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THE IMPACT OF THE NETWORKS AND CLUSTERS IN CULTURAL AND CREATIVE INDUSTRIES ON REGIONAL INNOVATION ECOSYSTEM – ANALYSIS OF THE SELECTED CASES IN EUROPE

Abstract. The purpose of the paper is to investigate the impact of local and regional networks and clusters existing in creative industries on regional innovation ecosystems. Real examples of such creative environments shows that they can operate independently of the other regional sectors or can be interconnected with regional sectors. On the basis of the five presented cases, the level of linkages with other sectors was presented. Theoretical background used in the paper is grounded in network approach in strategic management.

Keywords: clusters, cluster organizations, creative and cultural industries, intersectoral cooperation.

1. Introduction

Regional innovation ecosystems make use of cooperation between different environments (traditional triple-helix approach¹) as well as intersectoral cooperation. The issue worth raising is how these models fit into cultural and creative industries (CCI). From a very long time culture have been treated as a phenomenon completely different, almost opposite to economy. Politicians and other influential people were convinced that cultural products are luxury goods subject to consumption. Recent decades shows that creative and cultural industries (CCI) are the very important part of regional and national economies influencing also other sectors. The term ‘creative industries’ especially emerged in nineties and was first documented in 1994 in Australia². The growing importance of CCI comes from different sources: increasing population and role of the creative class – the people work in such professions like architecture, sci-

¹ Etzkowitz H., Leydesdorff L.: The dynamics of innovation: from National Systems and “Mode 2” to a Triple Helix of university–industry–government relations. “Research Policy”, Vol. 29, No. 2, 2000, p. 109-123.

² Moore I.: Cultural and Creative Industries concept – a historical perspective. “Procedia - Social and Behavioral Sciences”, 110/2014, p. 738-746.

ence, engineering health care and business who generate new ideas, technologies and resolves different human problems. R. Florida emphasize that this class now constitutes more than 33 percent of workforce in USA compared to just 10 percent in 1900³. However, according to Chapain et al.⁴ the understanding of creative industries is limited compared to the Florida's definition of creative class. The authors argue that for identification creative industries we should use the approach of Department for Culture, Media and Sport (DCMS) in 1998. This definition includes nine creative sectors – ‘Advertising’, ‘Architecture’, ‘Arts and Antiques’, ‘Designer Fashion’, ‘Video, Film and Photography’, ‘Music and the Performing Arts’, ‘Publishing’, ‘Software, Computer Games and Electronic Publishing’, and ‘Radio and TV’⁵. Ketels and Protsiv propose to distinguish creative industries by Statistical Classification of Economic Activities in the European Community (NACE) and they also point 41 classes representing creative industries⁶.

Creative class also includes valuable customers: value and based life style consumer market segmentation identifies the group called “Creatives”. According to Global Lifestyle Segments by Roper Starch Worldwide, 10 percent of the people in the world we can be can be classified into “Creatives” group characterized as follows:

*“Creatives are interested in knowledge, education and technology. They are the heaviest users of media, particularly books, magazines and newspapers. They also lead the way in technology including owning a computer and surfing the net. Gender balanced. Creatives are more common in Latin America and Western Europe.”*⁷

Creative class and creative industries are crucial for the innovation processes in the regions, inspiring and creating new ideas and products and thus affect the regional innovation systems. Therefore it is important to increase the knowledge about how CCI collaborate in clusters and networks, influencing regional innovation ecosystems as well as other industries existing in the region. In the article this phenomenon have been presented using cases form different European countries. Main purposes of the research was to define the level of linkage between regional creative sector organized in cluster organization and other sectors operating regionally. So the main research question consider the problem if the local creative industries can work independently or in cooperation with other industries in the region. Observations carried out so far in creative industries and literature analysis tend to formulate the following proposition:

³ Florida R.: *The Rise of Creative Class*. Basic Books, New York 2002, p. 9.

⁴ Chapain C., Cooke Ph., De Propris L., MacNeil S., Mateos-Garcia J.: *Creative clusters and innovation. Putting creativity on the map*. NESTA London 2010.

⁵ *Ibidem*, p. 10.

⁶ Ketels Ch., Protsiv S.: *Methodology and Findings Report for a Cluster Mapping of Related Sectors*. European Cluster Observatory, European Commission, Stockholm School of Economics 2014.

⁷ Hawkins D.I., Mothersbaugh D.L., Best R.J.: *Consumer Behavior: Building Marketing Strategy*, 10th Edition, McGraw-Hill 2007, p. 455.

P1: Local cultural and creative businesses operating in networks, cooperate with other industries in the region.

