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A novel typology of media clusters

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ABSTRACT

Is the clustering of audio-visual companies in London's Soho really the same as the clustering of Berlin's new media industry? The media cluster approach has gained a lot of attention not only in academia, but also in political discourse. But, as appealing as the media cluster concept is, one of the most fundamental issues is the comparability of the phenomenon. This article tackles this issue and an analysis of 43 case studies has been conducted. The case studies have been grouped to find a new typology for media clusters. The research revealed six different types: The Creative Region, the Giant Anchor, the Specialized Area, the Attracting Enabler, the Real Estate and the Pooling Initiative. The typologies showed that they distinguish especially in their geographical scale and specialization in media activities, while at the same time cluster types can be found in the same area. They are driven by four rationales: agglomeration, urbanization, localization economies and artificial formation.

KEYWORDS

media cluster
typology
agglomeration
media industry
case study

INTRODUCTION

Many authors recognized in the last decade that the media industry is characterized by heavy concentration in certain locations (Boix, Hervás-Oliver, & De Miguel-Molina, 2015; Karlsson & Picard, 2011). These concentrations are often defined as 'media clusters'. Among scholars, the common assumption is that locating related actors in a regional agglomeration brings advantages. Hence, a push of governments to foster the development of media industries at the local and regional levels is occurring based on the concepts and ideas of media clusters. While the rush to employ 'cluster ideas' has been to the forefront, many fundamental conceptual and theoretical questions are not answered yet (Martin & Sunley, 2003).

One of the most fundamental issues with the analysis of media clusters is the comparability of the phenomenon. For instance, how can cluster characteristics that were researched on audio-visual (AV) companies in London's Soho be compared to Berlin's new media cluster? This is similar to the idea of the often neglected aspect of spatial patterns of co-location of clusters sharing the same geographical space (Boix et al., 2015). For instance, is Greater London a media related cluster or should Soho in London be seen as a separate media cluster? There is a problem with existing categorizations as they do not

make clear distinctions. Therefore, the main research question is: How can different media clusters be classified into a typology?

A novel typology can not only support future research in the field of media clusters, but also support policy debates. While there is a recognized lack of evidence-driven, comprehensive research on media clusters, case studies in that field are more than abundant. In order to find a novel typology, an inductive analysis of 43 case studies of media clusters has been conducted. The first part of this article analyses existing typologies and classifications in media cluster and cluster research. The advantages and disadvantages of existing approaches will be highlighted. The second part explains the methodology and the cases used in the research. In the third part, the novel typology of media clusters is developed. The article concludes by exploring the strengths and weaknesses concerning application in research and praxis.

Part 1: (Media) cluster typologies in the literature

Boix et al. (2015) explain that there is an intense discussion in the literature about the notion of clusters, especially concerning taxonomical and typological issues. In the domain of media cluster research, no dedicated publications on the development of media cluster typologies could be identified. Still, Picard (2008) gives in his work some exploratory insights. First, he distinguishes media clusters on the basis of their sector: (1) AV clusters; (2) new media clusters; (3) creative industry clusters and (4) print media clusters. However, a delineation into sectors might be helpful in research, but merely displays the reality. The media industry is influenced by converging tendencies and the development of new technologies. For instance, an AV cluster based on broadcasters operates today with actors of the new media industry. Second, Picard (2008) refers to Goldsmith and O'Regan (2003). They analysed the so-called studio complex and argue that AV clusters actually take three possible forms: (1) the production precinct, which services production; (2) the cinema city complex, which is oriented towards film and production drama work; and (3) the media city, which includes all features of the cinema city and also broadcasting production facilities. Such a distinction is much more helpful, especially in practical implications of creating an AV cluster. But, this typology is still limited to only a small proportion of existing possible media cluster types.

Third, Picard (2008) observes three primary types of media clusters based on how they originated: (1) spontaneous clusters driven by needs; (2) planned clusters, which are created and promoted by authorities; and (3) real estate-driven clusters created through private interests that acquire and develop real estates. Fourth, this distinction also leads to a division by the operational characteristics by Picard (2008): (1) managed clusters that are overseen by professional managers; (2) cooperative clusters that provide collaborative activities and (3) unmanaged clusters without a structured organization. The origins and the operational characteristics of media clusters play an important role in finding different types of media clusters, but are not detailed enough to cover all forms of media clusters so far.

When looking for typologies in the cluster literature, articles on general industrial clusters are more particularized. Markusen (1996), for instance, distinguishes different types of clusters based on an inductive analysis of metropolitan regions in the US, starting from the concept of 'new industrial districts': (1) the Marshallian new industrial district based on small and medium-sized companies; (2) the hub and spoke district based on one or

several large firms with numerous suppliers; (3) satellite industrial platforms based on medium and large branch plants and (4) the state-centred district clusters that comprise large public or non-profit entities and related supplying firms. The focus on this distinction lies in the composition of players in the cluster.

