, Jacoby, 2010). Kūrybiniai klasteriai negali būti laikomi uždaromis sistemomis, nes yra priklausomi nuo daugelio išorinių veiksnių, kurių valdymo modelis neapima ir jie gali turėti poveikį, kurio modelis neaprašo.

Kūrybinių klasterių valdymo sumanios specializacijos sąlygomis struktūra buvo papildyta kriterijais, kurių sąrašas, sudarytas remiantis 1 skyriuje aprašytos teorinės analizės rezultatais, pateiktas 3 skyriaus pradžioje. Galimus kriterijus apibrėžti padėjo regionų su

aktyviausiai veikiančiais klasteriais strateginių dokumentų analizė ir paskesnė Lietuvos kūrybinių klasterių analizė. Buvo bandyta pasinaudoti pripažintais ir visoje ES naudojamais rodikliais, tačiau ne visus kriterijus pavyko išreikšti tinkama dimensija, dėl to prireikė sukurti naujus rodiklius. Rodikliai buvo pasirinkti remiantis teorinės struktūros nuostatomis, jais remiantis padarytos empirinės išvados. Siūlomi kriterijai pritaikomi strateginio kūrybinių klasterių valdymo struktūrai, kad ją galima būtų pritaikyti modelio konstravimui. Tokie ryšiai parodo galimą priežastinį ryšį tarp kriterijų atskirose srityse ir tokių sričių viduje (8 pav.). Kriterijai yra sunumeruoti pagal 5 lentelėje pateiktą sąrašą. Lentelė pateikia 18 rodiklių ir galimus duomenų šaltinius. Reikia atkreipti dėmesį, kad sumanios specializacijos ir kūrybinių klasterių rodikliai neturi oficialios ES lygio statistikos, todėl informacija jiems matuoti turėtų būti renkama atskirai. Kai kurie iš rodiklių yra sudėtingi ir reikalauja tam pritaikytos nacionalinės statistikos sistemos.

5 lentelė. Kriterijų įgyvendinimo rodikliai

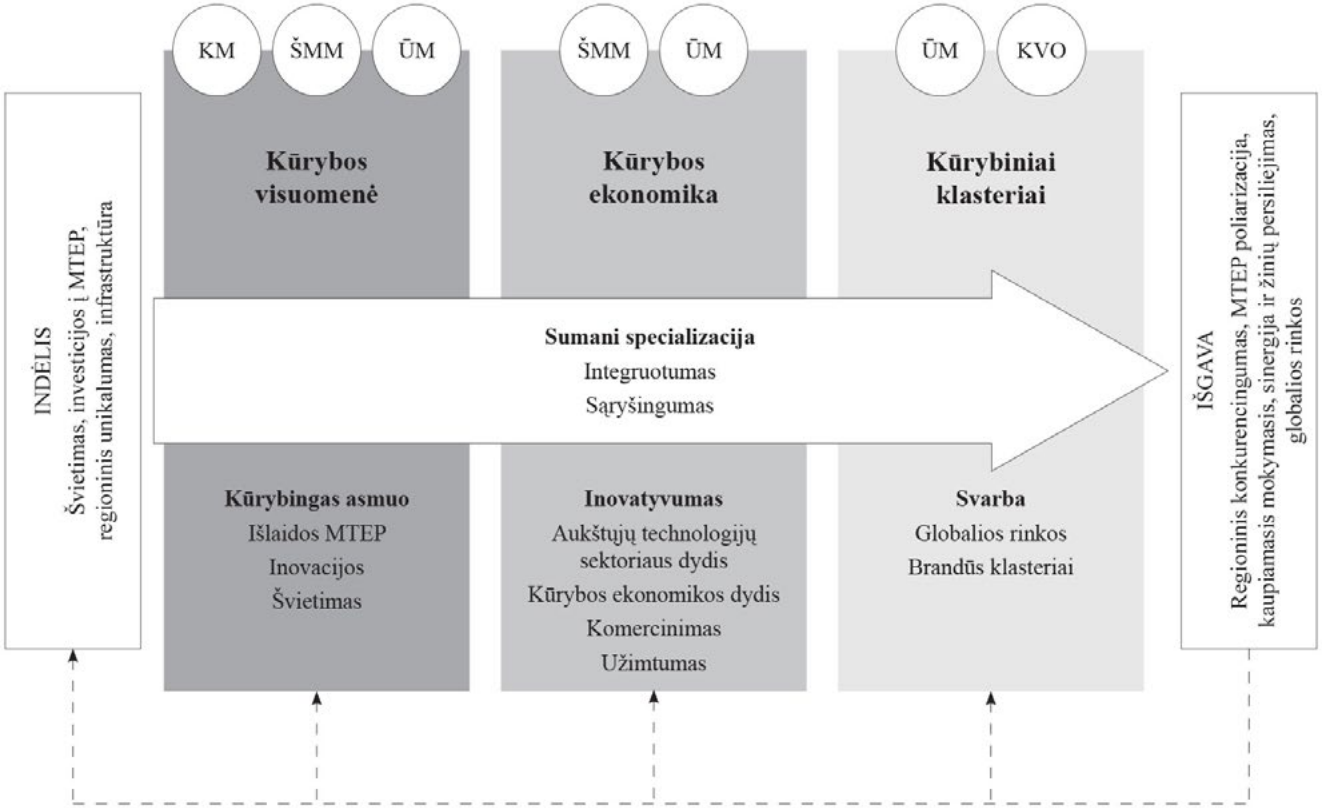
Kriterijus	**Rodiklis**	**Šaltinis**
1. Švietimas	1. Piliečiai su aukštuoju išsilavinimu, % 2. Viešųjų išlaidų dalis švietimui nuo BVP, % 3. Jungtinės studijų programos su kūrybiniais klasteriais, vnt.	Eurostat Eurostat Nacionaliniai duomenys
2. Ekonominis kūrybos indėlis	4. Registruoti patentai, prekiniai ženklai ir industriniai dizainai, skaičius	Pasaulio intelektinės nuosavybės organizacija
3. Kūrybos ekonomikos dalis	5. KKI dalis BVP, % 6. Rizikos kapitalo investicijų dalis į KKI, %	UNCTAD Nacionaliniai duomenys
4. Inovatyvumas	7. Inovacijų indeksas	Inovacijų sąjungos švieslentė
5. Išlaidos MTEP	8. Bendros vidaus išlaidos MTEP, %	Eurostat
6. Žinioms imlių paslaugų ir aukštųjų technologijų dydis	9. Apyvarta, mln. Eurų 10. Įmonės, skaičius	Eurostat Eurostat
7. Užimtumas technologiniuose ir žinioms imliuose sektoriuose	11. Užimtumas technologiniuose ir žinioms imliuose sektoriuose, % 12. Įdarbintų žmonių dalis pagal išsilavinimą, %	Eurostat Nacionaliniai duomenys
8. Dalyvių įvairovė	13. Valstybinės ir viešojo sektoriaus organizacijos klasterio sudėtyje, skaičius	Nacionaliniai duomenys
9. Brandžių klasterių skaičius	14. Brandžių klasterių skaičius regione, vnt.	Nacionaliniai duomenys