Empirical examples of clusters in creative sectors were drawn from research results conducted as part of research project called *Models of knowledge management in networks and creative industries clusters in Poland and EU countries*. The main aim of the research was to discover what the essence of cooperation between creative clusters and the remaining sectors is as well as to point out sectors with which clusters can cooperate and with which they really cooperate. The foundation for forming the research was the nature of a cluster itself: its members represent all four environments: Business, education, administration, social society⁸. Moreover, as suggested by L. De Propriis i L. Hypponen:

„creative cluster is a place that brings together:

1. A community of ‘creative people’ who share an interest in novelty but not necessarily in the same subject.
2. A catalysing place where people, relationships, ideas and talents can spark each other.
3. An environment that offers diversity, stimuli and freedom of expression.
4. A thick, open and ever-changing network of inter-personal exchanges that nurture individuals’ uniqueness and identity.”⁹

Such an understanding of creative clusters was adapted by Chapain et al. while stressing the fact that entities agglomeration is not sufficient if those entities are not part of the social ecosystem and institutional ecosystems with concurrent and general partners¹⁰. In order to comprehensively explain the functioning of social and economic environments, such as clusters and creative networks, management sciences use the network approach (network paradigm) presented by J. Stachowicz. This approach explains the essence of management in knowledge transfer and material resources networks, regulated by ethical rules¹¹.

⁸ Knop L., Stachowicz J., Krannich M., Olko S.: Modele zarządzania klastrami. Wybrane przykłady. Wydawnictwo Politechniki Śląskiej, Gliwice 2013, p. 22.

⁹ De Propriis L., Hypponen L.: Creative Clusters and Governance: The Dominance of the Hollywood Film Cluster, [in:] Cooke Ph., Lazzarotti L. (eds): Creative Cities, Cultural Clusters and Local Development. Cheltenham: Edward Elgar 2008. p. 340-371.

¹⁰ Chapain C., Cooke Ph., De Propriis L., MacNeil S., Mateos-Garcia J.: Creative clusters and innovation. Putting creativity on the map. NESTA London 2010, p. 11.

¹¹ Stachowicz J.: Podejście sieciowe (paradygmat sieciowy) w naukach zarządzania; założenia oraz konsekwencje dla praktyki zarządzania, [w:] Stachowicz J., Nowicka-Skowron M., Voronina L.A. (red.), Rozwój organizacji i regionu wyzwaniem dla ekonomii i nauk o zarządzaniu. TNOiK Dom Organizatora, Lublin – Toruń 2014.

2. Regional innovation ecosystem

Regional innovation ecosystem is a special kind of innovation system which has some characteristics of reference state. In current literature regional innovation system (RIS) is perceived as a set of cooperating institutions, supporting regional business entities in innovation management. Ph. Cooke understands RIS in the wider context of global innovation systems, defining RIS as “interacting knowledge generation and exploitation subsystems linked to global, national and other regional systems.”¹² RIS is collaborating with regional industrial clusters or even some authors argue that clusters are an essential element of it¹³ CCI are specially embedded in the networks: both local, social networks and wider, institutional networks existing beyond the cities — such example was described by D. Harvey et al.¹⁴. These authors - presenting the case of small creative cluster in Krowji, Cornwall - argue that support networks have been understood to be a central part of the creative industries. In case of regions, main objective of RIS is enhancement of knowledge transfer between regional business and science entities and also allow global knowledge transfer. This transfer is realized in regional and global networks exchanging different kind of knowledge. Regional knowledge transfer tends to be asymmetric and spatial monopolized¹⁵.

The specificity of ecosystem comes from the expected relative stability between the actors of innovation systems. Like in natural ecosystems, in RIS we can distinguish: producers, consumers and reducers (decomposers) of innovation. These actors aware of their intentions relating to new products, correspond to the biotic components of an ecosystem. Regional infrastructure and conditions for the implementation of innovations, which corresponds to the abiotic components, complements the ecosystem.

The basic measure of innovation ecosystem usability is ability to innovation generation: product, process, marketing or organizational innovation, described in Oslo Manual¹⁶ but also design driven innovation postulated by R. Verganti¹⁷ or soft innovation defined by Stoneman as: “*innovation in goods and services that primarily impacts upon aesthetic or intellectual*

¹² Ph. Cooke Ph.: Evolution of regional innovation systems — emergence, theory, challenge for action, [in:] Cooke Ph., et al. (eds.): Regional Innovation Systems. Second ed. Routledge, London 2004, p. 3.

¹³ Cooke Ph., et al., op.cit. 2004 and Porter M.: Locations, clusters and company strategy, [in:] Clark G.L., Feldman M.P., Gertler M.S. (eds.): The Oxford Handbook of Economic Geography. Oxford University Press, Oxford 2000, p. 253–274.

¹⁴ Harvey D., Hawkins H., Thomas N.: Thinking creative clusters beyond the city: People, places and networks. “Geoforum” 43/2012, p. 529-539.

¹⁵ Cooke Ph.: Asymmetric Knowledge, Digital Knowledge Flows Platforms and Regional innovation Systems, [in:] Carayannis E., Assimakopoulos D., Kondo M. (eds.): Innovation Networks and Knowledge Clusters. Findings and Insights from the US, EU and Japan. Palgrave Macmillan 2008, p. 97.

¹⁶ Oslo Manual. Guidelines for collecting and interpreting innovation data. Third edition, OECD and Eurostat 2005, p. 47.

¹⁷ Verganti R.: Design driven innovation. Changing the Rules of Competition by Radically Innovating What Things Mean. Harvard Business Press, Boston Massachusetts 2009, p. viii.

appeal rather than functional performance."¹⁸ These kinds of innovation are especially important for creative industries, where artistic and esthetical values decides about value of the product for the customer.