Gordon and McCann (2000) later developed a typology on industrial clusters, depending on the dominant characteristic process occurring. Referring to Markusen's (1996) typology, they claim that their typology is in contrast built on a deductive approach and test their assumptions with quantitative data from the area of London. The types are (1) the model of pure agglomeration, based on geographical proximity that enables job matching and economies of scale and scope (agglomeration economies); (2) the industrial complex model, based on input-output linkages and co-location in order to minimize transaction costs; and (3) the social network or club model, focusing on high levels of social integration, interaction and trust. Both Markusen (1996) and Gordon and McCann (2000) give rich insights into how a cluster can be formed and what drives them.

Similar to this approach, Vom Hofe and Chen (2006) use already established concepts that root in the agglomeration economies literature and propose to group clusters into 'comparable' classifications: (1) industrial clusters 'à la Marshall' that are based on localization economies; (2) clusters based on inter-industry relationships that can be found in input-output tables and (3) cluster concepts according to Porter (Porter, 1990) that encompass a wide spectrum of explanations (cf. Boix, Hervás-Oliver, & De Miguel-Molina, 2012).

Dicken (2007) referring to Markusen (1996), on the other hand, develops his own distinction into simply two types that are both based on the notion of externalities and both rely on the idea that the 'whole' (the cluster) is greater than the parts because of the benefits spatial proximity provides (cf. Eriksson, 2011b): (1) generalized clusters that occur in urban areas through cost reductions and the need of a variety of facilities that are established in cities and (2) specialized clusters that form in 'industrial districts' benefitting from localization economies and linked production networks.

Existing typologies focus either on the composition of the cluster (e.g. the size of the players, the sector) or on the functioning of the cluster (e.g. through organization, through agglomeration economies) (see Table 1). However, it is necessary to bring both scales into consideration when developing a typology. Additionally, there is no detailed typology for media clusters in the literature yet and research in this field is still scarce. The extent of empirical testing of typologies has been surprisingly small. Still, the existing typologies give valuable insights.

Part 2: Methodology

The typology developed in this article is constructed through a process of inductive inquiry of the literature. The media cluster literature offers a prolific number of case studies, making knowledge on the matter fragmented (Karlsson & Picard, 2011). Fortunately, the existing case studies provide rich and valuable evidence on media clusters. While no single case study is open to generalization, the value of a collective of case studies is obvious. Therefore, this article builds on the findings of previous authors to build generalizable proof for media cluster research. Existing case studies are depicted as especially suiting as they are generally used to investigate a phenomenon in real-life context (Yin, 2003) and offer in-depth data (Eisenhardt & Graebner, 2007). Reliability of insights is given as numerous cases have been analysed, enabling theoretical ideas to

Table 1 – Existing (media) cluster typologies in literature.

Source	Approach taken	Distinctive feature of typology	Typologies identified			
Picard (2008)	Media clusters	Sectors	(1) Audio-visual	(2) New media	(3) Creative industry	(4) Print media
Picard (2008)	Media clusters	Origins	(1) Spontaneous	(2) Planned	(3) Real estate driven	
Features:			Organically driven by needs of large companies	Created / promoted by authorities	Private interests / development of real estates / marketing for purpose	
Picard (2008)	Media clusters	Operational characteristics	(1) Managed	(2) Cooperative	(3) Unmanaged	
Features:			Professional managers	Collaborative activities from within	Without structures	
Markusen (1996)	New industrial districts	Profile / linkages / policy	(1) Marshallian new industrial	(2) Hub and spoke district	(3) Satellite industrial platforms	(4) State-centred district
Features:			S and SMEs / inter-firm trade / collaboration / institutional support	L firms with smaller suppliers / inter-firm trade / networking	Medium and large branch plants / often high-tech / low-wage, - tax / subsidized	Large public or NP entities / related service firms / purchase-sale
Gordon & McCann (2000)	Industrial clusters	Economic process / linkages	(1) Model of pure agglomeration	(2) Industrial complex model	(3) Social-network or club model	
Features:			Agglomeration economies	Input-output linkages / minimize transaction costs	High levels of social integration and trust	
Vom Hofe & Chen (2006)	Agglomeration economies	Economic process / linkages	(1) Industrial clusters (cf. Marshall)	(2) Clusters based on inter-industry relationships	(3) Cluster concepts (cf. Porter)	
Features:			Localization economies	Input-output linkages	Wide spectrum of explanations	
Dicken (2007)	Externalities through proximity	Specialization / place	(1) Generalized clusters		(2) Specialized clusters	
Features:			Urban areas / cost reductions / city facilities		Industrial districts / localization economies / linked production	

emerge (Langley, Smallman, Tsoukas, & Van de Ven, 2013). The method established in this article involved a two-stage process.

First, existing case studies on media clusters in academic and institutional publication were identified. In total, more than 50 case studies have been recognized through a process searching in online databases and the comparison of the case study literature found in referenced articles. The so-called snowball approach was used. Given the primary goal to create a typology for media clusters, a number of case studies have been excluded. Case studies were excluded when (1) the place identified in the case reoccurred in other studies, (2) the study was too narrowly focused to provide necessary information and/ or (3) the study focused on localization. This technique was applied within the analysis process and reduced the number of cases to 43 (see the appendix).

