The seven parameters of media clusters: An integrated approach for local cluster analysis

ABSTRACT

A push by governments to foster the development of local media clusters is currently taking place. This newly emerged focus is responsible for cities, regions, nations and scholars investing in better understanding media clusters. Yet, there is no common method for mapping the phenomenon in terms of key variables. This article proposes a framework in which empirical observations as well as theoretical considerations can be placed to fill the gap. The framework consists of seven parameters: place, proximity, population, profile, path-dependency, policy and performance. These parameters unite several heterogeneous approaches towards media clusters into one common analysis framework.

KEYWORDS
media cluster framework measures agglomeration media industry socio-economic analysis

Suggested Citation

Acknowledgement
The research was conducted within the Media Clusters Brussels project and is financed by Innoviris under the Anticipate programme (Prospective Research – Anticipate – 66 – 2014/2018). More information on the Media Clusters Brussels project is available on the Internet (www.mediaclusters.brussels).
INTRODUCTION

In recent years, the media industry has been broadly acknowledged as a key driver of economic growth and a push by governments to foster the development of media industries at local and regional levels is taking place. Successful examples of media clusters such as Hollywood, New York, London, Berlin, Bollywood and Tokyo (Picard 2009) seduce regional governments into trying to replicate the success in their own regions. One of the main approaches used for fostering the said success is the idea of media clusters. Media clusters can be broadly defined as socio-economic agglomerations of media-related activities within a certain location that are supposed to bring advantages for the actors. This newly emerged focus on media clusters is responsible for cities, regions, nations and scholars being increasingly interested in understanding media clusters better.

In literature no commonly agreed method for mapping and analysing the phenomenon of media clustering exists to procure the knowledge necessary to support the creation of media clusters. This gap in literature is not only evident for media cluster research but also for industry cluster research in general. Martin and Sunley (2003: 19) observe that the vagueness of the concept of clusters does not provide the possibility of a precise delineation, with the consequence that ‘there is no agreed method for identifying and mapping clusters, [...] in terms of the key variables that should be measured [...]’. Still, already a significant amount of heterogeneous concepts exist. Literature debating these different concepts is rare. Additionally, many different academic disciplines have tried to study media clusters. Clusters show a high level of complexity, as there are different kinds of clusters and each has special features, characteristics and dynamics (Gordon and McCann 2000). Because of the aforementioned vagueness, complexity and multidisciplinarity of the media-clustering phenomenon, it is challenging to grasp the essential elements in media cluster research. Therefore, the research question central to this article is: what are the key variables to analyse when researching media clusters?

In order to answer this question, this article conducts a literature study. On the one hand, literature specifically focusing on media clusters was considered. On the other hand, industry cluster research from a wider range of sectors supplemented the literature. This article proposes a framework for media cluster research on the basis of the findings of the literature study, wherein empirical observations and theoretical considerations can be placed. This framework aims to bring together the heterogeneous research on media clusters into one common analysis approach. Therefore, the first part of this article explores the nature of media clusters through reviewing the existing literature. The state-of-the-art in cluster research and its gaps are identified. The second part presents an original contribution to the field of media cluster research – that is, the integrative framework to close identified gaps. The purpose of the framework is versatile: the framework can guide the user to be aware of important aspects of media clusters while it can be modified to fit the researchers’ needs. That means that the integrative framework shall not only appeal to academia but especially to governments and stakeholders alike. The final part concludes and discusses the benefits and challenges in the analysis of media clusters.

APPROACHES TO (MEDIA) CLUSTERS

The identified literature and the principles to look at

The media-clustering phenomenon has been studied through many different means and from different points of view. Academic disciplines that have touched this research field

are economic geography, strategic management, political economics, urban studies, sociology and organizational behaviour studies (Picard 2008). The term ‘cluster’ is used very heterogeneously in different disciplinary contexts (Picard 2009). In addition, there are also other terms in use to approach the topic of media cluster. Associated concepts are, for example, ‘industrial districts’, ‘creative milieu’ or ‘creative class’, ‘creative cities’, ‘agglomeration economies’ and ‘media cities’. Some of these approaches specifically focus on media clusters and others are concerned with varying kinds of industry clusters but therefore include media-related clusters as well. Nonetheless, all concepts in the literature (originating from media cluster and cluster research) can give valuable insights for an integrated framework. Therefore, this section will provide an overview of the most used concepts and their limitations. The literature review focuses on three principles that this article claims to be fundamental in media cluster literature. The literature at hand has been analysed while looking for these principles:

- A media cluster is a socio-economical phenomenon that is the result of a multitude of actors. The whole nature of a cluster therefore encompasses different entities.
- A media cluster displays various characteristics that go beyond agglomeration. These characteristics should be seen as parameters.
- The specific interrelations of the entities and parameters of clusters determine the dynamics of a media cluster, hence the output it can create.