M. Iansiti argues that ecosystem is a viable concept not only for the network or clusters of medium and small businesses but also for the large companies¹⁹. The interconnected world forces big actors to create their own "business ecosystems" - a networks of medium and small companies cooperating in producing the value. This author develop the ecological metaphor in institutional networks implementing in his recent book the term of Keystone Advantage. The term refers to "keystone species", which proactively maintain the healthy functioning of their entire ecosystem for one, fundamental reason: their own survival depends on it. In the same way, say the authors, companies can protect and ensure their own success by deliberately fostering the combined health of the network they operate in.²⁰ The network "healthy" is corresponding to the network balance – relative stability of the system. Relative stability means that the balance is rather fragile, depends on the behaviours of the network members and is not operated manually. This important feature of the ecosystem really impact the management of the ecosystem, that cannot be executed authoritatively.

In almost all approaches to understand and analyse innovation ecosystems or business ecosystems we can find the importance of interconnected elements (actors) creating a network. Network approach in management is based on the assumption that relation between actors are not hierarchical. Each of the network actors have some bargaining power, based on resources (material resources, knowledge, access to market), but everyone is independent. For these reasons we can use the concept of social network to characterize the behaviour of innovation ecosystems. On the based on observation of active creative environments we can describe the relation between civil society and clusters as bilateral: from one hand, mature civil society creates new networks and clusters, on the other hand existing clusters support local environment of civil society.²¹

The most expected externalities (spillovers) of CCI concern their impact on other sectors and society at large. Belussi characterized creative industries by variation in skills and talents, openness to innovation and the exchange of ideas supporting change and innovation.²² The most important element that makes the process of value creation effective is collaboration and the shift in focus from individual to collective creativity. Collective creativity occurs when ideas are shared by two or more people. The essence of functioning creative industries lays in

¹⁸ Stoneman P.: *Soft Innovation: economics product aesthetics and the creative industries*. Oxford: Oxford University Press 2010, p. 22.

¹⁹ Iansiti M.: *Managing the Ecosystem*. Optimize 4, no. 2, 2005.

²⁰ Iansiti M., Levien R.: *The Keystone Advantage: What the New Dynamics of Business Ecosystems Mean for Strategy, Innovation, and Sustainability*. Harvard Business School Press, Boston 2004.

²¹ Stachowicz J., Olko S.: *Network organizations and clusters. The instrumentation of building civil society*, [in:] Borowiecki R., Siuta-Tokarska B. (eds.): *Restructuring as the imperative of developmental changes in economy*. Foundation of the Cracow University of Economics, Cracow 2015.

²² Belussi F.: *Deconstructing Creativity. Entrepreneurs, Individual Talents and Social Network*, [in:] Bellussi F., Staber U. (eds.): *Managing Networks of Creativity*. Routledge, New York 2012.

their complementarity in value creation: the role of artists, designers and creators is no more important than the role of “enablers”: agents, sellers, promoters, media managers, culture leaders and other players who are very helpful in the exchange of creative goods.

Theoretical considerations indicate that creative industries are interconnected with other sectors: manufacturing (design), construction (architecture) and tourism. Ketels and Protsiv on the base of analysis show direct connections between CCI and business service, marketing and music sectors²³. Research of Rozentale et al. carried out in Riga indicate that collaboration levels within the creative industries were reported quite higher than average. However, in these research only 1% of the sample reported that they collaborate with other than creative industries subsectors²⁴. CCI not only influence on businesses in other sectors but also individual competencies and skills.²⁵

Tan et al. show, on the example of Hong Kong, that there is not only connection between tourism and CCI but the tourism sector can also be creative, selling creative tourist services. It is obvious that large part of the cultural product are sold to the tourist (concerts, performances and other cultural events)²⁶. P. Iapadre reminds about empirical rule existing in selling cultural products: most of the cultural industries were built on the potential of home markets. After emergence on home market they were able to offer cultural products abroad.²⁷

Belussi presenting in this case the results of De Masi research, showing how the most creative environments work²⁸. First, during the creative phase, people need to feel free in exchanging their new ideas within a new community. Second, the collaborative tools such as a focus group or brainstorming session enforce creative output. Third, in order to be managed, creative groups need the right combination of freedom (emotion and passion) and constriction (rules). A central figure must be played by a group leader, if we do not want to disperse the creative energy. This is very crucial for understanding the phenomenon of the creative ecosystem, that it is not self-regulated by a large number of actors (network members) but is regulated by leaders to some extent coordinating the activities.

One of the most important academic analyses of creative industries was presented in the work of Caves (2000), who characterized them by seven economic properties:

1. Nobody knows principle - uncertainty of demand exists because the consumers' reaction to a product is neither known beforehand, nor easily understood afterwards.

²³ Ketels Ch., Protsiv S.: Methodology and Findings Report for a Cluster Mapping of Related Sectors. European Cluster Observatory, European Commission, Stockholm School of Economics 2014.

²⁴ Rozentale I., Lavanga M.: The “universal” characteristics of creative industries revisited: The case of Riga. City, Culture and Society Vol. 5, 2014, p. 55-64.

²⁵ Kamprath M., Mietzner D.: The impact of sectoral changes on individual competences: A reflective scenario-based approach in the creative industries. “Technological Forecasting & Social Change”, Vol. 95, 2015, p. 252-275.

