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MEASURING SOCIAL AND ECONOMIC IMPACT OF LARGE SCALE CULTURAL EVENTS: A SOCIAL NETWORK ANALYSIS

Introduction

Organisation of large scale or mega cultural events requires not only skillful managerial techniques, but also integrated evaluation approach taking into account such aspects as cultural, economic, social, political, environmental context. Substantial public support to large-scale cultural event amplifies the demand to assess its impact on different sectors. It results in the need to develop arguments for a broader community [Labadi 2009, Reeves 2002] and justify legitimacy of spending public money on cultural activities and infrastructure [Pratt 1997]. Also effectiveness and efficiency on a short-term and long-term are being evaluated. Often final assessments concerning the impact of a large-scale cultural event may turn out to be divergent and even contradicting. Mega cultural events can be characterized by complex objectives, diverse funding sources (EU, public, private), multilayer structure of planned results and effects. All that obviously encumbers evaluation of the mega events. Researchers studying effects of large-scale cultural events have continuously discussed the most appropriate methodological approaches of impact evaluation.

The initiative of the European Capital of Culture (ECoC) is one of the major large-scale European cultural cooperation projects taking into consideration its budget and diversity of programme that is exceeding the scope of any other cultural event. Even though this EU initiative started 30 years ago (decision of the Council of Ministers June 13, 1985) and one can find considerable efforts to develop a model for evaluation of the ECoC [Palmer–Rae Associates 2004; Education and Culture DG Culture Programme 2010] every time when a new city has been nominated to be European Capital of Culture, it is a challenge for researchers to find an appropriate evaluation approach that would respond to the particular programme objectives, political and economic context of the country and national research traditions. Since 2007, the European Commission has been commissioning an independent external evaluation of the ECoC. Before that

ECoC programmes ensured internal evaluation procedures and the scale of evaluation depended on their abilities and considerations.

Research objectives

In 2014, Riga was chosen to be one of the European Capitals of Culture. Latvia had recently overcome economic recession, in this context substantial public investment in culture required additional focus on evaluating economic impact of Riga 2014 programme. Moreover, organisers and policy makers required evidence of direct and indirect economic effects, such as increasing number of tourists, economic development etc. Meanwhile, previous studies on the impact of large-scale events have revealed that apart from economic effects, also environmental, social, political influence might be of significant importance. This has brought us the following **research objective**: when evaluating Riga 2014 programme, to identify and adapt the integrated impact evaluation methodology that would allow to measure diverse effects, including economic, social and cultural ones.

Usually methodologies evaluating either economic or social impact differ, none of them perceives culture as a holistic sector integrating both social and economic aspects. In the recent years, social network analysis (SNA) has been applied to evaluate impact of culture on other sectors, such as economy and social sphere. SNA has been used only about 10 years and it is considered to be one of the latest evaluation methodologies or strategies. Even though the applicability of the SNA has not yet been fully explored, it has a significant potential in evaluating impact [Mote, Jordan, Hage 2007]. Examples of SNA one can find in the field of education and health, biology and even military sector. In the field of culture SNA has been applied only during the last years and often indirectly [Saccone 2014]. Even though SNA has some shortages, it provides many possibilities in cultural research. The most important benefits are clear understanding of the impact structure and possibility to evaluate sustainability of the impact.

Our research is based on the assumption that SNA has a great potential in evaluation of cultural impact, as culture incorporates the very idea of a network through which new ideas and creativity are channeled. Therefore the structure of a network may very well display complex social impact or economic impact and their evolution. Previous findings show that interaction and cooperation between culture and other sectors ensures sustainability of effects, therefore it is important to analyse networks created by cultural activities and organisations.

The following **tasks** have been set for the research: 1) to examine applicability of social network analysis in impact evaluation of cultural events; 2) to scrutinize financial reports of the projects included in Riga 2014 programme applying SNA; 3) to identify economic and social impact of Riga 2014 programme applying social network analysis.