10. Orientacija į pasaulinę rinką	15. Eksporto dalis, %	Nacionaliniai duomenys
11. Integruotumas	16. Kūrybinių klasterių skaičius įgyvendinantis prioritetus, vnt. Sektorių, susijusių su prioritetais skaičius, vnt.	Nacionaliniai duomenys
12. Sąryšingumas	17. Įmonių, atstovaujančių prioritetinius sektorius dalis, % 18. Darbuotojų, atstovaujančių prioritetinius sektorius dalis, %	Nacionaliniai duomenys

Šaltinis: sudaryta autoriaus

Kūrybinių klasterių valdymo modelis (Pav. 8), remiantis antrojoje disertacijos dalyje pateikta struktūra, yra sudarytas iš keturių dalių – kūrybos visuomenės, kūrybos ekonomikos, kūrybinių klasterių ir Sumanios specializacijos, kaip visas dalis sujungiančios dalies. Sumani specializacija modelyje yra laikoma funkcija, turinčia indėlį ir išgavą. Kūrybos visuomenės dalis, atspindima pagrindine savybe kūrybingu asmeniu, turėtų būti plėtojama kuriant ir pritaikant schemas, skatinančias viešąsias ir privačias išlaidas MTEP, skatinančias investicijas į inovacijas ir švietimą. Kūrybos ekonomikos dalis, kurios pagrindinė savybė yra inovatyvumas, turėtų būti plėtojama per aukštųjų technologijų ir paslaugų sektoriaus schemas, geresnį kūrybinės veiklos komercinimą ir atitinkamas įdarbinimo schemas. Kūrybinių klasterių dalis turėtų būti plėtojama per geresnį priėjimą prie globalių rinkų. Sumani specializacija, kaip buvo aprašyta teorinėje dalyje, yra visas dalis į vientisą mechanizmą sujungianti funkcija, kurią geriausiai atspindi sąryšingumo ir integruotumo principai – apibrėžiantys pasirinktų veiklos prioritetų kokybę. Modelio indėliu turėtų būti laikomi švietimas, investicijos į MTEP, regioninis išskirtinumas ir MTEP infrastruktūra. Modelio išgava, panaudojus Sumanią specializaciją ir sujungus modelyje pateiktas dalis, turėtų būti regioninis konkurencingumas, MTEP veiklų poliarizacija, augantis mokymasis, sinergija ir žinių persiliejimas tarp įvairių veikėjų bei orientacija į globalias rinkas. Modelio išgavos pokytis, taip pat ir visos inovacijų sistemos pokytis, gali būti matuojamas pasitelkus 5 lentelėje pasiūlytais rodikliais.

Priežastinis ryšys turėtų būti ištirtas išsamiau, kadangi šiuo atveju tai tik siūloma prielaida. Kūrybos visuomenės sritis yra atspirties taškas kuriant modelį su išsilavinimo ir ekonominio kūrybos indėlio kriterijais. Regiono kūrybos ekonomikai kūrybos visuomenė yra naudinga didinant užimtumą ir plėtojant aukštųjų technologijų sektorių. Aukštųjų technologijų sektorius daro įtaką inovatyvumui, išlaidoms MTEP ir kūrybos ekonomikos daliai. Sumani specializacija yra funkcija, įgalinanti kūrybos ekonomiką teikti naudą kūrybos klasteriams pagal du kriterijus – sąryšingumo ir integruotumo, kurie abu parodo prioritetų mastą ir paplitimą. Kūrybinių klasterių sritis vertinama pagal tris kriterijus – dalyvių įvairovę, brandžių klasterių skaičių ir eksporto į užsienio šalis dalį, kuriems įtaką daro regiono kūrybos ekonomikos inovatyvumas.



Šaltinis: sudaryta autoriaus

8 pav. Kūrybinių klasterių strateginio valdymo modelis sumanios specializacijos sąlygomis

Modelio įgyvendinimas turėtų būti paremtas koordinuotais veiksmais, pagal modelio siūlomą logiką ir atitinkamos politikos taikymu modelio dalims. Pagrindiniai modelio įgyvendintojai turėtų būti valstybinės institucijos, atsakingos už modelyje aprašomųjų dalių plėtrą, t. y. Kultūros ministerija (KM), Švietimo ir mokslo ministerija (ŠMM), Ūkio ministerija (ŪM) ir klasterių valdymo organizacijos (KVO). Veiklos sritys dalinai persidengia, tačiau galimas įgyvendinimo pasiskirstymas pagal kompetencijas yra pateikiamas 6 lentelėje.

6 lentelė. Lietuvos institucijų atsakomybių pasiskirstymas įgyvendinant siūlomą modelį

Sritis	Atsakinga institucija	Kriterijai
Kūrybos visuomenė	Kultūros ministerija	Švietimas
	Švietimo ir mokslo ministerija	Švietimas, inovacijos, išlaidos MTEP
	Ekonomikos ministerija	Inovacijos
Kūrybos ekonomika	Švietimo ir mokslo ministerija	Komercinimas, užimtumas
	Ekonomikos ministerija	Aukštųjų technologijų sektoriaus dydis, kūrybos ekonomikos dydis, Komercinimas, užimtumas
Kūrybiniai klasteriai	Ekonomikos ministerija	Globalios rinkos, brandūs klasteriai
	Klasterių valdymo organizacija	Globalios rinkos, brandūs klasteriai

Šaltinis: sudaryta autoriaus

Išvardintos ministerijos, įgyvendinamos modelį ir bendrai koordinuodamos veiksmus, turėtų nustatyti siektinas rodiklių reikšmes ir pritaikyti atitinkamą savo kuruojamos srities politiką. Norint nustatyti kuri politikos priemonių dermė (angl. *policy mix*) būtų tinkamiausia Lietuvos kontekstui reikia atskiro tyrimo, tačiau bet kokiu atveju intervencijos turi būti koordinuotos tarpusavyje, o Sumani specializacija yra reikiamas instrumentas tokiai koordinacijai. Sumani specializacija (arba jos dalis, aktuali kūrybiniams klasteriams), kaip horizontali inovacijų politika, turėtų būti rengiama išvardintų veikėjų kartu išlaikant sąryšingumo ir integruotumo principus. Apibendrintai, modelio įgyvendinimui pirmiausiai reiktų imtis šių žingsnių:

1. Įkurti kūrybinių klasterių plėtros koordinavimo platformą, įtraukiant suinteresuotąsias šalis;
2. Identifikuoti perspektyviausias KKI sritis, remiantis regionine kūrybos ekonomika ir esančiais ištekliais pasirinktuose srityse;
3. Parengti intervencijos schemas, koordinuotai veikiančias kūrybos visuomenė, kūrybos ekonomiką ir kūrybinius klasterius;
4. Identifikuoti intervenciją įgyvendinančias ir poveikį stebinčias institucijas;
5. Nustatyti esamas rodiklių reikšmes. Nustatyti siekiamas reikšmes ir jas projektuoti laike;
6. Skatinti ryšius tarp kūrybinių klasterių ir žinių institucijų.