Second, these case studies have been analysed and compared. Comparing cases enables a replication logic, which is central in theory building. Therefore, the novel typology 'is situated in and developed by recognizing patterns of relationships among constructs within and across cases and their underlying logical arguments' (Eisenhardt & Graebner, 2007, p. 25). The first step was to create a description of the case narratives of each case study (Langley, 1999). Data were classified into tables in order to better comprehend the underlying logics involved. Additionally, 16 case studies from the total of 43 have been identified to support the narrative of the findings in the research. The 16 case studies gave the most detail on a variety of characteristics that were analysed (see the appendix). The analysis built different factors that represent a large proportion of the variability of data. These factors have been distinguished into three sorts (see Figure 1). (1) 'Characterizing factors' were identified that describe the characteristics of the media cluster. These factors are the largest amount identified per media cluster type and incorporate dynamics and purely descriptive characteristics. (2) Main 'driving factors' were identified out of the characterizing factors. Only one driving factor per media cluster type was elaborated for simplicity. Within the analysis, the assumptions of the authors of the case studies were taken into consideration to find what essentially creates and drives the media cluster. (3) 'Common factors' were identified out of the characterizing factors. Common factors are characteristics of media clusters that go beyond certain types. These factors also characterize the media cluster type, but all media cluster types identified have these factors as essentially descriptive. The logic of the common factors as well as the driving and characterizing factors are further elaborated in Part 3.

Figure 1. The three factors of the analysing framework.

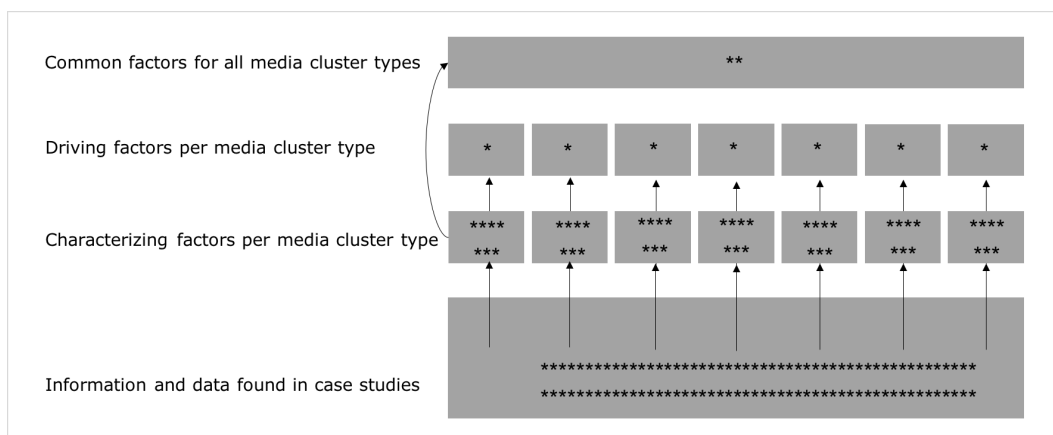


Table 2 – The 7 P framework for media cluster analysis (depicted from Komorowski, 2016).

Place	...the geographical scale and local conditions influencing the media cluster's dynamics.
Proximity	...the topographical and topological nearness influencing the media cluster's dynamics.
Population	...the scale of the cluster in quantity of entities and concentration / relevance for the place linked to the development phase of the cluster.
Profile	...the type of entities and their functions within a cluster.
Path-dependency	...the historic ligation , the origins and historically developed patterns influencing the dynamics of the cluster.
Policy	...the media policy tools from all levels influencing the media cluster's dynamics.
Performance	...the endogenous and exogenous externalities that media clusters produce.

Part 3: Scope and framework

The first step of researching media clusters is the delineation of what is a media cluster. Within this article, a very expansive notion is chosen which follows the elaborations of Picard (2008): A media cluster is an agglomeration of media organizations and other media-related entities that group for mutual advantages and 'produce mediated content, such as motion pictures, television programs/videos, broadcasts, audio recordings, books, newspapers, magazines, games, photography and designs, web sites, and mobile content'.

A framework to study the media cluster phenomenon is the second step in researching media clusters. This article extends the work of Komorowski (2016) who developed a framework that groups media cluster characteristics into seven parameters '(7Ps): place, proximity, population, profile, path-dependency, policy and performance' (see Table 2). The framework is especially suiting for this research as 'not only empirical observations but also theoretical considerations' can be placed within it (Komorowski, 2016). Komorowski (2016) developed the 7 Ps based on insights not only from media cluster research, but also from general industry cluster research, grouping different characteristics that have been analysed and discussed in the literature so far. The strength of the 7P framework is that it describes overarching parameters that are very inclusive and open for interpretation so that research that is built on the framework is able to adjust the parameters to the goals of the research. After each parameter was identified within each case, similarities between the cases' Ps were identified. When more than three cases had at least three parameters similar, a first grouping into a media cluster type was considered. This process was repeated till every case could be grouped with at least two other cases. This grouping built the novel typology.

Part 4: The different types of media clusters

This research found six different types of media clusters:

- (1) The Creative Region
- (2) The Giant Anchor
- (3) The Specialized Area
- (4) The Attracting Enabler
- (5) The Real Estate
- (6) The Pooling Initiative

The Creative Region

The Creative Region type is based on the analysis of the cities of Amsterdam (Musterd & Deurloo, 2006), Singapore (Eriksson, 2011a) and Berlin (Krätke, 2004). Additionally, Toronto, Los Angeles, Sydney, Cape Town, New York and London support the type (Brinkhoff, 2007; Currid & Williams, 2010; Davis, 2011; Dugmore & Mavhungu, 2011; Gwee, 2009; O'Regan et al., 2011; Pratt, 2011).