Theoretical Framework: Social Network Analysis as a Research Strategy

As mentioned before, the choice of using social network analysis as a research strategy for the Riga 2014 programme's impact assessment was largely driven by the complex structure of the cultural programme. The complexity of the programme manifested itself in the diversity of the financial resources necessary to implement the programme, as well as in the big amount of sub-projects, the heterogeneity of the content, and in terms of the actors involved in the projects, the diversity of cultural industries, economic sectors and geographic regions they represent. Before we discover the possibilities of applying social network analysis in the cultural events' impact assessment, we will offer a concise description of this approach.

Social network analysis in research is currently expanding very fast and there are several reasons for it. This is determined by both the application of the network concept to the theoretical analysis of society in general, and also the use of network analysis as empiric research strategy. American sociologist Mustafa Emirbayer and other authors believe that network analysis is one of the most promising research methods of modern sociology [Emirbayer and Goodwin 1994: 1412], however despite its great potential, it still hasn't been subjected to theoretical evaluations and criticism. Academic literature outlines basic concepts, technical procedures and collects empirical results, but lacks a plan of this method in a framework of a sociological theory. Emirbayer indicates that the lack of a conceptual theory is determined by the method itself – the specifics of network analysis, because it doesn't have the signs of a formal theory, it doesn't establish particular laws, but instead acts as a broad strategy to explore the social structure. It can rather be called a paradigm or a perspective than a social theory [Emirbayer and Goodwin 1994: 1414, 1417]. As social networking analysis researchers are currently working at both methodology and concept development, the interest in this approach is growing rapidly. The different views of researchers do not allow to identify the reasons beyond the sudden recognition of network analysis, but most often the increased interest in this can be explained with the latest mathematical and technical innovations. Kimberley Fredericks and Joanne Carman also believe that the use of network analysis method in research and evaluation during the last 15 years has been increased because of software development [Fredericks and Carman 2013: 5]. Hungarian-American physicist Albert-László Barabási, on the other hand, explains this development with the beginnings of the internet and the consequent possibility to create new tools and network maps, as well as to process large amounts of the data [Barabási 2012: 8].

One of the most important components in social network analysis is the creation of visualization, which is usually made by a computer programme, and,

according to Newman, this kind of visualization is able to display the most important features of the structure of the network, which would be difficult to understand from ranked data, because the eye of a human is well suited to understand structure. There are various tools that have been created for the understanding of the features of structure. They help measuring the data of the network and are particularly useful in large structures, even if the visualization is not comprehensible. Such instruments are usually based on mathematical operations that have great significance in the network science – even if one explores social networks [Newman 2010].

Social network consists of sets of units called *nodes* (also known as *vertices* or *actors*) and *ties* (also known as *edges, links* or *relationships*) by which they are linked together [Newman 2010]. Social sciences usually use term *actor* as an individual, corporate or collective social unit and *ties* referring to social or relational ties defined on them [Christopoulos: 3]. Ties are paramount, forming network structure. In social network analysis, it is important to understand the following factors before data acquisition – what kind of data and their characteristic features will be needed, what will be the sources from which data will be gathered, what amount of data is needed to include in the network and how wide could the network be [Hanneman and Riddle 2005: 4]. Methods for identifying social interactions are very different. Newman believes that surveys are the most common method used to create the network structure, as well as the use of archive recordings is an important method [Newman 2010]. However, data can be obtained by other methods, such as content analysis, as it is in the case of Riga 2014 programme analysis where the sources were project reports. A major role in the network analysis approach is data visualization, implemented by using special software. Social network analysis software allows one to identify, represent, analyze, visualize and stimulate actors from different types of input data, as well as analyze them from a variety of mathematical models of social network.

Examples for evaluation with social network analysis can be found in areas such as education and health, as well as product development and flow of knowledge [Newman 2010]. By contrast, in the evaluation of culture it has only been used during recent years, and sometimes the impact of culture is evaluated only indirectly [Saccone 2014]. When using social network analysis in a research, it is important to understand, whether or not the methodology complies with the requirements of social network analysis and evaluation [Fredericks and Carman 2013: 16].