Modelio įgyvendinimas ir veikimas turi apribojimų. Pirmiausiai tai yra išoriniai veiksniai, nenumatyti modelyje. Antra, poveikis kūrybiniams klasteriams priklauso nuo koordinuotų veiksmų, todėl jei viena modelio dalis nebūtų paveikta tinkamai, kitos dalys dėl to nukentėtų. Trečia, Sumani specializacija yra funkcija, skirta nustatyti prioritetus. Jei prioritetai nebūtų tinkami, ar būtų riboti savo sąryšingumu ir integruotumu, modelio įgyvendinimo poveikis, tikėtina, būtų ribotas.

3.4. 3 skyriaus išvados

Lyginamoji Londono, Nord-Ovest, Madrido ir Lietuvos regionų analizė parodė, kad visų šių regionų politika didelį dėmesį teikia išsilavinimui ir orientavimuisi į pasaulines rinkas. Kiti svarbūs kriterijai buvo ekonominė kūrybiškumo nauda, kūrybos ekonomikos dalis, išlaidos MTEP, aukštąsias technologijas ir intensyviai žinias naudojančių paslaugų apimtis, darbo vietos intensyviai technologijas ir žinias naudojančiuose sektoriuose ir dalyvių įvairovė. Sąryšingumo ir integruotumo kriterijai buvo svarbūs tik Nord-Ovest ir Lietuvos regionuose. Brandžių klasterių skaičius iš viso nenurodytas. Sumanios specializacijos prioritetai yra tiesiogiai susiję su KKI tik Nord-Ovest ir Lietuvos regionuose, o Londono regione toks ryšys yra tik netiesioginis. Madrido regione tokio ryšio iš viso nėra. Stabilaus ir diversifikuoto KKI finansavimo ir intelektinės nuosavybės apsauga buvo paminėti kaip svarbiausi papildomi kriterijai.

Lietuvos kūrybinių klasterių analizė parodė, kad dauguma jų gali būti priskirti *kūrybinių klasterių kaip plėtros ir užimtumo politikos* tipui. Įsitvirtinusių klasterių nėra, o jų brandos lygis svyruoja nuo *priklausomų* iki *siekiančiųjų*. Klasteriai daugiausiai bendradarbiauja įgyvendindami projektus, kai atskirų klasterių nariai sukuria komandas, kad galėtų dalyvauti projekto veiklose, arba klasterių nariai nuolat padeda vieni kitiems įvairiose kasdienėse veiklose (dalyvavimas kuriant vertės grandinę). Maždaug pusė klasterių atstovų nurodė, kad juos tenkina esantis narių skaičius, kiti planuoja pritraukti daugiau narių. Lietuvos kūrybiniai klasteriai daugiausiai veikia vietos rinkose. Santykiai su žinių institucijomis įgyvendinami per bendrą veiklą, tokią kaip seminarai; beveik jokių komercinio pobūdžio projektų nevykdoma. Didžiausių kūrybinių klasterių atstovaujami sektoriai, santykinai nuo visos veiklos yra programinės įrangos (29%), kompiuterinių žaidimų kūrimo ir elektroninės leidybos (17%) bei kino filmų (12%) sritys.

Lietuvos kūrybinių klasterių vertinimas pagal teorinėje dalyje nustatytas klasterių plėtros tendencijas atskleidė, kad tyrimo metu klasteriai nebuvo platformos regioninei ir globaliai partnerystei plėtoti. Klasterių identitetas nėra pilnai suformuluotas. Partnerystė tarp klasterių narių yra ribota, nes trūksta aiškiai identifikuotos ir įtvirtintos vertės kūrimo grandinės ir infrastruktūros panaudojimo. Būdami jaunomis organizacijomis, klasteriai stokoja regioninės svarbos elemento. Atsiradus tokiai svarbai, tikėtina, padidėtų ir valstybinių institucijų dėmesys. Trūksta įvairovės tarp klasterių narių. Stipresnių ryšių sukūrimas su viešojo sektoriaus organizacijomis ir valdžios institucijomis suteiktų teigiamą poveikį klasteriui derinant santykius su aplinka.

Kūrybinių klasterių sumanios specializacijos sąlygomis valdymo modelis buvo sukurtas remiantis ankstesniuose skyriuose aprašyta teorine analize, gerosios patirties analize ir Lietuvos kūrybinių klasterių analizės empirinėmis išvadomis. Modelis sudarytas iš keturių sričių – kūrybos visuomenės, kūrybos ekonomikos, kūrybinių klasterių ir Sumanios specializacijos ir 11 kriterijų, kurie matuojami pasitelkus 17 rodiklių. Rodikliai buvo pasirinkti atsižvelgiant į naujas gerosios patirties analizės išvadas ir Lietuvos kūrybinių klasterių analizės empirines išvadas. Kriterijai buvo pasirinkti remiantis teorinės kūrybinių klasterių valdymo struktūros nuostatomis, o rodikliai žymi empirinio tyrimo išvadas.

Pagrindinės modelį įgyvendinančios institucijos turėtų būti Kultūros ministerija, Švietimo ir mokslo ministerija, Ūkio ministerija ir klasterių valdymo organizacijos. Įvardintos institucijos turėtų nustatyti siektinas rodiklių reikšmes ir pritaikyti atitinkamą politiką joms pasiekti. Sumani specializacija (arba jos dalis, aktuali kūrybiniams klasteriams), kaip horizontali inovacijų politika, turėtų būti rengiama kartu visų išvardintų organizacijų, o užtikrinant tinkamą visų suinteresuotųjų šalių dalyvavimą, turėtų būti įtvirtintas koordinavimo mechanizmas. Pagrindiniai modelio įgyvendinimo apribojimai yra išoriniai modelyje nenumatyti veiksniai; netinkama veiksmų koordinacija tarp modelį įgyvendinančių institucijų; tinkamas Sumanios specializacijos parengimas.