²⁶ Tan S., Kung S., Luh D.: A Model of ‘Creative Experience’ in Creative Tourism. “Annals of Tourism Research”, Vol. 41, 2012, p. 153-174.

²⁷ Iapadre P.: Cultural Products in the International Trading System, [in:] Handbook of the Economics of Art and Culture, Volume 2, Elsevier 2014, p. 381-409.

²⁸ Belussi F.: Deconstructing Creativity. Entrepreneurs, Individual Talents and Social Network, [in:] Bellussi F., Staber U. (eds.): Managing Networks of Creativity. Routledge, New York 2012.

2. Art for art's sake - workers care about the originality, technical professional skill, harmony, etc. of creative goods and are willing to settle for lower wages than those offered by 'humdrum' jobs.
3. Motley crew principle - for relatively complex creative products (e.g., films), the production requires diversely skilled inputs. Each skilled input must be present and performed at some minimum level to produce a valuable outcome.
4. Infinite variety - products are differentiated by quality and uniqueness; each product is a distinct combination of inputs leading to an infinite variety of options (e.g., works of creative writing, whether poetry, novel, screenplays or otherwise).
5. A list/B list - skills are vertically differentiated. Artists are ranked on their skills, originality, and proficiency in creative processes and/or products. Small differences in skills and talent may yield huge differences in (financial) success.
6. Time flies - when coordinating complex projects with diversely skilled inputs, time is of the essence.
7. Ars longa - some creative products have durability aspects that invoke copyright protection, allowing a creator or performer to collect royalties²⁹.

Caves focuses mainly on the qualitative characteristics of creative industries like values, attitudes or human behaviour, then economic characteristics. This is important because of the growing role of creativity in the sectors not so far being perceived as creative: retailing, tourism services, Horeca (Hotel/Restaurant/Café), furniture, apparel and many others. We can observe the growing value of originality and creativity while decreasing the value of material aspects. For this reason we can expect more importance of the creative industries in the future and their impact on other areas of human creativity.

The place is crucial for networking in creative industries, stimulating individual and collective creativity. The research of Drake shows the role of the places for the creative workers in clusters located in UK³⁰. The findings shows that individual creative workers are attracted to these successful places because they are perceived as a concentration of a particular form of inspiration, stimulation or 'creative buzz' comprising diverse and complex prompts, ideas, trends and fashions.

Creative industries are important elements of the regional innovation system. For many reasons, authors and practitioners call this system an "ecosystem" and implement an ecological perspective like in Iansiti approach³¹. The regional ecosystem mainly consists of formal and informal networks of entities and regional clusters. The innovation policy in developed countries lies in establishing the conditions for the ecosystem balance and its development. It

²⁹ Caves R.: *Creative Industries: Contracts between Art and Commerce*. Harvard University Press 2000.

³⁰ Drake G.: This place gives me space: place and creativity in the creative industries. "Geoforum", Vol. 34, 2003, p. 511-524.

³¹ Iansiti M.: *op.cit.*, 2005.

is realized by the cluster policy which is strictly interconnected with cluster strategies and their life-cycles.

Most authors consider clusters as the essential elements of the innovation system. Clusters bindings the entities of innovation ecosystems provide added value by facilitating knowledge transfer processes. In the research presented in the paper the following definition of creative cluster was adopted:

*“Creative cluster is a group of cooperating organizations and individuals originating from local and regional societies, representing business, science, the arts, culture, education, health, entertainment and leisure activities. The cluster dynamics come from the creation of a regional identity, the innovative utilization of resources and a talent search with the protection and development of local and regional values. The creative clusters are a reservoir of creative resources and skills for other clusters and innovative environments.”*³²

This definition is consistent with the understanding of a cluster in the creative sector proposed by Chapain et al.³³, and it results from the wide definition of a cluster adopted by Gordon and McCann³⁴ (2005), Immarino and McCann³⁵ (2006) or the most often quoted M. Porter³⁶, stressing mostly collaboration between the entities forming the cluster.

3. Cases of regional networks and clusters in creative industries

3.1. Methodology

The cases have been selected from the list of identified networks and clusters in European Union. From the list of 26 creative networks and clusters, 5 cases were selected. This small sample includes cases from different European countries and representing different specializations. The cases also have different levels of network formalization. This meets the methodological requirements for pilot case studies.³⁷ Information have been mainly collected during field research - direct visits in the places when creative networks are located. During the visits a several semi-structured interviews with main network actors have been conducted, using the following research questions:

³² Knop L., Stachowicz J., Krannich M., Olko S.: Modele..., op.cit., p. 24.

³³ Chapain C., Cooke Ph., De Propriis L., MacNeil S., Mateos-Garcia J.: Creative clusters and innovation. Putting creativity on the map. NESTA London 2010.

³⁴ Gordon I., McCann Ph.: Innovation, Agglomeration and Regional Development. Journal of Economic Geography, Vol. 5, 2005, p. 523-543.

³⁵ Immarino S., McCann Ph.: The Structure and Evolution of Industrial Clusters: Transactions, Technology and Knowledge Spillovers. “Research Policy”, Vol. 35, 2006, p. 1018-1036.