**The origins of (media) cluster research**

The concept of media-clustering did not originate in the media industry itself but was initially scientifically elaborated in the context of the manufacturing industry, as early as the 1920s. Marshall (1920) introduced the idea of ‘industrial districts’ and shifted the attention from traditional units of analysis, such as firms, towards more inclusive units: productive systems in a location. Marshall (1920) attempted to find and describe the key elements of these industrial districts such as subcontractors, available skilled labour and formal as well as informal communication due to a common base of knowledge. The concept especially inspired Italian literature in the 1970s, leading to the concepts of ‘new industrial districts’ or ‘Neo-Marshallian industrial districts’ (Becattini 1990; Sabel and Piore 1984). In this context, Becattini emphasized cooperation and governance structures and described the phenomenon as ‘a socio-geographical entity which is characterized by the active presence of both a community of people and a population of firms in one naturally and historically bounded area’ (1990: 39). In the 1990s, economists and management theorists also developed an interest in geographical agglomerations of firms, emphasizing the concept of ‘clustering’. Porter established the most well-known approach to clusters and defines them as, ‘a geographically proximate group of interconnected companies and associated institutions in a particular field, linked by commonalities and complementarities’ (2000: 16). Initially, clustering was a general phenomenon in industrial production, highlighting the production linkages. Later, the literature evolved mostly around design intensive and high-tech industries (Schamp 1997).

Many different aspects have been studied within cluster literature, which can be seen as the broadest term in use for the many concepts in place. One aspect covers the range of benefits derived from industry clusters – that is, the reduction of costs, (tacit and codified) knowledge flows, accessibility and spillovers, information flows, internal and external linkages as business networks, cluster life cycles, etc. (Eriksson 2009). Another important approach towards clusters is the concept of ‘agglomeration economies’ (also
described as ‘localization’ or ‘urbanization’ economies). Agglomeration economies can be defined as the ‘positive externalities’ that derive from the geographic clustering that leads to economies of scale within a region (Rosenthal and Strange 2004). Krugman analysed the emergence of clusters and argues that a cluster can be traced to ‘some seemingly historical accident’ (1991: 35). Some scholars focus on knowledge exchange as the essential component within clusters, such as Tallman et al. (2004). Other authors stress the economic benefits of the de-integration of value-added chains providing flexible and specialized activities (cf. Sabel and Piore 1984).

The many facets of (media) cluster research

Picard (2008), one of the leading authors in the area of media clusters, defines media clusters as a ‘specialized form of agglomeration designed to produce mediated content, such as motion pictures, television programmes/videos, broadcasts, audio recordings, books, newspapers, magazines, games, photography and designs, websites, and mobile content’. The pioneering phenomenon similar to media clusters was the idea of the ‘creative and innovative milieu’, which can be traced back to Taine in 1865 who labelled the phenomenon as ‘artistic milieu’ (Hall 2000). According to Landry (2012: 133), such a milieu is ‘a physical setting where a critical mass of entrepreneurs, intellectuals, social activists, artists, administrators, power brokers or students’ operates.

Similar to the creative milieu, the idea of the creative economy has also been applied specifically to the economy of a location: the city. This led to the emergence of the concept of a ‘creative city’ (United Nations and Bureau de Liaison Bruxelles-Europe 2010), also called ‘cultural city’ (Hubbard 2006) or the ‘knowledge-based city’ (Trullen and Boix 2008). The concept has been used to describe an urban system where cultural activities are an integral part of the city itself. Florida (2002) shifted the focus to the human factor and its creative habitat, developing the concept of the ‘creative class’. The creative class is constituted of individuals in urban areas who are supposed to generate economic, social and cultural dynamism. Within this concept, cities’ driving force behind development is the ability to attract and retain these creative individuals (Florida 2004). Krätke (2003) links the concept of ‘global cities’ (Friedmann and Wolff 1982) to the media industry, developing the idea of the ‘media city’. Another understanding of the media city recently emerged, the ‘planned’ media city. This concept refers to the media city as the ‘physical, meta-planned, purpose-built hub of media and creative industry knowledge in any given urban locale’ (Mould 2014).

The importance of media clusters has been consistently emphasized in the literature but the reasons for clustering in the media industry are manifold. Geographic concentration can reduce risks linked to the nature of media goods (constantly shifting production and uncertainty). Karlsson and Picard (2011) explain that ‘[media] clusters promote and improve production of entertainment and content by connecting producers through private and public partnerships, networks and projects, i.e. making media production more efficient’ and ‘also stimulate media innovation’. Scholars in the strategic management discipline have underlined the interest of the ‘presence of sources of medium- and high-risk capital’, especially for new media clusters (Smith et al. M. 2004) as well as entrepreneurial personnel with appropriate incentives to operate firms, and the capability for personnel to connect and learn from other participants in the cluster (Perrons 2004). Even though many reasons for media clustering have been found, the concept remains hard to grasp because of the complexity of the phenomenon. However, what seems clear
by now is that the media cluster theory goes beyond traditional industry cluster theories because of the specific characteristics of media goods (Boix et al. 2012).

**The gaps in (media) cluster research**

There is a multitude of different approaches to study clusters and media clusters. However, limitations in existing frameworks can be observed. First, many studies focused on high-tech clusters like Silicon Valley, transferring their findings towards all media clusters (Casper 2007; Morgan 1996). This background should be kept in mind when using their findings. Additionally, mere suppositions about the topic have been made among scholars and among political decision-makers. If further evidence is presented, it tends to be built upon assumption or through mere observations of cases. However, the benefits identified in one case cannot easily be transferred to other cases of media clusters.