IŠVADOS IR REKOMENDACIJOS

Šioje dalyje pateikiamos išvados pagal kiekvieną ginamąjį teiginį ir rekomendacijos rezultatų pritaikymui.

1. **Sumani specializacija yra ne linijinė, ne pramoninė, o trimatė specializacija, kompleksiškai integruojanti skirtingus regionui specifinius kontekstus į ekonomiškai pagrįstas veiklas;**

Sumani specializacija, pagal savo pavadinimą, yra skirta sumaniai sukoncentruoti turimus resursus į ribotą skaičių temų ar prioritetų. Tai reiškia tokių resursų kaip lėšos, infrastruktūra, politinis palaikymas ir t.t. sukoncentravimą į perspektyviausias regiono atžvilgiu veiklas, turinčias ekonominę naudą. Šios naujos regioninės inovacijų politikos sumanumas – įtraukus prioritetizavimo procesas. Teoriškai sumani specializacija gali pasirodyti paprasta sąvoka, tačiau ją įgyvendinti yra sudėtinga. Sumani specializacija turėtų būti naudojama kaip priemonė rasti geriausią būdą kūrybos visuomenę išnaudoti kūrybos ekonomikos poreikiams. Įgyvendinant šią funkciją tam tikrą vaidmenį vaidina kūrybiniai klasteriai. Šis modelis tampa unikalia geografinės vietovės specializacija, sustiprinančia išskirtiniausias ir svarbiausias savybes ekonomikos kontekste. Galėtų būti pasiūlyta tokia svarbiausius aspektus apjungianti ir sumanią specializaciją kaip politikos logikos tipą apibūdinanti apibrėžtis: *Sumani specializacija apibrėžiama kaip valdomos su verslumu susijusios paieškos procesas, kuriuo siekiama nustatyti ribotą regioninio konkurencingumo prioritetų skaičių*. Sumani specializacija skiriasi nuo sistemine logika grindžiamos pramoninės specializacijos; tai reiškia, kad skirtingi regionai taiko tuos pačius modelius ir specializacijos logiką. Tai galėtų būti apibūdinama kaip požiūris į specializacijos galimybę, kai pasirenkamas geriausių rodiklių ir perspektyviausias sektorius, ir aplink jį suburiami kiti veikėjai ekonominiame kontekste. Sumani specializacija yra paremta trimate organizavimo logika, kas reiškia, jog specializavimasis turėtų vykti ne tik ekonominiame kontekste (iš čia panašumas su industrine specializacija), tačiau ir kituose įmanomuose kontekstuose (politiniame, kultūriniame, socialiniame, technologiniame ir t.t.). Nors ekonominis kontekstas savyje turi kitų kontekstų išraiškas, nes dažniausiai yra priklausomas nuo politinio, technologinio ir kitų kontekstų, jis pilnai jų neatspinti ar bent jau neturi tiesioginio poveikio sprendimų priėmimui kituose kontekstuose. Daugiasluoksnis požiūris į Sumanią specializaciją ją apibrėžia kaip daugianarę ir daugiasluoksnio valdymo koncepciją, esančią kūrybos visuomenės šerdimi. Kūrybos visuomenė taip pat yra išreiškiama Sumanios specializacijos forma, iškeldama į priekį unikalias geografinio ypatingumo kombinacijas. Sumani specializacija koncentruoja kūrybos visuomenei prieinamus resursus kūrybos ekonomikos naudai. Kūrybos visuomenės resursai turėtų būti panaudoti Sumanios specializacijos prioretizavimo procese (su verslumu susijusios paieškos procese), atrandant tinkamus ir įtraukius prioritetus, taip pat laikantis integruotumo ir sąryšingumo principų, nusakančių prioritetų apimtį. Integruotumas turėtų būti suprantamas kaip kiekybinė suinteresuotųjų šalių išraiška (mokslas, verslas, valdžia,

visuomenė) Sumanios specializacijos įgyvendinime. Sąryšingumas turėtų būti suprantamas kaip tam tikrų sektorių įtraukimas į prioritetus, reiškiantis kokia dalimi sektorius gali įsitraukti į Sumanios specializacijos įgyvendinimą. Sumani specializacija egzistuoja kiekviename regione kaip daugelio istorinių, kultūrinių, politinių, geografinių aplinkybių kombinacija ir ryšiai tarp mokslo, verslo, valdžios ir visuomenės atstovų. Sumanios specializacijos pritaikymas yra skirtas atrasti MTEP ir inovacinį pasirinktos geografinės vietos potencialą.

2. **Kūrybos visuomenė – postmoderni visuomenė, atspindinti šiuolaikinį informacinės ir žinių visuomenės koncepcijų supratimą. Kūrybos visuomenė yra kūrybos ekonomikos pagrindas, specifiška geografinei vietai, grindžiama technologijų panaudojimu, organizuota nehierarchine forma ir siekianti išskirtinumo;**

Sąvoka „kūrybos visuomenė" gali būti vartojama šiais dviem būdais: pirmuoju atveju sąvoka apibūdina visuomenę kaip kūrybingą arba, vartojant pakaitinį terminą, – išradingą. Nors kūrybingumas yra tik viena iš galimų šiuolaikinės visuomenės savybių, tikriausiai, ji yra pati svarbiausia. Antruoju atveju kūrybinė visuomenė turėtų būti suprantama kaip reiškinys. Tai yra šiuolaikinės visuomenės apibūdinimas, kuris neapsiriboja vien tik kūrybingumo požymiu, – jis pabrėžia kūrybingumą kaip visuomenės būklę, kuri daro įtaką visiems kitiems jos požymiams. Kūrybos visuomenė yra informacinės ir žinių visuomenės praplėtimas, arba koncepcijos evoliucija. Kadangi žinių visuomenė nėra priešpastatoma informacinei visuomenei, netgi atvirkščiai, ji papildo ir pagilina kai kurias bendrąsias savybes, kūrybos visuomenė nėra nė vienos iš pirmiau minėtųjų dviejų priešingybė. Kūrybos visuomenės įsitvirtinimas gali būti grindžiamas ekonomikos kaitoje, kai nebeužtenka versti žinias į apčiuopiamus ir neapčiuopiamus produktus ir paslaugas (kaip žinių ekonomikoje), tačiau tampa būtina nuolatos stebinti ir atrasti ką nors naują, taigi – kūrybos visuomenė yra kūrybos ekonomikos pagrindas. Paradigmos kaita įvyko su verslininkiškumo (angl. *entrepreneurship*) įsigalėjimo plačiojoje visuomenėje, ši funkcija nebepriklauso tik keliems išskirtiniams veikėjams. Kūrybos visuomenė yra kūrybos ekonomikos, integruotos į jos buvimo vietovę, pagrindas. Kūrybos visuomenės struktūra yra nehierarchinė, siekianti išskirtinumo, puoselėjanti individualų požiūrį į kūrybą ir turinti šaknis švietime. Kūrybos visuomenės pobūdis labai priklauso nuo vietovės, konkrečią specializaciją jai suteikia švietimo sistema, įgalina technologijos; kūrybos visuomenė nuolat išnaudoja savo specializaciją inovacinei veiklai vykdyti ekonominės naudos vardan. Kūrybos visuomenės ekonominio organizavimo forma ar išraiška yra kūrybinis klasteris, kuris gali susiformuoti istoriškai arba paskatintas valstybės veiksmų.