Social network analysis is usually used in evaluation to explore the capacity of a programme or a project, which is focused on complex systems through researching its components and interactions, that create a diversified whole, or in

this instance, a network [Martens 2006: 82]. Generally, it is assumed that the network can evaluate only the number of relationships between different actors, but it can also show changes through time, because it is possible the ties can point to potential impact sources which have led to these changes, rather than resulting from symptomatic reasons [Davies 2003: 2]. The potential directions of the evaluation with the help of social networks have to be taken into account when setting evaluation targets. Since evaluation studies are commonly used to measure the effectiveness of different practices, its main purpose is to identify the goals of the specific object being evaluated, and measure the progress in achieving them. The use of social networks in the evaluation process is often questioned, because those commissioning the study, usually assume that they know the structure of the programme or the project, therefore, network analysis cannot reveal anything new to them. But in fact the SNA can reveal much of what is hidden under the surface [Mote, Jordan, Hage 2007].

The ideological justification under the evaluation of social networks has been given by Udo Staber who has described why exactly the cultural industries can be linked to the structure of the network, hence, that is also how they can be researched. Cultural industries are widely defined as industries that create intangible benefits, of which one is creativity that constitutes the whole culture industry network, therefore, within the framework of social networks, it is crucial to understand creativity, because social relationships can be distribution channels. Thus, the networks are like a strategic source that takes the creativity, talent and imagination of individuals and transforms them into collective creativity. In this way, in cultural industries the commitments between various actors are possible because of a common network structure. The network is important for spreading ideas that promote creativity and innovation, because individuals in the network act as carriers of their particular talents, but their creative work allows the overlap of certain ideas. New ideas and innovations matter a lot in culture, because it is made up of the richness of various ideas, and the network promotes them with dynamic development. Hence, it is essential to assess the network's ability to improve and decline over time. The approach of network structure can be used in culture, because it is suitable for unstable processes that allow to understand the changes in the network [Staber 2008: 571, 575]. Staber sees cultural sector networks in the context of cooperation with other sectors, which is essential to the assessment of impact of culture and its cooperation with other sectors of the economy. Similarly, the group of authors explore the social impact of cultural organisations in the community and their interaction with other sectors. Thereof, it all together promotes the development of the whole community [Oehler, etc. 2007: 2].

Cultural networks as promoters of local development are also dealt with in one of the latest publications about the use of SNA in the research on cultural impact, and is in a close tune with our research. Donatella Saccone's publication *"Development As A Network: A New Perspective To Evaluate Cultural Projects"* [Saccone 2014] is focused on using the network's perspective in the evaluation of cultural projects, and shows it as a new strategy in cultural impact assessment. The researcher justifies the need for a new method in cultural impact assessment with the idea that the traditional ways usually mean assessing the effectiveness of the project in terms of economic or social impact. It features a correspondence between the planned and intended, among the objectives achieved and the objectives set, but they have several drawbacks. Saccone sees the added value of social network analysis in its possibility to show structural and relational dimensions in the project and to determine its sustainability. The author justifies it with the fact that cultural projects should be able to create new networks that strengthen their benefits after the end of the projects, in order to improve the development of the local community and create foundation for future cooperation [Saccone 2014]. By contrast, in the evaluation of the economic impact of culture it is required to determine the economic benefits. Cultural institutions and activities create locally significant economic effects both directly and indirectly through a variety of economic multipliers, thus the economic impact of culture can be divided into direct and indirect economic impacts. The direct economic impact of culture is products and services that contribute to the gross domestic product [Reeves 2002]. In the measuring of the economic impact of culture the indirect effects are significant, because the cultural sector contributes to the emergence of indirect effects in a particular economic area by purchasing products and services from the locals thus increasing their income; it can also be a set of ideas and images, which is then subsequently used in other economic sectors. Thus, this multiplier effect and the economic impact of culture can be characterized by the concept of external network effect, which is an important component of the overall economy [Throsby 2004]. It is important to find out the networks created by culture and other sectors of the economy, because an effective cooperation between sectors can secure sustainability regarding the processes in creative industries and the impact of culture to the overall economy [Pratt 1997]. True, as Saccone notes, the network analysis approach cannot be viewed as basic, but instead like a more complimentary in the evaluation of cultural projects. Findings, resulting from network analysis, can be used to plan, monitor and re-program, as well as to capture and display the tangible and intangible cultural achievements of the project [Saccone 2014].