Second, (media) cluster research often assumes static configurations of the clustering phenomenon. In reality, characteristics of participants in media clusters vary and these traits affect the scope as well as the dynamics of clusters and their effectiveness. The media industry is a fast-moving sector, highly influenced by the development of ICT. This makes the media industry dynamic. A workable framework of media clusters should be both abstract enough to encompass these differences and developments, while at the same time still have enough raison d’être to describe a specific socio-economic phenomenon.

Third, it can be observed that most studies focus on companies, even though the significance of people and their social interactions within clusters has been recognized. This article claims that these actors within a cluster should have the same importance as companies. Fourth and last, academia does not have a common vocabulary to approach media clusters. The multitude of concepts used to describe characteristics and entities of clusters makes it difficult to see the connections between different studies. This demonstrates a need for an integrative framework federating the heterogeneous approaches for media cluster analysis.

**Bringing the literature together**

Despite the limitations identified in the literature review, re-occurring research objects within the discussed approaches can be found based on the principles stated above. Entities of media clusters (Principle 1) and the parameters (Principle 2) that describe them have been investigated and can be used as a guideline to build an integrated framework for media cluster research. Table 1 gives an overview of the above-analysed literature. The selection of authors represents key scholars from a broad range of different academic disciplines.
**Table 1 – Literature study on cluster research.**

<table>
<thead>
<tr>
<th>Literature / Approach</th>
<th>Focus in research</th>
<th>Identified entities</th>
<th>Identified parameters</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>MARSHALL (1920)/ Industrial districts</strong></td>
<td>Key elements are subcontractors, available <strong>skilled labour and communication</strong> due to a common base of <strong>knowledge</strong> across the integrated <strong>firms</strong>, <strong>employees</strong> and the <strong>community</strong>.</td>
<td>Firms, employees, community</td>
<td>Skills, knowledge, communication</td>
</tr>
<tr>
<td><strong>BECATTINI (1990)/ New industrial districts</strong></td>
<td>The emphasis lies on the efforts to <strong>co-operate</strong> and to build <strong>governance structures</strong>. The phenomenon is described as a <strong>socio-geographical entity</strong> which is characterised by the active presence of both a <strong>community of people</strong> and a <strong>population</strong> of firms in one naturally and <strong>historically bounded area</strong>.</td>
<td>Community of people, firms</td>
<td>Cooperation, governance structures, population, historical boundedness</td>
</tr>
<tr>
<td><strong>PORTER (2000)/ Industry clusters</strong></td>
<td>Clusters are defined as a <strong>geographically proximate group of interconnected companies and associated institutions in a particular field</strong>, linked by <strong>commonalities and complementarities</strong>.</td>
<td>Companies, associated institutions, connections</td>
<td>Geographical proximity, group, commonality</td>
</tr>
<tr>
<td><strong>ERIKSSON (2009)/ Industry clusters / milieu</strong></td>
<td>Important aspects that have been studied are the reduction of <strong>costs, knowledge flows</strong>, accessibility and <strong>spill-overs</strong>, information flows, internal and external <strong>linkages</strong> as business <strong>networks, cluster life-cycles</strong>, etc.</td>
<td>Networks</td>
<td>Costs, knowledge flows, spillovers, linkages, life-cycles</td>
</tr>
<tr>
<td><strong>ROSENTHAL, STRANGE (2004)/ Agglomeration economies</strong></td>
<td>The focus is on <strong>positive externalities</strong> that derive from the geographic clustering of <strong>firms</strong> that lead to economics of scale within a <strong>region</strong>, which leads to superior <strong>performance and competitiveness</strong> of the region.</td>
<td>Firms</td>
<td>Positive externalities, region, performance, competitive</td>
</tr>
<tr>
<td><strong>KRUGMAN (1991)/ Localised industry</strong></td>
<td>Clusters can be traced to <strong>some seemingly historical accident</strong> stressing the importance of path-dependencies in cluster research of <strong>firms</strong>.</td>
<td>Firms</td>
<td>Historical accident</td>
</tr>
<tr>
<td><strong>LANDRY (2012)/ Creative and innovative milieu</strong></td>
<td>A milieu is a <strong>place</strong> where a <strong>critical mass</strong> of <strong>entrepreneurs, intellectuals, social activists, artists, administrators, power brokers or students</strong> operates. There are specific <strong>conditions concerning the location</strong> necessary to generate a <strong>flow of ideas and innovations</strong>.</td>
<td>Entrepreneur, intellectuals, social activists, etc.</td>
<td>Place, critical mass, location conditions, ideas and innovation</td>
</tr>
<tr>
<td><strong>FLORIDA (2002)/ Creative class</strong></td>
<td>The focus is shifted from the creative industries to the <strong>human factor</strong> and its <strong>creative habitat</strong>. The creative class is constituted of <strong>individuals</strong> called highly <strong>skilled bohemians</strong>. The presence of these <strong>individuals in urban areas</strong> is supposed to <strong>generate economic, social and cultural dynamism</strong>.</td>
<td>Human factor, individuals</td>
<td>Creative habitat, urban area, dynamism</td>
</tr>
<tr>
<td><strong>MOULD (2014)/ Planned media city</strong></td>
<td>This concept refers to the media cluster as the <strong>physical, meta-planned, purpose-built hub of media and creative industry</strong> knowledge in any given <strong>urban locale</strong>.</td>
<td>Media and creative industry</td>
<td>Physicality, Meta-planning, purpose, hub, urban locale</td>
</tr>
<tr>
<td><strong>KARLSSON and PICARD (2011)/ Media cluster</strong></td>
<td>‘[Media] clusters promote and improve production of entertainment and content by connecting producers through private and public partnerships, networks and projects, i.e. making media production more efficient’ and ‘also stimulate media innovation’.</td>
<td>Producers</td>
<td>Connections, partnerships, efficiency, innovation</td>
</tr>
<tr>
<td><strong>PERRONS (2004)/ New media cluster</strong></td>
<td>There is a need for entrepreneurial personnel with appropriate incentives to operate firms, and the capability for personnel to connect and learn from other participants in the cluster</td>
<td>Firms, personnel</td>
<td>Connecting, learning</td>
</tr>
</tbody>
</table>
Towards an Integrative Framework