The Creative Region is mainly shaped through its (1) place: A large geographic area where the cluster operates at, usually a metropolitan region and/or a capital region, such as Berlin, Singapore or Amsterdam. The largest concentration of media firms in this type focuses on a central point such as the inner city leading to close (2) geographical proximity between firms. From there, media activities stretch to the periphery of the city. These big metropolitan regions as location of a media cluster provide advantages due to readily available infrastructures and institutions. Particularly important for this media cluster type is the presence of a so called urban milieu or urban environment. Krätke (2004) describes social and cultural milieus that are 'branding culture and media products' and a lifestyle that combines leisure and working time. This milieu also encourages the development of face-to-face interaction and collaboration networks and is especially attractive for talented and well-educated people. The Creative Region shows a big (3) population and can reach 10,000 of media firms and five times as many people working in media. It can be generally assumed that the cluster size scales with the size of the city. Of importance is that the media cluster is not at all specialized in certain activities in its (4) profile. Media activities include not only publishing, advertising, the AV sector and new media, but also ICT, arts and creative activities. (5) Policies and governmental influence on the Creative Region can play a role, but are not a determining factor. The Creative Region is strongly influenced by (6) historical developments. It often has its roots in industrial locations that shifted towards the service sector as described for Amsterdam. Concerning the (7) performance assessment of the Creative Region, results have been heterogeneous in research. For example, authors found that the high prices for rent in central points of big metropolitan areas have a negative influence on the media clusters.

Even though hindering factors for the growth of the Creative Region type have been found, there is a 'driving factor' recognized: urbanization economies. Urbanization economies can be described as local dynamics such as not only sharing of costs and services, access to a variety of infrastructures and economic, social and cultural facilities, but also knowledge spill-over effects and access to a large labour pool. Florida's (2002) concept of the creative class is a determining factor for the functioning of this media cluster type as well as the idea of an 'urban milieu'. This media cluster type has been already acknowledged, including Eriksson (2009) who describes his 'generalized cluster' type as an urban phenomenon that is influenced by urbanization economies. Additionally, the Creative Region has been also formalized in the literature as, for instance, a 'global media city'. Krätke and Taylor (2004) describe the idea of global media cities and distinguish hereby between different strategies of where global media firms locate.

The Giant Anchor

The Giant Anchor as the second type is built on Hitters' (2011) analysis on the broadcasting cluster in Hilversum (The Netherlands), Cook and Johns' (2011) case study on Manchester

and Liverpool (UK) and Bathelt and Boggs' (2003) analysis on Leipzig's (Germany) media cluster, and is supported by findings on Munich, Cardiff and Cologne (Bathelt, 2011; Chapain, Cooke, De Propriis, MacNeill, & Mateos-Garcia, 2010; Mossig, 2006).

The (1) place of the Giant Anchor is centralized within a focal point, that is, defined by one or more major institutions. In the cases analysed, this focal point was at the location of a public broadcaster. Also, other 'anchoring' actors or institutions can play that role. The boundaries of the Giant Anchor from this focal point can be quite indistinct. While Bathelt and Boggs (2003) see the limit of the media cluster case as the city of Leipzig, Cook and Johns (2011) describe the whole North West of England in their study. The areas or cities of the Giant Anchor are mostly medium-sized but have a strategic location (e.g. Hilversum, which is close to Amsterdam). The cases highlight the availability of a large local and specialized labour pool. The concentration (2) of firms in the Giant Anchor is very strong. For instance, the highest concentration of TV companies in The Netherlands can be found in Hilversum. This also leads to a dependent network that is vertically integrated and relies on resources within the cluster. The Giant Anchor can be (3) populated by several hundred firms (around 500), which employ 10,000 of people. This size of the Giant Anchor is, however, determined by its (4) profile that is dependent on its most important feature, its focal institution. All case studies highlight that there is a limited number of large firms at the core and a lot of small companies that are usually dependent on the commissions from the core. Giant Anchor clusters are highly influenced by (5) politics and (6) path-dependencies. For example, the North West of England is highly influenced by the 'out-of-London' obligations that impose the BBC to outsource production. The Giant Anchor type seems very locked-in at their location. For instance, Hilversum became a media cluster because transmission towers were located there, which are in today's age obsolete. Still, the Giant Anchor can show (7) good performance through many means. Hitters (2011) highlights that the oligopolistic structure leads to competition between suppliers, creating more efficiency. Costs of coordination are reduced and the availability of specialized supply firms and local expertise are highlighted.

In conclusion, the Giant Anchor is driven by the activities of one or several large media institutions, which attract media firms to agglomerate. While the analysis above mostly followed public broadcasters, examples of Giant Anchors that are based on private firms can be found. Barnes and Coe (2011), for instance, describe EA Canada as the focal point of the video game industry in Vancouver. Also, Picard (2008) highlights these dynamics and describes that big media firms are in need of freelancers and small firms through the project-based character of the industry. Markusen (1996) describes his 'hub and spoke-' and 'state-centred district' that follows a similar logic. The importance of the central large media institution as an anchoring point for the agglomeration of media companies is summarized here under the term 'localization economies'.