3. **Kūrybinių klasterių valdymas yra paremtas Sumanios specializacijos funkcija, pritaikant kūrybos visuomenės potencialą kūrybos ekonomikos naudai. Funkcijos panaudojimas leidžia siekti sąryšingumo (angl. conectedness) ir integruotumo (angl. embeddedness) tarp mokslo, verslo, valdžios ir visuomenės atstovų unikalia regionui išraiška;**

Klasterių sąsajos su regionu tampa labiau socialiai grįstos. Klasteriai gali sulėtinti talentų ir kapitalo emigraciją ar apsukti jos kryptį. Jie gali būti įmonių plėtros platforma ir kurti darbo vietas, jie gali padėti sėkmingam vietiniam verslininkiškam talentui išlikti lokaliai įsitvirtinusiam – padėti įkurti naują startuolį klasterio lokacijos vietoje. Toks klasterių misijos suvokimas demonstruoja vėl atsirandančią klasterio sąsają su vietine bendruomene ir visuomene apskritai, pabrėžiant esminę kūrybos visuomenės savybę – integruotumą į buvimo vietovę ir turimų resursų panaudojimą išsiskiriančių produktų ir paslaugų kūrimui. Egzistuoja stiprus ryšys tarp kūrybingumo geografijos ir verslininkiškumo. Šios ypatingos vietovės demonstruoja įgūdžių, idėjų, technologijų ir kultūrinę įvairovę, įgalinančią neįprastas iniciatyvas pateikti rinkai. Vietovė tampa labai svarbiu aspektu klasteriams, ne tik nusakančiu klasterių struktūrą ir dydį, bet ir unikalumą. Verslininkiškumo tankis, nusakantis panašiai mąstančių veikėjų ir juos palaikančios sistemos koncentraciją, yra klasterio formavimosi pagrindas. Sumani specializacija yra nuolatinis kūrybos visuomenės potencialo paieškos procesas ir potencialo taikymas kūrybos ekonomikos reikmėms, laikantis integruotumo ir sąryšingumo principų. Kūrybos visuomenė taip pat yra tam tikra Sumanios specializacijos forma, išryškinanti unikalų geografinio savitumo derinį. Todėl galima pasiūlyti atnaujintą ir konceptualiai patikslintą Sumanios specializacijos apibrėžtį: *Sumani specializacija – nuolatinis su verslumu susijusios paieškos procesas, skirtas nustatyti ribotą geografiškai unikalių, daugiaplotmio integruotumo ir sąryšingumo prioritetų skaičių*. Europos regionų, turinčių didžiausią kūrybos ekonomikos dalį, analizė atskleidė, kad svarbiausias kriterijus kūrybinių klasterių valdymui yra švietimas ir prieiga prie globalių rinkų, taip pat didelis dėmesys yra skiriamas inovacijoms.

4. Lietuvos kūrybiniai klasteriai yra lokalūs (neorientuoti į globalias rinkas ir ryšius), daugiausiai projektine veikla paremtos organizacijos, turinčios ribotus ryšius su žinių institucijomis ir daugiausiai priklausančios nuo valstybės pagalbos;

Lietuvos kūrybiniai klasteriai yra santykinai jaunos organizacijos; seniausia jų įsteigta 2010 m., o jauniausia – 2013 m. Dauguma Lietuvos klasterių buvo įsteigti vyriausybės iniciatyva ir pasinaudojus paramos schemomis. Didžioji klasterių narių dalis yra MVĮ, jų veikloje aktyviai dalyvauja žinių institucijos ir kai kuriais atvejais regiono ar valstybės valdžios institucijos. Dauguma klasterių veikia kaip plėtros ir užimtumo politikos priemonės konkrečioje srityje ar ūkio šakoje. Nors dauguma klasterių veikia didžiuosiuose miestuose – Vilniuje ir Kaune, regioniniai klasteriai turi planų įgyvendinti miesto regeneracijos planus ir vykdyti įvaizdžio kūrimo funkcijas. Dėl infrastruktūros koncentracijos ir galimai egzistuojančios subkultūros, kurią galima būtų priskirti tik konkrečiam klasteriui, kūrybos rajonams ir kūrybos kvartalams galima būtų priskirti tik du klasterius. Didžiausi kūrybinių klasterių atstovaujami KKI sektoriai yra programinės įrangos, kompiuterinių žaidimų kūrimas ir elektroninė leidyba, filmų ir kino industrija. Reikėtų pažymėti, kad kai kurie kūrybiniai klasteriai veikia švietimo srityje, kuri nėra priskiriama KKI, tačiau neabejotinai yra glaudžiai susijusi su KKI rezultatų ir produkcijos taikymu. Dauguma Lietuvos klasterių veikia tik vietos rinkose, tačiau turi planų plėsti savo komercinę veiklą ir užsienyje. Kaip pažymėjo klasterių valdymo organizacijos, taip yra dėl to, kad klaste-

riai yra santykinai jauni ir dar neturėjo laiko tapti konkurencingais. Visi tyrimo metu vertinti klasteriai vykdo bendrą rinkodaros veiklą. Tyrimai parodė, kad šiuo metu nėra vieningos valstybės KKI plėtros strategijos, nėra integruotos kūrybinių klasterių politikos ar parengtų valdomo tikslų įgyvendinimo politikos krypčių. Atskirai reikėtų aptarti kūrybinių klasterių bendradarbiavimą su žinių institucijomis, kurios gali būti universitetai, mokslinių tyrimų institutai ar kolegijos. Šiuo metu bendradarbiavimas pasireiškia tuo, kad klasteriai kviečia studentus atlikti praktiką ir naudojasi universitetų patalpomis klasterių renginiams. Toks bendradarbiavimo mastas nėra pakankamas. Tik keli iš Lietuvos kūrybinių klasterių yra susifokusavę į vieną ar keletą KKI veiklų, kas turėtų būti suprantama kaip prioritetai, kiti klasteriai savo veikla apima platų galimų KKI veiklų spektrą ir nedemonstruoja resursų koncentracijos.