³⁶ Porter M.: Locations, clusters and company strategy, [in:] Clark G.L., Feldman M.P., Gertler M.S. (eds.): The Oxford Handbook of Economic Geography. Oxford University Press. Oxford 2000, p. 253-274.

³⁷ Yin R.: Case Study Research: Design and Methods. Sage Publication, Inc. 2009, p. 93-93.

1. What was the genesis of the network/cluster?
2. What are the main activities of the cluster/network?
3. What is the specialisation of the cluster?
4. What sectors cooperate with the cluster/network?
5. What are the impacts on other regional sectors?

The data were supported with specific characteristics of the network/cluster and its environment in order to obtain as much whole picture of the network phenomenon as it was possible during the short visit and survey. Based on empirical studies, the answer for the main research question was formulated: can presented clusters/network operate independently, contributing to regional product or they should cooperate with other regional sectors.

All of the cases are synthetically presented in Table 1. In case of creative networks like Betahaus or Media&Design Upper Austria there is no information about number of participants because they are not formally recorded. Below, each case was briefly outlined.

3.2. Distretto Produttivo Puglia Creativa

Puglia Creativa, a creative cluster formed in 2012 as an association in the Puglia region, Southern Italy, whose capital is the city of Bari. Currently, the cluster has 149 diversified members representing:

- 38 entities, whose activity is connected with performing arts (theatres, foundations, organizations of performers),
- 25 entities representing cultural institutions (film, publishers, media and multimedia),
- 27 entities representing the creative sector (design companies, advertising companies and consultancy companies),
- 22 institutions responsible for protection and making the cultural heritage of the region available,
- 27 companies defined as creative driven (entities of social economy, consultancy, training and mediation agencies),
- 6 entities from the science sector,
- 2 employers' organisations,
- 2 trade unions.

The mission of a cluster entails the following actions:

- Creating a vibrant environment of diversified entities from the creative sector and culture in order to meet market demands related to: innovation, globalization, international mobility, sharing economy and cross-innovation,
- Systematizing relations with policymakers on a regional, national and European level,
- Promoting creative sector and culture in order to include them in the strategic policy of regional development, unlocking its huge potential.

Cluster provides its members with the following services:

- Builds a society of creative companies promoting ethical actions able to generate positive impact on local economy,
- Promotes economic growth of the region through: supporting information and knowledge accessibility, supporting the use of financial instruments, stimulating constructive dialogue with organizations and institutions,
- Professionalization of related companies, promoting consultancy, training and knowledge transfer among its members³⁸

A unique phenomenon is an ethical code developed in the framework of a cluster, approved in February 2015. All clusters members committed to obey its rules³⁹. In April 2016 a new development plan was devised, which determined detailed activity of the cluster up to the year 2019. The basic development directions of the mission and development objectives were not changed.

The cluster organizes two programs of educational visits entitled „We are creative in Puglia”: 4-day educational visits take place in Salento and Valle d’Itria for journalists and multipliers. In 2017 the cluster co-organized the exhibition ‘Puglia Crossing Identities’ presented in Salone del Mobile on Fairs in Milan.⁴⁰

3.3. Kreatív Ipari Klaszter

Cultural Creative Industry Cluster (Hungarian: Kreatív Ipari Klaszter). On 26 April 2006 the CICC Association was established, in order to create the network of cooperation between small and medium businesses in the fields of culture creative industry, and to promote the establishment of an innovative economic milieu by means of the network-oriented development of each sector, enhancing the cohesion of South Transdanubian Region (South-West Hungary), and thus to contribute to the renewal of the current socio-economic structure. The region is less industrialized than north Hungary but has an identified potential in: tourism, cultural heritage, health services and food industry. Pécs, as the center of the cluster, is the city of lively public spaces, a medium-sized city which can present a model of city life very different from that of a metropolis or a small city. Pécs is also the city of cultural heritage and cultural innovation which is rooted in multicultural layers of Latin, Turkish, German, Croatian and Hungarian origin. Cluster generation was one of the answer for the challenge how to develop the creative industries of the city and be attractive and magnetic for the creative generations.

³⁸Distretto Produttivo Puglia Creativa, <http://pugliacreativa.it/chi-siamo/mission/>, dostęp: 02.2017.

³⁹Il Codice Etico del DPPC - Distretto Produttivo Puglia Creativa, <http://pugliacreativa.it/chi-siamo/profilo/codice-etico-dppc.pdf>, dostęp 02.2017.

⁴⁰Distretto Produttivo Puglia Creativa, <https://www.clustercollaboration.eu/cluster-organisations/distretto-produttivo-puglia-creativa>, dostęp 02.2017.

The cluster have been established on 31 January 2007 as the institute called the Cultural Creative Industry Cluster of South West Hungary, gathering local cultural and social activist in the city of Pécs and region. The CCIC acts as an umbrella organization for the creative industry of the region. The CCIC cluster was also involved in winning the European Capital of Culture (ECoC) title by the city in 2010. Since the beginning, cluster realized or participate in 15 multilateral projects, including international. Collective efforts of the local community representing the people from different institutions (administration, culture, education and education), enforced by the success European Capital of Culture 2010 helps to introduce a plenty of services for the tourists and local citizens in the area of culture. In this period public supported projects helps to develop activities of the cluster. Cluster is cooperating with Pécs-Baranyai Chamber of Commerce (most of the cluster members are also members of the chamber) and with KOHO co-working place, specialized in creative industry localized in the city.