Riga 2014 – the European Capital of Culture: Social Network Analysis of the Programme

The title of ECoC is a powerful motivator for cities to mobilize all cultural operators and financial resources to achieve its objectives. ECoC Riga programme consisted of 160 projects with the total of 488 events. The programme covered all sectors of culture and art, and included a wide range of festivities and community events.

These graphs show the structural diversity of the programme divided into six thematic lines, each of them presenting a common ideological and conceptual justification of values. The programme made it possible to implement projects outside the thematic lines as well. An example of this case was the financially and otherwise voluminous World Choir Olympiad project. The total expenditure for the ECoC Riga 2014 during the three-year period (2012–2014) is 27.3 million euros. Different ECoC budgets are difficult to compare, since they cover different categories of costs elsewhere – including substantial investments in infrastructure. One can mention the budget of the other EcoC 2014, Umeå which was planned for about 37 million euros[1]. Compared with other ECoC fundings, ECoC Riga had significant share from the state – it amounted to 45% of the total budget – almost as much – 44% of the funding came from Riga City Council. The contribution from the private sector was relatively small – the organisers explain this with the impact of economic crisis. By contrast, the timely allocation and stability of the funding coming from the state and local government is named by the organisers as one of the Riga 2014 success factors. The provided structural description of the programme points to the complex nature of the programme that had to be taken into account when selecting the approach of programme's impact assessment, strategies and methods. Palmer believes that there are no other such large-scale cultural events that can be compared with ECoC, therefore it is an unprecedented experience for both the majority of the involved cities and the evaluators as well (Palmer-Rae Associates, 2004). This article will analyze the event within a single assessment discourse – the Riga 2014 programme's economic and social impact on the economy and society, using the social network analysis.

In ECoC Riga 2014 programme impact evaluation different indicator groups have been used, which were chosen taking into account ECoC general objectives defined by the EU and those ones set by ECoC Riga 2014. Even though the objectives of Riga 2014 are rather abstract and complex, the main notions include encouragement of cooperation and participation in cultural and creative activities. Programme aims emphasize the development of urban space, considering that

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[1] http://umea2014.se/wp-content/uploads/2013/01/faq_eng.pdf

culture influences quality of life, well-being and sustainable development of the city. Cooperation is a keyword in the objectives of the programme, as ECoC provides new opportunities to develop cooperation between Latvia and other European countries, among artists from different backgrounds, generations, social and interest groups, to develop cooperation between cultural, educational and economic sectors. These interactions lay foundations for knowledge-based economy, bring to light the significance of creative industries and demonstrate broader potential and impact of culture.

The keywords applied in the research are as follows: communication between different groups; interconnections between the cultural, educational and economic sectors; social capital, participation, development of the city, quality of life, creativity and initiatives.

Programme creates social network as its objectives directly correspond to the structure of a network. Analyzing the network we can decide whether communication between different levels and groups takes place, what the interaction between cultural, educational and economic sectors is like, evaluate its social capital and identify social partners involved in distribution of creative initiatives. SNA provides basis for conclusions about the diversity and amount of stakeholders, about how they relate to such keywords as city development, quality of life, multiculturalism. Such aspects may be hidden in the network and effects might turn out to be ambiguous.

The choice of actors and edges determines the structure of the network and anticipates the areas of impact. Activities of the projects predispose the impact of the programme. Project edges demonstrate the scope of the programme impact. In the analysis of Riga 2014 programme actors and edges of the social network are identified as follows: actors: project organisers and cooperation partners that are providers of services and goods. Ties: cash-flow that goes from project organisers to cooperation partners providing services or goods necessary for the implementation of project activities. Data source: financial reports of the projects. Financial reports are submitted to the Riga 2014 office presenting detailed accounts about the use of public funds.

At the moment of data collection, the programme has not been completed, therefore this study doesn't contain full data on the projects, their partners and flows of cash, which are driven through the course of the programme's implementation. Limited time and resources have narrowed down the amount of the analyzed projects as well. So the developed network doesn't fully reflect the social network structure of Riga 2014, but is more of a methodological example for further SNA in culture impact assessment, showing trends of what the social network might look at the end of the programme and what the benefits of the evaluation could be.