5. **Lietuvos kūrybinių klasterių specializacija patraukliausiuose KKI srityse reikalauja prioritetų nustatymo, kad būtų tinkamai išnaudotas kūrybos visuomenės ir kūrybos ekonomikos potencialas.**

Sumani specializacija yra mechanizmas (arba funkcija) nustatyti ir plėtoti ekonomiškai tinkamiausią kūrybos visuomenės, kūrybos ekonomikos ir kūrybinių klasterių sąsają. Svarbiausias kūrybos visuomenės kriterijus yra kūrybingas individas, kuris yra mažiausias visos visuomenės bendrai statybinis elementas. Kūrybos ekonomika yra paremta neapčiuopiamais ištekliais ir idėjomis, todėl inovacijos ir inovatyvumas yra svarbiausias kūrybos ekonomikos kriterijus. Svarbiausi kūrybinių klasterių kriterijai yra regioninė svarba ir prieiga prie globalių rinkų. Regioninės svarbos įgijimas leidžia kūrybiniams klasteriams pritraukti talentus ir idėjas, kurti žinių persiliejimą, išlikti konkurencingiems ir augti. Remiantis Sumania specializacija, prioritetai turėtų išnaudoti turimus resursus, tokius kaip švietimas, investicijos į MTEP, regioninį unikalumą ir MTEP infrastruktūrą. Specializacijos išgava turėtų būti regioninis konkurencingumas, MTEP veiklų poliarizacija, augantis mokymasis, sinergija, žinių persiliejimas ir galiausiai – orientacija į globalias rinkas. Kūrybos visuomenės elementas, pagal kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis modelį, turėtų būti veikiama per tam skirtą politiką, didinančią išlaidas MTEP, skatinančią inovacijas ir investicijas į švietimą. Kūrybos ekonomikos elementas turėtų būti veikiamas per aukštųjų technologijų plėtros, kūrybos ekonomikos plėtros, komercializavimo ir užimtumo politikas. Kūrybinių klasterių elementas turėtų būti veikiamas per geresnę prieigą prie globalių rinkų ir tvarumo politiką.

Papildomai prie jau pateiktų išvadų, reiktų pridėti:

1. Kūrybos visuomenės ir inovacijų politikos sąryšis (per Sumanią specializaciją), aprašomas disertacijoje yra nauja koncepcija ir turėtų būti išnagrinėtas įvairesniais aspektais. Norint plačiau suvokti galimą naudą inovacijų strategijoms, paremtomis trimatės specializacijos modeliu, reikalingi tolimesni tyrimai. Regioninės specializacijos turėtų būti tyrinėjamos ne tik ekonominiu, tačiau ir socialiniu, technologiniu, politiniu ir t.t. plotmių lygmenimis ir svarbiausiai – nustatant unikalias regionines plotmių kombinacijas.

2. Sumani specializacija turėtų būti laikoma ne tik instrumentu, įgalinančiu rengti aukščiausio lygio (nacionalinio ar regioninio) inovacijų politiką. Išanalizuota logika ir nauda gali būti projektuojama į organizacinį lygmenį, suteikianti tokios organizacijos veiksmams unikalumą. Papildomai, sąryšiai su kitų, panašių organizacijų specializacijomis, taptų statybiniais blokais aukštesnio lygio strategijoms. Organizacinių specializacijų visuma, kaip iš apačios į viršų požiūris, turėtų būti derinama su regioniniu lygmeniu, atstovaujamu politiką formuojančių institucijų (iš viršaus į apačią požiūris) kuriant bendrą nacionalinio lygmens strategiją.

Rekomendacijos yra paremtos empirinio tyrimo rezultatais ir pateiktu valdymo modeliu. Jos struktūruojamos pagal tris lygmenis: politiką formuluojančioms institucijoms, politiką įgyvendinančioms institucijoms, kūrybiniams klasteriams. Rekomendacijos politiką formuluojančioms institucijoms yra skirtos ministerijoms, atsakingoms už kūrybinių klasterių plėtrą. Lietuvos atveju, tai yra Švietimo ir mokslo ministerija, Ekonomikos ministerija ir Kultūros ministerija. Politiką įgyvendinančios institucijos yra įvairios finansines ir nefinansines priemones valdančios agentūros (tokios kaip Lietuvos verslo paramos agentūra, LVPA) ir stebėsenos agentūros. Rekomendacijos kūrybiniams klasteriams yra skirtos klasterių valdymo organizacijoms, tačiau tinkančios ir klasterių nariams.

Rekomendacijos politiką formuluojančioms institucijoms

Politiką koordinuojančios institucijos turėtų siekti tinkamai koordinuoto ir suinteresuotąsias šalis įtraukiančio modelio įgyvendinimo, paremto daugiametės strategijos parengimu. Pagrindiniai siūlymai yra pateikti 7 lentelėje, remiantis teorinėje dalyje išanalizuotomis klasterių plėtros gairėmis ir Lietuvos kūrybinių klasterių analize.

7 lentelė. Politikos siūlymai už kūrybinių klasterių plėtrą atsakingoms politiką formuojančioms institucijoms

Silpnybės	**Politikos rekomendacija**	**Atsakingos institucijos**
Šiuo metu Lietuvos kūrybiniai klasteriai neatlieka regioninės ir globalios partnerystės vartų funkcijos. Trūksta įsitvirtinusių tinklų ir komunikacijos praktikų. Klasterių identitetas nėra pilnai suformuotas ar atrastas	**Kūrybinio potencialo ir pagrindinių veikėjų kūrybiniuose klasteriuose identifikavimas.** Klasteriu potencialo identifikavimas leistų jiems specializuotis ekonomiškai ir visuomenės atžvilgiu perspektyviausiuose KKI veiklose	KM, KVO
Inovacinė vertės kūrimo grandinė klasteriuose nėra aiškiai suformuluota, o partneryste tarp klasterio narių yra ribota	**Geresnis klasterių valdymas remiantis identifikuota vertės kūrimo grandine ir narių tarpusavio papildomumo principu.** Atliktas tyrimas suponuoja išvadą, kad dalis klasterių susikūrė tik kaip atsakas į valstybės finansines iniciatyvas, o ne dėl bendradarbiavimo galimybių	KVO