The Entities of a Media Cluster

The literature study showed that authors have focused on several different entities of clusters in their approaches. These entities can be grouped and summarized into three integral entities of a media cluster, which constitute the first principle of the integrative framework. Table 2 shows how the entities have been discussed in the literature and summarizes the findings of Table 1.

Table 2 – 3 cluster entities based on the literature study.

<table>
<thead>
<tr>
<th>Entity:</th>
<th>In literature discussed as:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Media institutions</td>
<td>Firms, population of firms, associated institutions, agglomeration, media and creative industry, producers, companies</td>
</tr>
<tr>
<td>(2) Media workers</td>
<td>Employees; entrepreneurs; intellectuals, social activists, artists, administrators, power brokers and students; human factor; personnel</td>
</tr>
<tr>
<td>(3) Media communities</td>
<td>Community; community of people; networks; connections</td>
</tr>
</tbody>
</table>

The first entity of a media cluster is the media institutions. As described in the literature study, researchers delineate clusters as agglomeration of ‘firms’, ‘associated institutions’ or ‘companies’ (see Table 2). This article proposes to describe them as media institutions. Media institutions are often depicted through the sector they are active in, their end product produced or the activities in general (cf. Picard 2008; Simon and Bogdanowicz 2012). The mere delineation of the media industry, however, is already not simple and has been repeatedly discussed in the literature and politics. This article proposes for this model to include all institutions that are directly or indirectly related to the ‘creation of mediated content’. This definition scopes all aspects of the converging media industry. Additionally, this definition also includes other supporting institutions and organizations, labelled in cluster research under the comprehensive term ‘institutional thickness’ (Bassett et al. 2002).

The second entity to include into a media cluster framework is the media workers. The literature study shows that ‘employees’ and the ‘personnel’ available in a cluster are often described as part of a cluster (see Table 2). This article proposes to describe them as media institutions. Media workers can be delineated as professionals as described by Volti’s criteria to determine professions: specialized knowledge, formal education, value to society and individuals, ethics, common standards and autonomy (2011: 97-100). Miller (2011) regards media workers as workers performing a task (or an accumulation of very different tasks) leading to the production of media. Drawing from previous research and the sociology of media professions and occupations, this article suggests defining media workers as those (be professionals or not) contributing at least partly to the production processes of media institutions of a media cluster.

The third entity is media communities. The literature study revealed that the ‘community of people’ and the ‘networks’ and ‘connections’ are indispensable in a cluster (see Table 2). Therefore, this article emphasizes the importance of seeing communities as an entity in itself and not as part of the media workers’ entity. From a theoretical point of view, this article proposes to consider them from the perspective of ‘communities of practice’ (Chesnel et al. 2013). Wenger defines communities of practice as ‘groups of people who share a concern or a passion for something they do and learn how to do it better as they interact regularly’ (2006: 1). According to him, communities of practice are made up of...
three crucial characteristics: (1) a shared domain of interest; (2) interactions of their members; and (3) the practice in which a shared repertoire of resources is developed. Communities can appear spontaneously but can also be enforced and include interactions such as face-to-face conferences, teleconferences or online platforms (De Souza Briggs and Snyder 2003). This article suggests to include all kind of formal and informal communities following the definitional approach by Wenger (2006) where media workers are involved.

The parameters of a media cluster

Based on the second principle, the literature was analysed to look for parameters. Several parameters as characteristics of clusters have been identified and can be grouped into 7 parameters, the 7Ps. Table 3 shows how the parameters have been depicted in the literature. The parameters are to be connected with the identified entities.

Table 3 – 7Ps based on the literature study.