Riga 2014 is large-scale programme, which consists of many different projects structured in 6 thematic lines. The analysis is based on projects from two different lines – the Road Map and the Freedom Street. The Road Map mainly includes projects implemented in the neighborhoods of the city, enhancing participation in cultural activities and in most cases those are small scale projects. The Freedom Street focuses on different aspects of history, thus it embraces different kind of projects like exhibitions, opera and theatre productions, which can be considered as small and medium scale projects. Network shows both thematic lines to analyze connection between them and to refer it to the programme as an entirety.

Financial reports are confidential, thus research doesn't include the names of the actors, or concrete sums. To present reliable and representative data, actors have been divided into 6 categories: cultural sector; other economic sectors; project submitters; project management; science and research personnel, and taxes.

Network analysis shows (*figure 1*) that number of actors in the network divided by categories is: 217 other economic sector (43.4%); 173 cultural sector (34.6%); 59 project management (11.8%); 31 project submitters (6.2%); 19 science and research personnel (3.8%) and taxes (0.2%).

● 173 *cultural sector* (35%)
● 217 *other economic sectors* (43%)
● 59 *project management* (12%)
● 31 *project submitters* (6%)
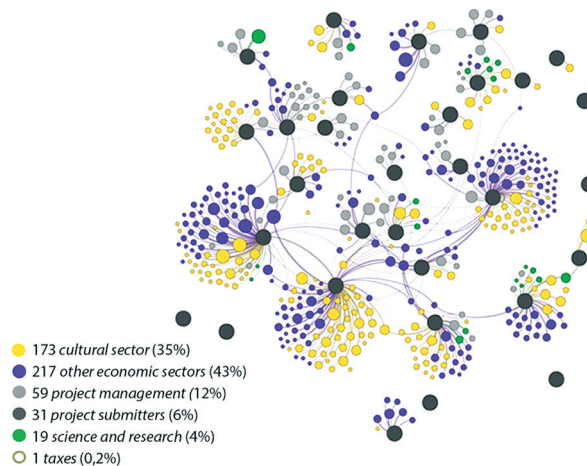● 19 *science and research* (4%)
○ 1 *taxes* (0,2%)

Figure 1. Riga 2014 programme network: number of actors by categories.

Number of actors in the network divided by received funding is: 37% cultural sector; 35% other economic sector; 15% project management; 6% science and research personnel; 6% taxes and 1% project submitters. Results show that although there are more actors in other economic sectors, the actors from cultural sector have received more funding. Thus, it is clear that the cultural sector couldn't stand alone and the impact of a programme like this is considerably broader, creating benefits not only for the cultural sector, but for the national economy as a whole.

It is possible to create a network structure founded on the basic objectives of the programme, because they emphasize a cooperation and creation of various ties on different levels. Therefore, in the SNA, one of the most important tasks is the identification of the linking elements in the network structure, respectively, one has to determine the categories that have the actors, which tie various projects and their applicants. As a result, 39 actors of different categories are identified, as well as 5 ties of project applicants that link the projects in the network (*figure 2*). Network is tied by 39 actors of various categories of which 23 belong to the economic sector, 11 to the cultural sector, 3 to project managers, one to the academic staff and researchers, and one represents the taxes. Taxes don't matter in this context, because they would tie any network like this.
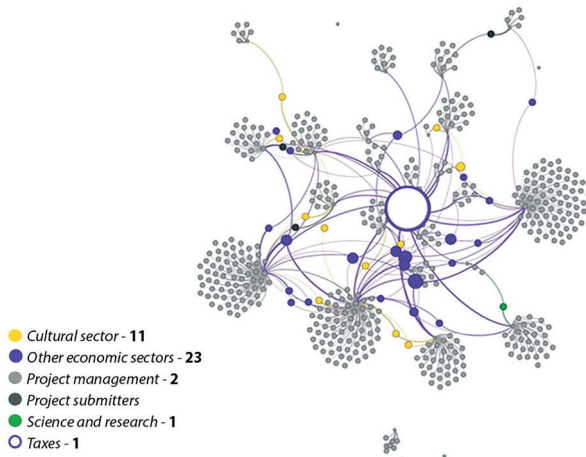

Figure 2. Riga 2014 programme network: connections by categories.