The Specialized Area

As the third media cluster typology, the Specialized Area was built on Nachum and Keeble's (2003) study on central London (in Soho), Plum and Hassink's (2014) case of Hamburg's video game developers (in St. Pauli) and Britton and Legare's (2005) analysis of new media in Toronto (in Dundas and Font Streets), and is supported by studies on

Silicon Valley, Nashville, Sussex and Brighton (Blackburn & Conway, 2008; Casper, 2007; Harper et al., 2013; Perrons, 2004).

A Specialized Area is a media cluster that is (1) located either in a neighbourhood or a district within a big metropolitan area (e.g. St. Pauli in the centre of Hamburg) or in a certain rather small urbanized area (e.g. Silicon Valley). The cluster can 'stretch' towards surrounding districts. The urban environment within these districts, like the existence of informal gathering places such as bars, restaurants, clubs and theatres, plays an important role. It can be stressed that the Specialized Area is marked by a readily available, large pool of employees from a specialized field. Infrastructure such as public transport and road access results in good levels of accessibility. The cases showed that the Specialized Area has the (2) highest concentration of specific media activities within the whole country. London, for example, excels by providing an estimated 70–80% of all mediarelated employment in the UK, out of which most is to be found in Soho (Nachum & Keeble, 2003). Contributing to this pooling of manpower is the combination of collaborative and competitive relationships and the informal circulation of knowledge, resulting in an overall higher level of expertise. The Specialized Area can be (3) populated by only several 10–100 firms and respectively 10 times as many employees depending on the specialization (e.g. 25 video game firms in St. Pauli, Hamburg, to 550 new media firms in the central area of Toronto). The (4) profile of the Specialized Area shows a strong specialization. Companies are predominantly of small or 'ultra-small' scale and a large pool of freelancers is available (but also multinational companies can be integrated). The necessary stakeholder network of support-actors is abundantly in place. The Specialized Area can be influenced by (5) policy mechanisms. Toronto's new media sector is, for instance, supported by institutions such as AIMS and the New Media Business Alliance. Additionally, the Specialized Area is influenced by path-dependency (6). The cluster firms are often locked-in. Soho, for example, has been identified as a place for 'bohemians' since at least the 1920s when major media companies purchased premises there. The unifying factor concerning (7) performance is the focus on specific advantageous aspects of the cluster set-up. The afore-mentioned supporting network of specialized firms and available knowledge and skills makes the cluster successful.

These cluster dynamics of the Specialized Area are the driving factor and can be summarized under the term 'agglomeration economies'. Of strong significance is the agglomeration of specialized activities in a certain 'smaller' area. In the literature, the dynamics that occur in these areas have been widely discussed and range from commonly assumed advantages of higher levels of competition, knowledge transfer, mobility of a large labour pool, networks of suppliers or vertical relationships, closeness to clients, to networking. Dicken (2007) describes the 'specialized cluster' type benefitting from localization economies and linked production networks. Markusen (1996) describes the 'Marshallian new industrial district' that is based on small and medium-sized companies that are independent on inter-firm trade, collaboration and institutional support. These descriptions fit the inherent logic of the Specialized Area media cluster.

The Attracting Enabler

The Attracting Enabler as the fourth type is based on the analysis of the production cluster in Potsdam (Germany), called Babelsberg Film Studio (Krätke, 2002), the film

production cluster in Trollhättan (Sweden) called *Film i Väst* (Achtenhagen, 2011) and the studio complex in London (UK) called *Pinewood Studios Group* (Goldsmith & O'Regan, 2003).

The Attracting Enabler is a media cluster type that is in its core determined by the (1) location of certain facilities or resources that can be shared that enable media activities. The case studies identified to build this typology all focus on movie studios. However, the author considers that also other facilities and resources enable this media cluster type, and will further discuss this below. The facilities of movie studios need a lot of space. For example, the Babelsberg movie studio complex incorporates an area of 460,000 m², while Trollhättan features 1100 m². On the site of these facilities or close to them, a pool of specialized media workers is established, as well as other institutional support networks and infrastructure facilities can be found (e.g. the Pinewood Studios Group is connected internally and with London through a high-speed intranet connection). The location of the Attracting Enabler can be very heterogeneous. While, for instance, Babelsberg and Pinewood are strategically close to the capitals, Trollhättan is very far from the capital or any other major city. Because of the facilities, there is strong (2) proximity as the firms are either on the same site as the enabling facility located or directly around it. This also leads to significant concentration of media activities (e.g. 20% of the German film industry is located in Babelsberg). Transactional and communication networks are often established. The (3) population of the Attracting Enabler depends on the enabling facilities and can be very varied in size. For example, Trollhättan features only 14 production companies, while more than 2000 different service companies are attributed to the Pinewood Studios Group. The population also depends on the (4) profile of the cluster. The Attracting Enabler can be highly specialized in activities that are enabled by the localized facilities. In the case of movie studio clusters, this means specialization in movie production. Also, other supporting institutions can be included such as schools and public bodies. The range of specialization can, however, vary. For instance, Babelsberg specializes in pre- and postproduction, while the Pinewood Studios Group integrates all kinds of activities related to AV production. The (5) policy-related situation and the (6) historical development are also very inconsistent. Political influence and historical lock-in effects depend on the facilities established. In the case of movie studios, a strong influence of policy mechanisms can be observed. For example, Babelsberg established in 1912 functions through strong connections to regional bodies (HFF, Media Initiative, etc.), as contracts of these bodies have to be allocated to firms in the same region. Regarding the (7) performance, the cluster has unique traits. The facilities are normally necessary to do certain media activities and, therefore, enable the cluster to even perform. However, important aspects that seem to reoccur are the accessibility to necessary support services, access to infrastructures and specific facilities as well as local and super-regional networks.