<table>
<thead>
<tr>
<th>Parameter:</th>
<th>In literature discussed as:</th>
<th>Questions:</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Place</td>
<td>Location; (geographical) area; region; place; location conditions; creative habitat; urban area/locale; physicality</td>
<td>Where are...?</td>
</tr>
<tr>
<td>(2) Proximity</td>
<td>Geographical proximity; communication; cooperation; interconnection; flows; (production) linkages; relationships; partnerships</td>
<td>How close...?</td>
</tr>
<tr>
<td>(3) Population</td>
<td>Critical mass; population; hub; agglomeration; group</td>
<td>How many...?</td>
</tr>
<tr>
<td>(4) Profile</td>
<td>Skills; commonalities and complementarities; value-added chains; activities; specialisation</td>
<td>What kind...?</td>
</tr>
<tr>
<td>(5) Path-dependency</td>
<td>Historical boundedness; life-cycles; path-dependencies; historical accident</td>
<td>How evolves...?</td>
</tr>
<tr>
<td>(6) Policy</td>
<td>Governance structures, meta-planning, purpose</td>
<td>Which governance...?</td>
</tr>
<tr>
<td>(7) Performance</td>
<td>Costs; knowledge (exchange); spill-overs; positive externalities; competitiveness; economical benefits, innovation; (innovative) capabilities; learning processes; economic, social and cultural dynamism; efficiency; presence of capital</td>
<td>What output...?</td>
</tr>
</tbody>
</table>

The first parameter is ‘place’. The literature study showed that (media) clusters have a connection to a ‘location’, ‘geographical area’ or ‘habitat’, while the ‘locational conditions’ and the ‘physicality’ of the cluster are important (see Table 3). This article suggests that place as a parameter is to be understood as space or geographic scale. Many studies choose a geographical scale a priori, such as an administrative or political region (Boufaden and Plunket 2005). This can lead to a mismatch between the ‘unit of observation’ and the ‘spatial extent of the economic phenomena’ (Breschi and Lissoni 2001). In order to avoid this mismatch, this article recommends following the idea of a dynamic perspective that pays attention to various dimensions of the space, which the cluster might operate at (Martin 1999). The place of a media cluster should be considered dynamic – that is, able to stretch or shrink depending on the findings in the analysis. Still, this notion does not neglect the justification to start from a predefined place, such as a city, as this approach has many benefits. For example, delineating a place might lead to an identity of the cluster as study object. Finding possible borders of a cluster makes cluster policy possible.

Additionally, besides defining the place, the first parameter explores the characteristics of it. In order to find out what characteristics to take into account, Porter’s (1990) framework for the competitiveness of nations gives some indications. The conditions he describes as relevant to be provided by the place can be specialized resources,
infrastructure, external and endogenous determinants of a geographic landscape and demand conditions of the home market. Many more place-specific economic, social and cultural characteristics, which are relevant for a media clusters, can be listed in this context. Therefore, identifying the parameter place for a media cluster shall help to answer the question: what is the geographic scale and the characteristics concerning the place of the entities of the media cluster?

The second parameter, proximity, has been central in the literature, and it is depicted as ‘geographical proximity’ but also as ‘interconnections’ and ‘relatedness’ (see Table 3). It is to be understood here as closeness or nearness and therefore is to be distinguished from the first parameter, place. Proximity of the different entities of a media cluster is often depicted as the originator for the cluster itself. However, proximity in cluster research can have many dimensions. In this integrated approach, the article suggests to adopt the definition of the French School of Proximity, which takes geographic and social disciplines into consideration. Lussault and Lévy (2003) distinguish thereby between topographical and topological proximity.

Topographical proximity describes the traditional spatial approach towards cluster entities. When investigating two entities on a map with the longitude and latitude as location indicators, there are different measures to use, such as the Euclidean distance (Smoyer-Tomic et al. 2004) or travelling time. Which topographical proximity to use in analysing media clusters depends on the goals and the features of the media cluster. For example, large-scale comparisons of clusters can sufficiently rely on Euclidean distance, whereas city structures are better described through travel times between entities. An important aspect identified in cluster literature that relates to spatial proximity is the mobility of media workers, as these conditions influence workers’ willingness to participate in a cluster (Storper and Venables 2004).

This leads to the second type of proximity, the topological proximity. Topological proximity can be defined as institutional, technological, social and organizational linkages between entities (Boschma 2005). Most of the authors taking this view into account are from the innovation management discipline. Institutional proximity is characterized by a common understanding of shared values and also by similar institutional structures. Technological proximity can mean that entities face the same technological challenges or have similar technological capabilities and needs. Linkages between entities characterize social or organizational proximity (Tallman et al. 2004). These are, for example, ‘buyer-supplier relationships’ and ‘competitor and collaborator relationships’ that are essential for clusters (Anderson 1994; Iacobucci 1996). For media workers, this proximity describes networks of relationships that can highly impact the career paths and also the skills of media workers. This also influences the exchange of knowledge between entities. Media workers’ knowledge can more easily be transferred if a shared culture exists (Krätke 2003). This network of linkages has also been often described in the literature as ‘industrial atmosphere’, ‘noise’ or ‘buzz’, which consists of specific information and updates, news, understanding of new knowledge, skills and learning processes. In summary, the parameter of proximity has been included into the integrative framework to answer the question: how close (topographical and topological) do the entities of a cluster need to be towards each other on different levels?

The third parameter is the population of the cluster. Research highlighted that a cluster needs a ‘critical mass’ and ‘relevance’ (see Table 3). Therefore, this article suggests defining population as the number of entities and their relevance for the location. The issue for clusters and population is that there is no clear benchmark of the scale that is needed
to form synergies and cluster dynamics. One reason is the wide variety of media clusters and the different profiles within them.