Within the economic sector, the links between projects are services that can be used by anyone – transport (airlines, taxis, fuel, public transport and train tickets), various communication services, catering and hotel services, banking services, a variety of materials to buy, for example, the office supply store, as well as accounting and IT services. Cooperation between the economy and cultural sector demonstrates the economic impact of culture, which forms a multiplier effect when the effects of consumption in a particular area are indirectly promoted. With increasing such successful cooperation, it is possible to create a network which would promote the objectives of the programme – to improve the cooperation between cultural and economic sectors, urban development and the quality of life in the city in general.

It is possible to make certain manipulations within the network by removing the above-mentioned participants of the economy and links in the network

(*figure 3*), which further allows to analyze the cooperation of cultural sector and other categories, as well as to draw conclusions about the spread of creativity and new initiatives in the network.

In cultural sector various projects are linked by all its defined subcategories, except music. The most common links or ties between the projects are representatives of performing arts, film industry, literature, photography and design. Project cooperation is enhanced by three representatives of project management, which is a project executor, a programmer and a curator. The submitters of the projects are interconnected with five ties, as five submitters of projects have received money from other project submitters. The only representative of academic staff and research who ties two projects is a historian. A complete network of the programme would allow to evaluate the number of scope of involved representatives from academic sector in the project research and creation.
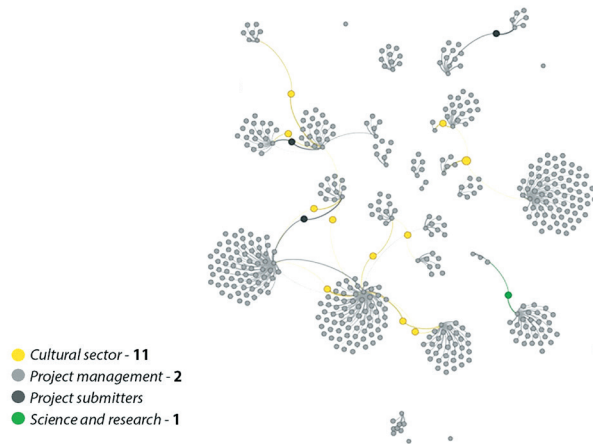

● *Cultural sector - **11***
● *Project management - **2***
● *Project submitters*
● *Science and research - **1***

Figure 3. Riga 2014 programme network: connections by categories.

The benefit from network analysis is the possibility to identify such interrelated projects and to make an assumption that the structure of the network promotes cooperation. Currently the programme network allows us to conclude that the projects are more tied by regular services, accessible to all, which indicates the implementation of the keywords used in the objectives of the programme as a cooperation between various levels of connections, culture, education and the economy. Whilst within the framework of culture sector, which forms the programme narrative, thus, creating new initiatives and promoting creativity, the cooperation is decreased. This can point to the programme's inclination to focus on the objectives that include economic benefits of cultural events and the sector's cooperation with the rest of the economy, while keywords, such as creativity and

initiatives, are less promoted. A creation of a stronger cooperation between projects and the involved representatives of culture sector would promote the creativity and initiatives to spread, as well as consolidating the culture sector as a whole, creating a picture of the programme as a unifying element of culture, instead of a set of independent projects. In a case of a more thorough network assessment one can evaluate the cultural industries in which the development of new initiatives and ideas should be promoted, calling to build additional projects.

Conclusions

Findings of the research show that analysis of Riga 2014 programme applying SNA significantly enlarges and presents integrated insight into the social and economic impact of Riga European Capital of Culture 2014:

1. Network displays visually how cultural event, organisation, project or programme is structured. Segregated components can be used for argumentation, for example, demonstrating the scope of economic impact, as it is clearly shown in the following picture (3 of them is used to describe research in this paper) (*Figure 4*).
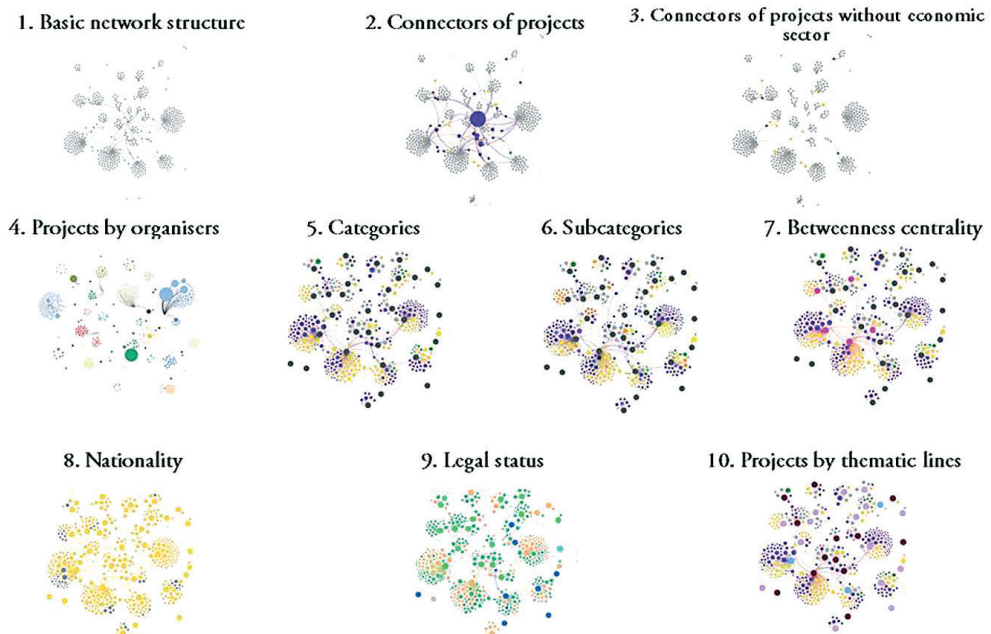

Figure 4. Riga 2014 programme social networks.

2. Network allows to demonstrate all stakeholders, their size and interconnections. That helps to develop arguments concerning employment generated by the project and its contribution to the economy.

3. Taking into account characteristics of actors, it is possible to categorize stakeholders and arrange them in groups. That allows to evaluate strengths and weaknesses of the network, identifying problems that restrained to achieve the aims, or successes that helped to meet the goals.

4. It is possible to evaluate which partners have contributed to cooperation and analysis of the actors helps to conclude which interconnections should be encouraged to meet the goals of the programme.

5. Depending on the choice of the components in the network, it is possible to conclude whether cultural field develops cooperation with other sectors, or not. That helps in argumentation about the role of culture in a society, about its social and economic contribution.

6. Network clearly shows the distribution of such notions as creativity, ideas, initiatives which are not quantitatively measurable but embodied in culture. By combining with other theoretical approaches it allows to demonstrate broad scope of social impact of cultural activities.

7. SNA allows to make recurrent analysis and evaluate impact of cultural event, organisation, project or programme in a longer term.

8. Social network analysis is applicable in impact evaluation of culture as an indicative approach, as it clearly demonstrates the most significant components and interactions in the network, which stay hidden when other methodological approaches are applied. It helps to choose the most appropriate methodologies for further analysis of the problems indicated by SNA.

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Abstract

Organisation of large scale or mega cultural events requires not only skilful managerial techniques, but also an integrated evaluation approach taking into account such aspects as the cultural, economic, social, political, and environmental context. Mega cultural events can be characterised by complex objectives, diverse funding sources (EU, public, private), a multilayer structure of planned results and effects. All that obviously encumbers evaluation of mega events. The initiative of the European Capital of Culture is one of major large scale European cultural cooperation projects, taking into consideration its budget and the diversity of its programme that exceeds the scope of any other cultural event. In 2014, Riga was chosen to be one of the European Capitals of Culture. Latvia had recently overcome an economic recession; in this context substantial public investment in culture required an additional focus on evaluating the economic impact of Riga 2014 programme. Research is based on the assumption that social network analysis has a great potential in evaluation of cultural impact, as culture incorporates the very idea of a network through which new ideas and creativity are channelled.

Keywords: *social network analysis, large scale cultural events, European Capital of Culture, impact evaluation, social capital.*