The Attracting Enabler type incorporates the idea that the driving factor of this cluster is the availability of a facility or other resources that can be shared, which attract the agglomeration of media activities. Within this article, this dynamic is part of the idea of 'localization economies'. The benefits and the dynamics created through an enabling facility and resources seem obvious. Without these, the cluster could not execute its activities. Additional dynamics as observed in the other types can still occur, which makes this cluster no less interesting. Goldsmith and O'Regan (2003) analysed the so-called studio

complex, showing that the extent of activities and specialization can be quite heterogeneous. Other facilities and shared resources can be imagined, but have not gotten much attention in the literature. One author who describes this idea is Vang (2007). He argues that the agglomeration of newspapers in the largest metropolitan areas is not due to knowledge externalities, which is typically emphasized, but instead he argues that the spatial organization reflects the need for physical proximity to central powers and major events taking place in these areas. The Attracting Enabler as one of the media cluster types is, therefore, going beyond the existing literature.

The Real Estate

The fifth type of media clusters has been named the Real Estate and is built on the analysis of the Dubai Media City by Picard and Barkho (2011) and Hitters's (2011) analysis of the Media Park in Hilversum in The Netherlands, while analysis on Dublin's Digital Hub and the Chiswick Park in London was also used (Bayliss, 2007; Njo, 2002; Sanders, 2008).

The Real Estate type of a media cluster is determined by its (1) place: provided office space. The office space can range from several working places to a flex office to a building and to several buildings in an area. Therefore, not only so-called industrial purpose buildings are included in this typology, but also smaller initiatives, such as incubators and workshops. While the case studies identified only focus on the building and real estate-driven media clusters, the author claims that the functioning of this kind of media cluster extends further. However, as this area is under-researched, the following elaborations will focus on buildings, but include further considerations of extending the typology. In terms of scale, the Real Estate media cluster can be quite diverse. For instance, the Dubai Media City incorporates 30 buildings with each 33,000 m², while the Media Park in Hilversum consists of one building with 300,000 m². When the Real Estate is not a building, even much smaller scales are possible. The location of the Real Estate can be also quite diverse: within a major city (e.g. London) or even a medium-sized city (e.g. Rotterdam). The Real Estate often offers additional small facilities or services that make this cluster attractive. For instance, the Dubai Media City offers hotels, housing complexes, infrastructures and a free-trade zone. The (2) proximity of the media firms and activities are obvious: they share closely located offices. This leads to a high density of many firms and many people who can network and find necessary skills and activities. The (3) population scales with the available office space and profile. It can rank from only 10 to a couple of 100 firms (200 companies in the Media Park in Hilversum) to more than 1000 firms (1400 firms in the Dubai Media City). The (4) profile of the Real Estate depends on its management and can be quite broad to really focused. For example, the Dubai Media City includes companies active in broadcasting, publishing, printing, music, leisure and film, ranging from outlets of major media giants such as CNN and Reuters to individual freelancers. The Media Park in Hilversum, on the other hand, focuses on AV and major core companies such as the public broadcaster PSBS and production company Endemol are located there. The (5) policy influence and (6) path-dependency effects on the Real Estate are determining the dynamics of the cluster type. The Real Estate can be privately but also publicly owned and managed. For instance, the Dubai Media City was created through specific planning of the government and the royal family, and is now owned by Dubai holdings, a private company. The Media Park Master Plan (2020) established

by local policy for Hilversum targets the stimulation of networking and spillovers within the Media Park. In the managements of the Real Estate, different services are offered. For example, visa arrangements and travel bookings are included services in the Dubai Media City, and the Media Park in Hilversum is in charge of public safety, a good working environment and more. The (7) performance of the Real Estate is driven most of all by the provision of media-targeted real estate. But other dynamics can influence the performance of the cluster, such as the services and facilities provided. Additionally, it can be observed that the Real Estate is also used as an urban renewal programme by public authorities.