There were five key projects connected with the ECoC 2010 in the city of Pécs:

- Music and Conference Centre: the establishment of a modern concert hall for cultural events budget of 20 mln EUR,
- Zsolnay Cultural Quarter: the restoration of the site of the former Zsolnay porcelain factory (a brown-field zone),
- Grand Exhibition Centre: the establishment of an exhibition area as an extension of the rich and varied range of museums and galleries, able to accommodate major exhibitions,
- Regional Library and Information Centre,
- the Revitalisation of Public Areas.

The main externalities of the cluster is connected with development of the creative industry and cultural tourism. The externalities also ensure that the system of cultural institutions in Pécs is made compatible with that of the European Union so that they can fulfil international functions.

3.4. Plain Images

Plain Images is film&media cluster located in the region Nord-Pas-de-Calais, France. Plain Image is not a cluster organization, has not formal agreement, but rather local agglomeration of creative entitles. Formally the Plain Images is name of the co-working place, but the local agglomeration covers a city quarter in Roubaix of former textile industry buildings. With the number of over 100 participants it is the greatest cluster in the region however most of the majority of members are small enterprises. The most important actor of the network is Ankama entertainment company, specialized in animation, comic book publishing, interactive communication and video game design. Most of the network members create around Ankama

creative business ecosystem of complementary entities with very narrow specializations. Kimple company specialised in digital marketing, 3D DUO specialized in video games are the other important players in the cluster using the high potential of the independent creators – co-working place tenants.

The coordinator supplies its clients with the following services:

- Business Development Center – services in the area of organizing conferences, participation in fairs, foreign missions, seeking partners and target markets,
- Searching for employees and consultancy in the area of human resources,
- Incubator for start-ups offering space and individual content support for its occupants,
- Common equipment and services: a co-working space, showroom – for presenting companies' offers in the network, a film studio with the surface area of 500m², edition of movie studio, software testing laboratory, test equipment in the area of multimedia technology.

Apart from the above mentioned services, regular meetings, conferences and thematic seminars on technological and market developments are organized 1-3 times a week.

3.5. Betahaus Berlin

Betahaus Berlin is one of the four co-working spaces owned by the company and operated in other European cities in the same business model. The German capital – second largest city in EU - is a leading location for the digital economy, media representatives and other creative industries. Betahaus is located in the Kreuzberg - one of Berlin's cultural centres in the middle of the now reunified city, known around the world for its alternative scene and counterculture. There is a huge number of agglomerated entities forming the creative sector in Kreuzberg, but in the close vicinity (200 m) is Moritzplatz which has the Modulor – creative business center and Prinzessinnengarten – gardens being formally administrated by civic association. The gardens are very important for the local life of the district because they are public open space – center for people's contact during warm seasons. The Modulor center is private business park gathering several creative entities and Modulor Planet store for artist, architects, designers. Modulor with its café and library is the center of public life during cold seasons and bad weather. In such surroundings operate betahouse giving the place for work for a plenty of self-employed individuals. Most of the freelancers work for the ICT business, but also realizing an art or cultural projects using modern media. For these reasons we can say that the cluster most impact ICT sectors developing social media and social application on mobile devices. Betahaus is not specialized in any sector offering the place for work, meeting or conference rooms and also supporting learning with a wide range of learning formats. The idea of Betahaus business model is very flexible and loose relations with tenants. The working place can be rent for day of month, there is no need of signing long-term agreement.

3.6. Media&Design network Upper Austria

Upper Austria is one of Europe's leading region concerning clusters and networks. Since 2006, Clusterland Upper Austria is operationally active with six clusters (Automotive, Environmental technology, Furniture&timber, Health technology, Mechatronics, Plastics) and three networks (Human Resources, Energy Efficiency and Design & Media). At present there are more than 2 000 companies cross-linked in Clusterland's clusters and networks. Media&Design network is focused on supporting non-technological innovation – one of the alternative source of company's competitiveness and competence. In 2010, more than 300 cluster cooperation projects have been initiated since the beginning of the cluster initiatives. Clusterland is financed from different sources: public funding (about 39%), annual partner fees (about 25%) and offered services and projects (about 36%). Media&Design network was active from 2007 to 2013 as a supportive project for all other clusters and networks as well as for partners outside the network. The network has a role of competence center and platform for undertaking and financing the projects in the area of design, social media, corporate design, corporate communication, corporate image, marketing and design driven innovation. The network provided guidance to companies in the deployment of the latest media technologies for the marketing of products and their companies. The pilot projects included company-specific needs analysis and brought together designers and companies. For many companies, especially SMEs, this was their first ever business contact with professional industrial designers. During the project the first "Design Conference" was also organized. Media&Design was the largest cross-sectoral network in Austria, focused on manufacturing firms and qualified service providers. During the pilot project Media&Design network had 2 600 network contacts and was extended to cover the Salzburg region. Despite the end of the pilot project in 2013, established informal network is active and some parts of the competencies for the regional firms are available in Softwarepark Hagenberg collaborating with Clusterland.