Silpnybės	Politikos rekomendacija	Atsakingos institucijos
Kaip jaunos organizacijos, Lietuvos klasteriams trūksta regioninės svarbos, kuri suteiktų jiems daugiau dėmesio iš valstybės ir, tikėtina, daugiau paramos veikloms ir plėtrai	**Tarptautinio bendradarbiavimo galimybių identifikavimas remiantis regioniniais tinklais ir vertės kūrimo grandinėmis.** Dauguma Lietuvos kūrybinių klasterių veiklų yra skirtos tik nacionaliniam lygmeniui, todėl turėtų būti naudojamos įvairios tarptautiškumą skatinančios schemos	ŪM, KVO
Lietuvos kūrybiniams klasteriams vis dar trūksta narių įvairovės. Tinklo stiprinimas, įtraukiant viešojo sektoriaus institucijas ir valstybines organizacijas leistų klasteriui geriau prisitaikyti prie aplinkos	**Klasteriai turėtų turėti platesnę ir labiau specializuotų narių įvairovę.** Galimi nariai, be labiau specializuoto atitinkamo verslo įstaigų galėtų būti vietinės ir nacionalinės valdžios atstovai, atsakingos ministerijos, kitos viešosios įstaigos	KM, ŠMM, KVO
Žinių institucijos dalyvavimas klasterio veiklose yra beveik neegzistuojantis, nors tokios organizacijos yra klasterių nariai	**Žinių institucijos (universitetai, kolegijos, mokslinių tyrimų institutai, profesinio rengimo centrai) turėtų būti skatinami dalyvauti klasterių veiklose.** Žinių institucijos galėtų suteikti ne tik patalpas klasterių renginiams (kaip atskleidė klasterių tyrimas), tačiau galėtų turėti abipusią naudą iš mokymų organizavimo, projektinės veiklos tarptautinėse programose, mokslinės tiriamosios veiklos kuriant ir bandant produktus ir paslaugas	ŠMM, KVO

Šaltinis: sudaryta autoriaus

Didžiausią Lietuvos KKI dalį santykinai nuo visos veiklos sudaro programinės įrangos (29%), kompiuterinių žaidimų kūrimo ir elektroninės leidybos (17%) bei kino filmų (12%) sritys, todėl šiose srityse turėtų būti sukurtos sektorinės strategijos (remiantis Sumanios specializacijos logika).

Siūlomos politikos rekomendacijos turėtų būti taikomos kartu su pasiūlytų kūrybinių klasterių valdymo modeliu. Tai yra tik pirmieji žingsniai stiprinant Lietuvos kūrybinius klasterius.

Rekomendacijos politiką įgyvendinančioms institucijoms

Politiką įgyvendinančios institucijos turėtų susitelkti į politiką formuojančių institucijų planų įgyvendinimą, tačiau šiuo metu pačios svarbiausios veiklos, paremtos atlikta analize, turėtų būti:

1. Didinti gebėjimus ir įgūdžius (daugiausiai MVĮ):

a. Valstybės intervencija turėtų tęsti paramą MVĮ kūrybiniuose klasteriuose;
b. Tarpininkavimo paslaugos ir tam skirtos platformos tarp tiekėjų ir pirkėjų turėtų kūrybinius klasterius labiau orientuoti į rinkos poreikius;

2. Didinti išorinius ryšius (užsienio investicijos ir eksportas):
   a. Nacionalinė rinkodaros strategija kūrybiniams klasteriams turėtų didinti eksportą;
   b. Parama investicijų pritraukimui į klasterius;
   c. Partnerystės paieška;
   d. Ekspertiniai tinklai;
3. Darbo jėgos įgūdžiai strateginėse KKI srityse:
   a. Specializuotas profesinis, koleginis ir universitetinis mokymas pagal nustatytus kūrybinių klasterių poreikius;
   b. Partnerystes tarp mokymo įstaigų ir klasterių skatinimas;
4. Ryšių tarp mokslinių tyrimų ir įmonių poreikių didinimas:
   a. Parama jungtiniams projektams tarp įmonių ir žinių institucijų;
   b. Įvairių veikėjų perkėlimas (koncentracija) skatinant sąveiką (mokslo ir technologijų parkai, inkubatoriai).

Rekomendacijos kūrybiniams klasteriams

1. Visų svarbiausiai, kūrybiniai klasteriai turėtų atrasti perspektyviausias KKI sritis, kuriuose jau turi pakankamai kompetencijos ir kurti strategijas regioninei svarbai pasiekti;
2. Kūrybiniai klasteriai turėtų siekti glaudesnės partnerystės su žinių institucijomis (universitetais, kolegijomis, mokslinių tyrimų institutais) naujų produktų ir paslaugų vertės kūrimo grandinėje;
3. Glaudi partnerysė su regionine valdžia (savivaldybių lygmuo) įgalintų kūrybinius klasterius siekti tvarumo;
4. Kūrybos visuomenės resursų paskirstymui konkurencingiausiu būdu turėtų būti panaudota Sumanios specializacijos koncepcija, kaip trimatės specializacijos pritaikomos organizaciniame lygmenyje strategija;
5. Svarbiu aspektu išlieka tinklaveika. Stiprūs tinklai ir dalyvavimas pasaulinėse vertės kūrimo grandinėse suteiktų klasteriams daugiau regioninės svarbos. Be abejo, koncentruojantis į tam tikrą vertės grandinės dalį, specializacija yra neišvengiama, o Sumanios specializacijos taikymas leistų kūrybiniams klasteriams siekti strateginio pranašumo.

GYVENIMO APRAŠYMAS

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Darbo patirtis

2011 iki dabar	Mokslo ir studijų stebėsenos ir analizės centras (MOSTA), Inovacijų politikos analizės skyriaus vedėjas.
2012 – 2014	Kazimiero Simonavičiaus universitetas, Kūrybinės visuomenės ir ekonomikos institutas, lektorius
2011 – 2012	Vilniaus Gedimino technikos universitetas, Komunikacijos ir kūrybos verslo katedros lektorius
2010 – 2011	Vilniaus Gedimino technikos universitetas, Filosofijos ir politologijos katedros lektorius

Išsilavinimas

Nuo 2011	Vadybos mokslo krypties Mykolo Romerio universiteto doktorantas
2005	Komunikacijos ir informacijos magistro kvalifikacinis laipsnis, Vilniaus universitetas
2003	Komunikacijos ir informacijos bakalauro kvalifikacinis laipsnis, Vilniaus universitetas

Užsienio kalbos	Anglų, vokiečių, rusų
Mokslinių interesų sritys	Komunikacija, kūrybinės industrijos, kūrybiniai klasteriai, sumani specializacija, inovacijų politika

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Pranešimai mokslinėse konferencijose:

1. Pranešimas "Kūrybinės visuomenės ypatybės" nacionalinėje mokslinėje konferencijoje "Kūrybos visuomenės ir ekonomikos plėtra", 2014 m. spalio 10 d., Vilnius.
2. Pranešimas "Theoretical aspects of creative clusters management" tarptautinėje mokslinėje konferencijoje "Social transformations in contemporary society 2013", 2013 m. birželio 5-6 d., Vilnius.
3. Pranešimas "Kūrybinių klasterių valdymas sumanios specializacijos sąlygomis" jaunųjų mokslininkų konferencijoje "XXI a. Iššūkiai jaunajam mokslininkui politikos, vadybos ir viešojo administravimo srityse", 2013 m. birželio 6 d., Vilnius.
4. Pranešimas "EUWIN – Europos Komisijos inovatyvių darbo vietų tinklas" mokslinėje praktinėje konferencijoje "Lietuvos užimtumo politikos gairės 2014-2020 m. laikotarpiu (problemos ir perspektyvos)", gegužės 17 d., Vilnius.
5. Pranešimas "Vision based hand gesture control technique for mobile devices" mokslinėje konferencijoje "Smithy of ideas 2011", 2011 m. birželio 30 d. Trakai, Lithuanian society of young researchers.
6. Pranešimas „Interneto aplinkos pritaikymas regėjimo sutrikimą (daltonizmą) turintiems vartotojams" mokslinėje konferencijoje „Vizualumas: vaizdiniai ir tapatumai medijuotoje kultūroje", 2010 m. birželio 4-5 d. Vilnius, VGTU.
7. Pranešimas „Kūrybinės industrijos: kūrybingumo komunikacija" mokslinėje konferencijoje „Kultūros kaita tinklaveikos visuomenėje komunikacijos ir informacijos požiūriu", 2010 m. balandžio 12-13 d. Vilnius, VU.

Mokslinė praktinė projektinė veikla:

1. Interreg Europe projekto „Innovation and Knowledge for Regional Actions and Systems (INKREASE) koordinatorius Lietuvoje, nuo 2016 m.

2. Interreg Europe projekto „Interregional policy learning and exchange of experiences on important aspects influencing the regional innovation ecosystems in the field of advanced materials (P2L2) koordinatorius Lietuvoje, nuo 2016 m.
3. BP7 programos didelio masto projekto "Social Innovation – Driving Force of Social Change (SI-DRIVE)" koordinatorius Baltijos šalims ir tyrėjas, 2014 m. – 2015 m., (www.si-drive.eu).
4. Europos Komisijos projekto European Workplace Innovation Network (EUWIN) koordinatorius Baltijos šalims, 2013 m. – 2015 m. (http://ec.europa.eu/enterprise/policies/innovation/policy/workplace-innovation/euwin/index_en.htm).

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Kūrybinių klasterių valdymas, kaip kūrybos visuomenės ekonominis organizavimas Sumanios specializacijos logikos pagrindu yra nauja ir beveik netyrinėta koncepcija. Disertacijoje buvo išnagrinėtas Sumanios specializacijos supratimas ir pasiūlyti jo plėtiniai, išnagrinėti teoriniai požiūriai į kūrybos visuomenę ir išanalizuotos jos savybės, analizuota klasterių teorija ir raida, kūrybinių klasterių ypatybės, sukurtas Lietuvos kūrybinių klasterių valdymo Sumanios specializacijos sąlygomis modelis. Teorinė analizė atskleidė, kad Sumani specializacija yra ne linijinė, ne pramoninė, o trimatė specializacija, kompleksiškai integruojanti skirtingus regionui specifinius kontekstus į ekonomiškai pagrįstas veiklas. Kūrybos visuomenė – postmoderni visuomenė, atspindinti šiuolaikinį informacinės ir žinių visuomenės koncepcijų supratimą. Kūrybos visuomenė yra kūrybos ekonomikos pagrindas, specifiška geografinei vietai, grindžiama technologijų panaudojimu, organizuota nehierarchine forma ir siekianti išskirtinumo. Empirinio tyrimo metodologija buvo paremta didžiausią įmonių ir darbo vietų skaičių kūrybiniuose klasteriuose bei didžiausią kūrybinių ir kultūrinių industrijų dalį regioninėje ekonomikoje turinčių Europos Sąjungos regionų valdymo dokumentų analize ir pusiau struktūruotu interviu su oficialių Lietuvos kūrybinių klasterių valdymo organizacijomis. Gerųjų Europos Sąjungos praktikų analizė atskleidė, kad kūrybinių klasterių valdyme svarbiausi kriterijai yra švietimas ir prieiga prie globalių rinkų. Lietuvos kūrybinių klasterių tyrimas atskleidė, kad tai yra santykinai jaunos organizacijos, neorientuotos į globalias rinkas ir ryšius, daugiausiai paremtos projektine veikla, turinčios ribotus ryšius su žinių institucijomis ir daugiausiai priklausančios nuo valstybės pagalbos. Lietuvos kūrybinių klasterių valdymo modelis buvo paremtas Sumanios specializacijos logika, kuri turėtų būti taikoma nustatyti ir plėtoti ekonomiškai tinkamiausią kūrybos visuomenės, kūrybos ekonomikos ir kūrybinių klasterių sąsają.

Concept of governance of creative clusters as economic organization of creative society under the Smart specialization logic is new and fragmentally explored. Thesis presents the analysis of understanding of Smart specialization and proposes possible extensions, explores theoretical views of creative society and its features, analyzes the theory and development of clusters, features of creative clusters, proposes governance model of Lithuanian creative clusters under the Smart specialization conditions. Theoretical analysis has revealed, that Smart Specialization is non-linear, non-industrial, three-dimensional specialization, integrating different region-specific contexts into economically viable activities. Creative society is a postmodern society that is a contemporary understanding of the information and knowledge society concepts. Creative society is foundation of creative economy, specific to the geographical place it is located, based on the usage of technologies, organized in non-hierarchical form and opting for exclusivity. First part of empirical research was based on analysis of governance documents of European union regions with highest proportion of firms and jobs in the creative clusters and highest share of creative and cultural industries in the reginal economy. Second part of empirical research was bases on semi-structured interview with Lithuanian cluster management organizations of official creative clusters. Analysis of best European Union governance practices revealed, that the most important criteria in creative clusters governance are education and access to global markets. Analysis of Lithuanian creative clusters revealed, that they are relatively young, local and project-based organizations with limited connections to the knowledge institutions and mostly dependent on state support. Governance model of Lithuanian creative clusters was based on the logic of Smart specialization, which should be applied to identify and develop economically most suitable connection of creative society, creative economy and creative clusters.

Ramojus Reimeris

MODELING OF CREATIVE CLUSTERS GOVERNANCE UNDER THE SMART SPECIALIZATION

Doctoral Dissertation

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