The driving factor of this media cluster is first of all the provision of office space that targets media actors. The difference from the Attracting Enabler type is that the facilities and resources provided are not a requirement for the companies to work. Especially interesting to notice here is that this kind of cluster is the first identified type that is purely artificially formed. While the other types have evolved mostly naturally and through localization, agglomeration or localization economies, the Real Estate is a purpose-built media cluster. This idea is not only still new in the media cluster literature, but also a quite recent phenomenon in regional policies (regarding that 20 years is recent however). Besides the real estate media clusters that already exist such as the Dubai Media City, the Media Park in Hilversum, the MediaPark in Cologne and the Media City in Salford, more media purpose buildings are in development, such as the future Media Park at the site of Reyers in Brussels. The Real Estate type is still an underresearched media cluster. Picard (2008) already described the 'real estate-driven cluster' with similar characteristics and the 'planned cluster' which is promoted by authorities and the 'managed cluster'.

The Pooling Initiative

The sixth and last type is called the Pooling Initiative and is based on Sölvell, Lindqvist, and Ketels's (2003) analysis of the Scottish Enterprise initiative, Pareja-Eastaway and Pradel i Miquel's (2010) data on the @22 initiative in Barcelona and Laur et al.'s (2012) case study on RockCity, Sweden.

This media cluster type is the most distinctive as the Pooling Initiative is not really determined by a (1) place. The place of these clusters is, however, still predefined by a local organization, a so-called cluster initiative. These initiatives can cover, for example, a whole country (e.g. Scottish Enterprise initiative acting in Scotland), a village (e.g. RockCity acting in Hultsfred in Sweden) or a small district or neighbourhood (e.g. @22 acting in a neighbourhood in Barcelona called Poblenu). This has also an influence on the (2) proximity within a cluster. The bigger the area covered, the less proximity can be between firms. Nevertheless, the collaboration and networking within the Pooling Initiative need to be highlighted as the initiatives are most often in charge of enabling this for its members. These members make up the (3) population of the cluster. For instance, the @22Network initiative in Poblenu incorporates 70 representatives and the RockCity initiative in Sweden has 20 SMEs as members. The Pooling Initiative can reach more than several hundred members. The (4) profile of the cluster can be very narrow and very broad depending on the organization. For example, the Scottish Enterprise initiative focuses on all creative industries, while

RockCity focuses on micro-firms specializing in music. Very often also other institutions such as universities and public authorities and bodies are involved. The (5) policy mechanisms within the Pooling Initiative are the drivers. The Pooling Initiative is determined by an overarching initiative that can be publicly or privately organized that agglomerates the media activities and manages them to reach a predefined goal that most of the times incorporates the strengthening of the local media industry. This goal is supposed to be reached through different means that include the organization of interaction between firms through, for example, the provision of networking events, the facilitation of education and training, the image-strengthening of its members or direct services. The organization within the Pooling Initiative can be very different. For example, the Scottish Enterprise cluster has a core team of five representatives of local enterprises and four representatives of the government side, while RockCity is essentially an initiative of a musician and his friends. These initiatives are found to be either privately funded by its members or by local or even EU-level mechanisms. Therefore, also the (6) historical development is similar. But what Pooling Initiatives have in common is the organization that intervenes in a localized media sector, leading to a variety of benefits. This is also how this type (7) performs.

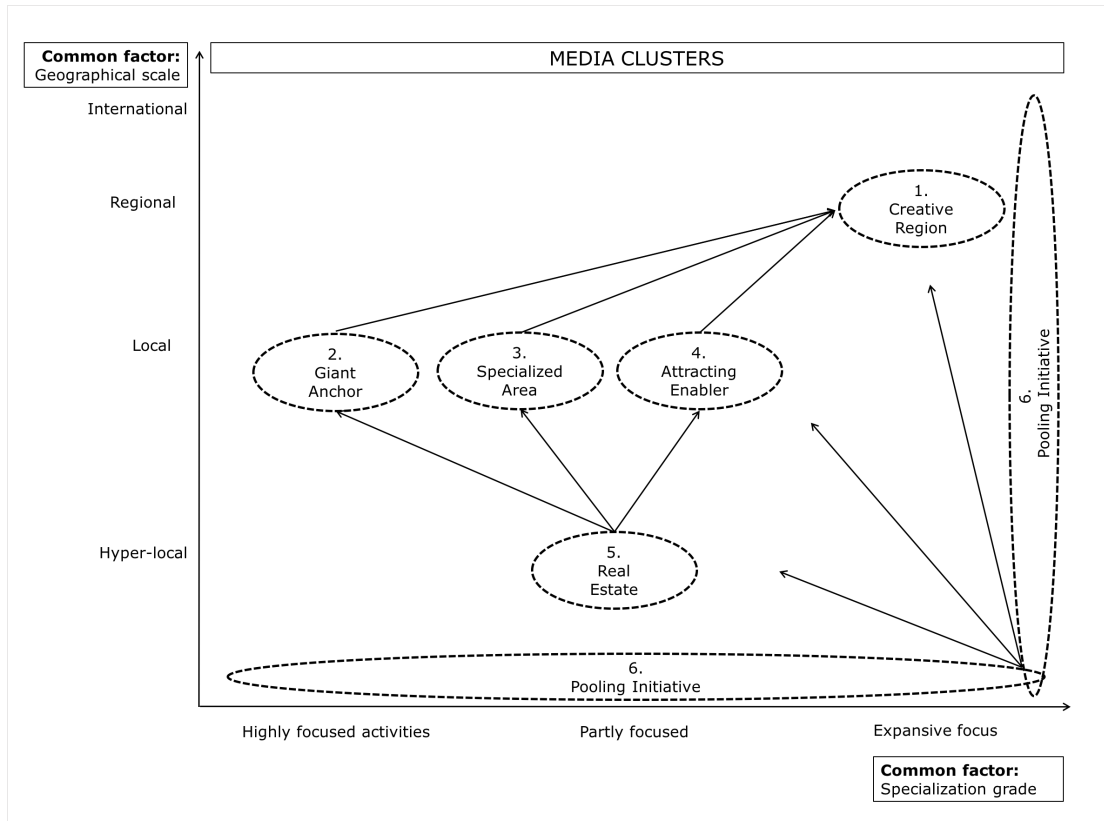
This also means that this media cluster type is artificially driven. What is also distinctive about this cluster is that it encompasses very diverse possibilities in its geographical scale and specialization in certain media activities. This also means that this media cluster type cannot be deductively identified. The research on this type needs to start with the initiative itself. The Pooling Initiative is also an artificially formed media cluster that, however, is developed on top of existing agglomerated media activities. Also, Picard (2008) describes a 'managed cluster' type and Gordon and McCann (2000) develop the 'social network or club model', focusing on high levels of social integration.