Activities of creative clusters presented above seem to be self-organized, based on social relations and adapted to the operating conditions of the ecosystems. However the role of administration is different in every case. In Plain Image, Distretto Produttivo Puglia Creativa, Cultural Creative Industry Cluster the cluster organizations' infrastructure have been financed by public. Regional administration has a certain influence on cluster organization decisions, but generally they are made by bodies endowed trust by local community. Betahaus and Modulor business center described in the paper, are the private enterprises but embedded in local innovation ecosystem. The regulation process (the foundation of ecosystem performance) in this case is based on the usability of offered services for the Betahaus/Modulor tenants. No long-term agreements, lack of assumed specializations or suggested directions of development, cause establishing the "strength of weak ties" described by M. Granovetter⁴¹.

⁴¹M. Granovetter: The Strength of Weak Ties, American Journal of Sociology, Vol. 78, No. 6.

Table 1

Characteristics of the cases – creative clusters in Europe

No	Cluster name/ Coordinator	Country	number of partners involved	specialization	impact on regional sectors
1	Distretto Produttivo Puglia Creativa	Italy	149	art&culture, multimedia	tourism, performing arts
2	Cultural Creative Industry Cluster (CCIC)	Hungary	34	culture, re- gional herit- age	tourism, art&culture,
3	Plain Image	France	104	media, 3D films	design, advertising
4	Betahaus Berlin	Germany	n/a	no specializa- tion	ICT (social media and social application devel- opment)
5	Media&Design network/Clusterland Upper Austria	Austria	n/a	production, product de- velopment	other clusters in Upper Austria: automotive, plastics, medicine,

Source: own research.

In all of the cases, the role of the place is very important and connected with the place of living. This confirms the Florida's claims, that creative class is mostly connected with the city and expect access to workplaces within walking distance. The only exception is Media&Design network in Upper Austria. The network was established as a regional project, but then the project was extended to whole Salzburg region.

In each case we can identify a methods of delivering knowledge about design (Distretto Produttivo Puglia Creativa, Media&Design network), creating cultural product (CCIC), visual and mobile technologies (Plain Image, Betahaus). The methods of knowledge management used in presented cases refer mainly to exchange of tacit knowledge.

In most of the cases analysed, there was no potential of creative industries, which would allow for the creation of independent creative products driving regional economic growth and employment. The only exception is the case of Plain Image creating the value for global market (large enterprise selling international like Ankama and born-global firms – start-ups from Plain Image ecosystem). This is the only cluster that survive without cooperation with local/regional businesses.

3.7. Limitations of the study

Because of the low number of selected cases for case studies and using basic qualitative information, presented findings represent only the “general picture” of the cross sectoral cooperation between creative clusters and other regional sectors. In the paper some potential areas of cooperation have been identified. To obtain more reliable data, larger number of clusters have to be selected and using the quantitative data defining the scope of cooperation be-

tween creative clusters and other sectors. Even in this situation it would be difficult to distinguish between businesses in creative clusters and the rest of business entities which are not the cluster members.

4. Conclusions

On the ground of presented knowledge about current development of network and clusters in creative industries and using the information from presented case studies, we can draw the following conclusions:

1. In each of the presented cases we can identify local sectors cooperating with networks /clusters of cultural and creative businesses. The level of cooperation varies but in general we can rely on the proposition 1.
2. Creative industries could play a horizontal role in regional economies. Using the right approach in supporting entrepreneurs in creative industries, they can impact every other regional sectors and smart specialisations of the regions. It is very visible in the presented case of innovation ecosystem in Upper Austria where Design & Media network supports other clusters in region.
3. Presented cases shows that public support for the creative industries is not combined with the public support for culture and support of entrepreneurship and networking of regional entities. This cohesion of public support could be realised by social networks exchanging knowledge about existing supporting resources, rather than formal restrictions specified in project documentation.
4. In each of the cases we can identify important role of civil society via informal networks and civic associations. Clusters and networks in CCI are based on unformal, social relations to a much greater extent than business networks.
5. Networks and clusters in creative industries support mainly design driven innovations or soft innovations, they can be also complementary to other types of innovation (product, process, marketing and organizational).
6. CCI cover a very wide range of activities. For the clusters and networks in CCI the key decision is the choice of specialization and a way of fostering other regional specialisations (regional smart specialisations). It determines the creative sectors "raison d'etre" and purpose of networking cooperation within these sectors.
7. Taking into account international perspective, we can say that presented cases are very similar despite differences in business environment. Selected cases were located in the Central Europe countries, EU members. Probably, more significant differences might arise selecting cases from southern Europe or other continents. These area can be the subject of future research of cooperation in clusters and networks existing in CCI.