Additionally, the number of entities necessary to be considered a cluster also depends on the size of the place and demand conditions.\(^6\) Statistical measures such as the Gini coefficient or measures of concentration have often been used to define and identify clusters (Martin 1999). Besides statistical approaches, research on life cycles of clusters has dealt with the scale of clusters developing an argument on the ‘critical mass’. Authors have used this idea to argue that a critical mass is necessary to achieve cluster dynamics (Fornahl and Menzel 2003). Research in this area has linked formations of companies, which influence the development of a cluster, into four stages: growing, formatting, declining and stable clusters (Fornahl and Menzel 2003). Besides the number of firms, critical mass was linked to other scales of the cluster in research, such as the number of media workers and media communities, but also other local conditions such as regional human capital and the presence of supporting services (Brenner and Fornahl 2002). This enables navigating internal relevant development processes of a cluster (Saxenian et al. 2001). Therefore, the question to be answered by the parameter is: How many entities (total and in relation) are needed to make the cluster relevant?

The fourth parameter is the profile of the entities. Researchers have highlighted the ‘commonalities and complementarities’, the ‘activities’ and ‘specialization’ of the cluster (see Table 3). Authors, scholars and institutions have used many different approaches to profile the entities of a cluster. This article claims that profiling the entities will help to understand their functions and connectedness. The profile of the institutions can be described through their sizes, activities and place along the value chain. The profile of the media workers and their labour conditions also matter. It is important for a media cluster to have access to a certain mix of skills. Research concerning the sociology of professions gives many insights on the profile of media workers. For example, Westlund (2011) argues for the existence of three types of media workers, which he calls the ‘techies’, the ‘creatives’ and the ‘suits’.

Also, clear profiles for the communities need to be developed. Several researchers have already identified multiple types of communities of practice (Cohendet et al. 2010; De Souza Briggs and Snyder 2003; Roberts 2006; Wenger 2006): self-driven; artificial; professional; and virtual communities. The members of the communities need to be identified, as certain profiles of media workers tend to participate in certain communities. With the convergence of the media industry, the borders between sectors and definitions become blurry. This ‘blurriness’ hinders accurate analysis and should be alleviated in cluster research. As a conclusion, the following question should be highlighted: What kinds of entities (in terms of profiles along the value chain, activities, size, organization, skills, labour conditions, etc.) are needed?

The fifth parameter is path-dependency, describing the evolution of a cluster. In the literature, the ‘historical boundedness’ and the ‘life cycles’ of media clusters are often mentioned (see Table 3). This article suggests describing this notion as path-dependencies of a media cluster. Many authors have solely focused on the current state of media clusters, while this was also criticized. The analysis of path-dependencies within clusters highlights the need to look at the historic development. If a media cluster is to be characterized, it is important to understand how this cluster has developed and what its origins are.

Path-dependency is closely related to the parameter location, as many authors argue that not only the resources of the location are causing certain cluster dynamics and activities to emerge but that ‘history’ is considered to be the leading cause (Martin 1999). The so-called backward and forward linkages and existing expectations can cause cluster
patterns to lock-in through processes of cumulative causation (Martin 1999). Fujita and Thisse (1996) summarize, ‘once spatial differences for industry agglomeration take shape they become substantial’. Factors to assess are the trajectories of media institutions, workers and communities. Ultimately, the parameter path-dependencies will look at professional leaders, local attachment and life trajectories. Considerations of cluster life cycles can have strong impact on path-dependencies as well. Therefore, this parameter has been integrated into the integrative framework in order to answer the following question: how is the cluster evolving?

The sixth parameter is policy, describing regulations and governing incentives for all three entities. Existing literature has used ‘governance structures’ and ‘meta-planning’ to describe this characteristic (see Table 3). Freedman (2008) highlights the importance of political actors in media systems. He defines media policy as the ‘systematic attempt to foster certain types of media structure and behaviour and suppress alternative modes [...]’ (Freedman 2008: 1). Freedman (2008) also differentiates between media policy, which refers to the development of goals and norms, media regulation, which focuses on the operation of legally binding tools, and media governance, which describes the sum of all the mechanisms.

Also important in this context are the different levels in media policy. Not only regional and national governments, but also increasingly supranational bodies are important in the context of media policy. We should distinguish between policies directed towards the media institutions, media workers and the communities. Additionally, this article suggests to include self-governing structures of media clusters, which can be put under the umbrella of cluster organizations and the services they provide to cluster members. Therefore, this parameter shall answer the question: what governance structure (from different governmental levels and policy tools available) influences the entities of a media cluster?