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Bibliography

1. Belussi F.: Deconstructing Creativity. Entrepreneurs, Individual Talents and Social Network.” [in:] Bellussi F., Staber U. (eds.), *Managing Networks of Creativity*. Routledge, New York 2012.
2. Caves R.: *Creative Industries: Contracts between Art and Commerce.*, Harvard University Press 2000.
3. Chapain C., Cooke Ph., De Propriis L., MacNeil S., Mateos-Garcia J.: *Creative clusters and innovation. Putting creativity on the map*. NESTA London 2010.
4. Cooke Ph.: Evolution of regional innovation systems – emergence, theory, challenge for action. [in:] Cooke Ph. et al. (eds.), *Regional Innovation Systems*, second ed. Routledge, London, p. 1–18. 2004.
5. Cooke Ph.: “Asymmetric Knowledge, Digital Knowledge Flows Platforms and Regional innovation Systems” [in:] E. Carayannis, D. Assimakopoulos, M. Kondo (eds.): *Innovation Networks and Knowledge Clusters. Findings and Insights from the US, EU and Japan.*, Palgrave Macmillan 2008.
6. De Propriis L., Hypponen L.: *Creative Clusters and Governance: The Dominance of the Hollywood Film Cluster*. [in:] Ph. Cooke, L. Lazzeretti (eds) ‘Creative Cities, Cultural Clusters and Local Development.’ Cheltenham: Edward Elgar 2008. pp. 340-371.
7. Drake G: This place gives me space: place and creativity in the creative industries., *Geoforum* 2003, Vol. 34, pp. 511-524.
8. Etzkowitz H., Leydesdorff L.: The dynamics of innovation: from National Systems and “Mode 2” to a Triple Helix of university–industry–government relations. *Research Policy*, vol. 29, No. 2, 2000, pp. 109-123.
9. Florida R.: *The Rise of Creative Class*, Basic Books, New York 2002.
10. Gordon I., McCann Ph.: Innovation, Agglomeration and Regional Development., *Journal of Economic Geography*, 2005, Vol. 5, pp. 523-543
11. Harvey D., Hawkins H., Thomas N.: Thinking creative clusters beyond the city: People, places and networks. *Geoforum* 43/2012, pp. 529-539.

12. Hawkins D.I., Mothersbaugh D.L., Best R.J.: *Consumer Behavior: Building Marketing Strategy*, 10th Edition, McGraw-Hill 2007.
13. Iammarino S., McCann Ph.: *The Structure and Evolution of Industrial Clusters: Transactions, Technology and Knowledge Spillovers*. *Research Policy* 2006, vol. 35, pp. 1018-1036.
14. Iansiti M.: *Managing the Ecosystem*. *Optimize* 4, no. 2, 2005.
15. Iansiti M., Levien R.: *The Keystone Advantage: What the New Dynamics of Business Eco-systems Mean for Strategy, Innovation, and Sustainability*. Harvard Business School Press, Boston 2004.
16. Iapadre P.: *Cultural Products in the International Trading System* [in:] *Handbook of the Economics of Art and Culture*, Volume 2, Elsevier 2014, pp. 381-409.
17. Kamprath M., Mietzner D.: *The impact of sectoral changes on individual competences: A reflective scenario-based approach in the creative industries.*, *Technological Forecasting & Social Change*, Vol. 95,/2015, 252–275.
18. Ketels Ch., Protsiv S.: *Methodology and Findings Report for a Cluster Mapping of Related Sectors*. European Cluster Observatory 2014.
19. Knop L., Stachowicz J., Krannich M., Olko S.: *Modele zarządzania klastrami. Wybrane przykłady*. Wydawnictwo Politechniki Śląskiej, Gliwice 2013.
20. Moore I.: *Cultural and Creative Industries concept – a historical perspective*. *Procedia - Social and Behavioral Sciences*, 110/2014, p. 738-746.
21. *Oslo Manual. Guidelines for collecting and interpreting innovation data*. Third edition, OECD and Eurostat 2005.
22. Porter M.: *Locations, clusters and company strategy*. [in:] G.L. Clark, M.P. Feldman, M.S. Gertler (Eds.), *The Oxford Handbook of Economic Geography.*, Oxford University Press, Oxford 2000, 253-274.
23. Rozentale I., Lavanga M.: *The “universal” characteristics of creative industries revisited: The case of Riga*. *City, Culture and Society* Vol. 5, 2014, pp. 55-64.
24. Stachowicz J.: *Podejście sieciowe (paradygmat sieciowy) w naukach zarządzania; założenia oraz konsekwencje dla praktyki zarządzania*. [w:] Stachowicz J., Nowicka-Skowron M., Voronina L.A. (red.), *Rozwój organizacji i regionu wyzwaniem dla ekonomii i nauk o zarządzaniu*. TNOiK Dom Organizatora, Lublin – Toruń 2014.
25. Stachowicz J., Olko S.: *Network organizations and clusters. The instrumentation of building civil society*. [in:] R. Borowiecki, B. Siuta-Tokarska (eds.): *Restructuring as the imperative of developmental changes in economy*. Foundation of the Cracow University of Economics, Cracow 2015.
26. Stoneman P.: *Soft Innovation: economics product aesthetics and the creative industries*. Oxford: Oxford University Press 2010.

27. Tan S., Kung S., Luh D.: A Model of 'Creative Experience' in Creative Tourism., *Annals of Tourism Research*, Vol. 41/2012, pp. 153-174.
28. Verganti R.: *Design driven innovation. Changing the Rules of Competition by Radically Innovating What Things Mean*. Harvard Business Press, Boston Massachusetts 2009.
29. Yin R.: *Case Study Research: Design and Methods*, Sage Publication, Inc. 2009, pp. 93-93.