The seventh parameter is performance. The issue many researchers faced when studying media clusters is identifying and quantifying added value, which encompasses in literature ‘innovation’, ‘positive externalities’, ‘economical benefits’, etc. (see Table 3). This issue is addressed through the parameter performance. One way to look at performance is to look at the end product or the economic indicators, such as the number of employees, GDP, etc. (cf. De Souza Briggs and Snyder 2003). These indicators are highly related to the transactions that take place within media clusters. Traditionally, transactions are defined as exchange of goods, labour and money, which are often indicated through formal instruments such as contracts (Storper 2000). Also highlighted are the possibilities of firms to acquire investment within a cluster (Smith et al. 2004). But transactions can also refer to ‘soft and untraded interdependencies’ such as ‘knowledge, ideas, human relations, rules, and conventions’ (Storper 2000: 148). Transaction can, in addition, be related to collaboration and network processes. The more transactions within a cluster take place, the higher the perceived performance of the cluster. The performance of the cluster lies within the reduction of the so-called transaction costs such as ‘search and information costs’ through lowering uncertainties and risks (Scott 2000). Besides transactions, processes of adaptation, which lead to knowledge exchange and spillovers, are also accelerated within clusters (Scott 2000). This concept has become a central interest in media cluster research as it often leads to a positive dynamic that fosters creativity and innovation (Håkansson and Ford 2002). Knowledge externalities have also been often described as a ‘main factor’ that explains why media clusters are formed (Boufaden and Plunket 2005). Often, the idea of ‘tacit knowledge’ has been used in that context. Tacit knowledge is hereby defined as the know-how that is acquired in practice via the ‘informal exchange’ of behaviour and processes (Gertler 2003: 78). Existing tacit knowledge in a
cluster is also an important attractive factor that creates a virtuous circle: high-level knowledge will attract new entrants to the cluster and the newcomers will thus create more knowledge (Tallman et al. 2004).

Other researchers have highlighted the higher ‘efficiency’ and ‘innovativeness’ of firms located within clusters (Karlsson and Picard 2011), which is also linked to positive externalities. Many attempts have been made to account for the innovativeness of clusters (e.g. Traoré 2004; Pouder and John 1996). The considerations are often combined with number of patents, R&D expenditures or similar quantifiable measures of innovativeness. However, the media market is not so much defined by innovations measurable by patents as media as a product is innovative in itself, defined by creativeness. Other externalities produced within clusters are higher competition levels. Porter (1990) stresses, ‘Among the strongest empirical findings from our research is the association between rigorous domestic rivalry and the creation and persistence of competitive advantage in an industry’. Another aspect to look at within performance of clusters is the influence the cluster has not only on endogenous externalities but also on its environment. Policy-makers often exploit the perceived influence a media cluster can have on an urban climate, the exogenous externalities. The attempt is often to transfer less attractive neighbourhoods into creative districts within a restructuring process. Within the multidisciplinary framework these considerations have been translated into performance. The ability of a cluster lies within the acceleration of endogenous externalities such as formal transactions (exchange of goods, money and labour), positive spillovers of knowledge and innovativeness and creativity as well as within exogenous externalities such as urban development. Therefore, the parameter of performance has been integrated to answer the following question: what outputs do the cluster entities achieve?

The interrelation of the entities and parameters

The entities and parameters described above are thoroughly connected and influence each other. As media cluster research aims to create policy recommendations, it is not only important to create insights into the cluster status but also to look into the dynamics and causations. Based on the third principle, this article has found several interrelations in the literature study. By combining the three entities and the 7Ps into one common framework, not only can observations and data be structurally gathered, but also the dynamics and interrelations within the media cluster can be observed. The definitions and factors to look into are summarized in Table 4.
<table>
<thead>
<tr>
<th>Table 4 - Summary of definitions and factors to look at within the entities and 7Ps.</th>
<th>Media Institutions</th>
<th>Media Workers</th>
<th>Media Communities</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place</strong></td>
<td>...the geographical scale and local conditions influencing the media cluster’s dynamics.</td>
<td>Geographic scale, specialised resources, infrastructure, demand conditions, other local conditions</td>
<td>Geographic scale, specialised resources, infrastructure, local attachment, cultural embeddedness, other local conditions</td>
</tr>
<tr>
<td><strong>Proximity</strong></td>
<td>...the topographical and topological nearness influencing the media cluster’s dynamics.</td>
<td>Distance measures, shared values and culture, common technological challenges / capabilities / needs, organisational linkages (competitor and collaborator relationships / supra-cluster linkages)</td>
<td>Distance measures, shared values and culture, common technological challenges / capabilities / needs, social linkages (private and professional networks / supra-cluster linkages), 'buzz'</td>
</tr>
<tr>
<td><strong>Population</strong></td>
<td>...the scale of the cluster in quantity of entities and concentration / relevance for the place linked to the development phase of the cluster.</td>
<td>Number of firms, concentration / relevance of firms, other quantifiable characteristics</td>
<td>Number of workers, concentration / relevance of workers, other quantifiable characteristics</td>
</tr>
<tr>
<td><strong>Profile</strong></td>
<td>...the type of entities and their functions within a cluster.</td>
<td>Activities, sector, size, value chain position, organisational form, target group, scale of operation, etc.</td>
<td>Activities, sector, skills, labour conditions, contract form, etc.</td>
</tr>
<tr>
<td><strong>Path-dependency</strong></td>
<td>...the historic ligation, the origins and historically developed patterns influencing the dynamics.</td>
<td>Trajectories of media firms, local attachment</td>
<td>Trajectories of communities, local attachment</td>
</tr>
<tr>
<td><strong>Policy</strong></td>
<td>...the media policy tools from all levels influencing the media cluster’s dynamics.</td>
<td>Policy goals and tools influencing media institutions</td>
<td>Policy goals and tools influencing media communities</td>
</tr>
<tr>
<td><strong>Performance</strong></td>
<td>...the endogenous and exogenous externalities that media clusters produce.</td>
<td>Increase of formal transactions, knowledge spillovers, innovativeness /creativity, urban development</td>
<td>Increase of formal transactions, knowledge spillovers, innovativeness /creativity, urban development</td>
</tr>
</tbody>
</table>
As can be depicted in Table 4, many similarities and interrelations between the Ps and entities of a cluster can be found. Still, as has been shown above, the distinction of the characteristics of a media cluster into parameters and its entities is necessary in order to structurally observe the said interrelations. Interrelations can be summarized into three points:

1. There are strong relations between the entities. The institutions are perceived from a macro perspective and determine the types of media workers to investigate within a media cluster, as they are mostly employees of the identified institutions (additionally self-employed media workers are to be integrated). These media workers are perceived from a micro perspective and they form media communities. The media communities are therefore perceived from a meso level of the media cluster. Figure 1 depicts the complex links between the different entities through a simplified illustration.

Figure 1 – Interrelations of institutions, workers and communities as media cluster entities.

2. The different parameters are highly interlinked. It is mostly only possible to investigate one P while also looking at another. For example, proximity, population and profile of cluster entities are highly reliant on the place. If the place of the media cluster is a neighbourhood, proximity comes naturally, while the size of the place also influences the possible population. As has already been described within the Ps, performance can be influenced by proximity, population, profile, place and policy and the other way around. As this article has sought to show in the detailed description above, all parameters are strongly interlinked.
As a consequence, the parameters should be studied as a whole, as data and insights relating to one parameter are likely to provide information about others, too. On a theoretical level, however, the parameters remain unique. The interrelations of the Ps are visualized in Figure 2.

Figure 2 – Interrelations of the 7Ps of a media cluster.

(3) The Ps and the entities are interlinked through causation. There is no common agreement on the reasons for success of clusters and argumentations have almost exclusively been based on single case studies. As demonstrated before, all parameters and entities do correlate in some way. But, ‘correlation does not imply causation’, which is often referred to as a ‘chicken and egg problem’. Does proximity within a cluster cause higher performance of the entities; or does higher performance cause proximity? Do the characteristics of the place cause agglomeration of media institutions or does the population cause characteristics of the place? Do media institutions follow media workers or do media workers follow media institutions? This exercise of questioning causality should be applied on all parameters and entities. The thesis of this novel framework is that causation of media cluster dynamics depends on the nature and functioning of the whole cluster. The search for the causation of the agglomeration is a difficult task and analysing media clusters needs to be based on these considerations.

**FINAL CONSIDERATIONS AND CONCLUSION**

The cluster phenomenon in the media industry has become an important topic not only in academia but also in policy matters. The common assumption about media clusters is that locating related actors inside a regional agglomeration brings advantages for these
media firms (Picard 2008). This article demonstrates that the idea of a media cluster being simply an agglomeration of media companies is incorrect as multiple other dynamics occur. Many authors claim ‘co-location does not mean collaboration’. But, the literature so far does not offer a structured framework to scope the heterogeneous facets of media clusters. The goal of this article was to close this gap. In order to achieve the said goal, not only the media cluster literature but also general cluster literature was analysed, looking for entities that have been studied, their characteristics and interrelations in cluster analyses. On the basis of the literature study, this article identified three entities of media clusters: media institutions, media workers and communities. Additionally, seven parameters have been investigated that characterize these entities: place, proximity, population, profile, path-dependency, policy and performance. Bringing the entities and the parameters together, a multidisciplinary framework was created that can be used to describe and analyse media clusters going beyond ‘co-location’ and even ‘collaboration’. This integrative framework differentiates from the evident weaknesses of existing literature (vide supra) and aims to tackle them. The goals of the framework are as follows.

First, the integrative framework is intended to be used on a diverse array of media clusters, as it is not limiting cluster considerations to specific media clusters. This shall lead the future of media cluster research towards a more diverse view, without limiting assumptions on single case studies. Second, the framework shall guide the user towards a more dynamic approach of media clusters. It focuses on interrelations between different entities and characteristics, bringing the user away from static descriptions. Third, users of this framework are called to approach media clusters away from a mere analysis of media companies. The threefold method of putting media workers and communities on the same level as media institutions is bringing the social aspects of media clusters back into focus and allows multidisciplinary approaches. Fourth, the integrative framework unites the diverse vocabulary used in various academic disciplines. Bringing different concepts of media cluster research together leads to a more comparable approach along existing disciplines, connecting media cluster researchers and enhancing future research. Fifth and last, the framework cannot exclusively be used to incorporate quantitative and qualitative observations but it also invites to be filled with additional theoretical considerations of media clusters. That means that on the one hand, the framework guides the user to be aware of important aspects of media clusters while on the other hand it invites for critical considerations and modifications. The framework is a tool that can be modified to fit the needs of the research, the abilities of the researcher and, most importantly, the nature of the media cluster itself, as every media cluster is unique. That also means that the integrative framework will not only appeal to academia but especially to governments and stakeholders alike. The entities and parameters can guide clear action-points when addressing media clusters. Still, the developed framework needs further testing on real-life cluster examples. This article encourages further development of the framework on media clusters in the future.

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