Part 5: The novel media cluster typology

Based on the six types described above, this part will focus on bringing them together into an integrative media cluster typology. For this reason, the so-called common factors have been investigated (see Part 2). The case study analysis revealed that there are two common factors that can be used to scale the different typologies: the (1) specialization grade (described in the profile factor) and the (2) geographical scale (described in the proximity and population factor) of the media cluster. However, these common factors do not display a comparable characteristic but revealed a scalable dimension. Through this approach, different kinds of media cluster types are identified on different dimensions (see Figure 2).

Examples of the case studies can illustrate the dimension of the specialization grade. Harper et al. (2013) have described in detail the Nashville music industry. Nashville's cluster integrates highly focused activities in the music sector. Pratt (2011), in contrast to Nashville, describes how London is hosting many different media sectors from print to AV and new media activities having an expansive focus. Therefore, the type with the most expansive focus in media activities is the Creative Region. The Giant Anchor is the most focused type as the supply service companies are highly specialized in serving the focal institution. The other types, the Specialized Area, the Attracting Enabler and the Real Estate, are somehow focused in their activities, but can also be more expansive (see Figure 2).

Figure 2. Media cluster types, their factors and their co-location: the novel typology.



<p>1. Creative Region Driving factor: Urbanization economies</p> <p>Characterizing factors: - Big metropolitan city-region - >10.000 media firms (all sizes) - Highest concentration of media activities in country - Very broad focus on media including Telecom and ICT</p>	<p>2. Giant Anchor Driving factor: Localization economies through large institutions (public / private)</p> <p>Characterizing factors: - Strategic location (medium-sized cities) - >100 media firms (mostly small) - Highest concentration of specialized activities in country - Service supply network with focal point - Path-dependency and policy influence</p>	<p>3. Specialized Area Driving factor: Agglomeration economies</p> <p>Characterizing factors: - Neighbourhood of metropolitan city or small urbanized area - 10-1000 media firms (mostly small-medium) - Highest concentration of specialized activities in country - Pooling of skills, knowledge, networks, etc.</p>	<p>4. Attracting Enabler Driving factor: Localization economies through facilities / resources</p> <p>Characterizing factors: - Heterogeneous locations and population depending on facilities - Accessibility to support services, infrastructures, networks and specific facilities</p>	<p>5. Real Estate Driving factor: Artificially formed through office space</p> <p>Characterizing factors: - From office space to several buildings - 10-2000 media firms - Accessibility to services, facilities and networks - Policy and management influence</p>	<p>6. Pooling Initiative Driving factor: Artificially formed through initiative (public / private)</p> <p>Characterizing factors: - Can be found on any geographical scale and specialization grade - Accessibility to networking and collaboration, services - 10-several 100 media firms - Policy, funding and management influence</p>
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Porter (2003, p. 255) explains about clusters: 'They are present in large and small economies, in rural and urban areas, and at several geographic levels (for example nations, states, metropolitan regions, and cities)'. To illustrate, Picard and Barkho (2011) describe the Dubai Media City as a media cluster, which are buildings and its surroundings in Dubai, while Cook and Johns (2011) focus on the North West of England with Manchester and Liverpool in its centre. This means for the six media cluster types that the Real Estate can be found on the smallest geographical scale, the hyper-local level; the Giant Anchor, Specialized Area and Attracting Enabler can be found on a local level and the Creative Region on the biggest geographical scale, the regional level. The Pooling Initiative is an exception to these dimensions as it can be highly and not at all specialized and can be hyper-local and extend internationally (see Figure 2).

Through the distinction into the geographical scale and specialization grade of the media cluster types, another interesting observation can be visualized. The novel typology reveals and emphasizes that certain media cluster types can be found in other certain types. Authors such as Mommaas (2004), and Pratt (2011) have found clear evidence of several media clusters co-locating, for instance, in the same cities. But should we see them as separate media clusters that co-locate or do they form an overarching media cluster together? This article follows both logics at the same time. To illustrate, Hitters (2011) investigated the Dutch broadcasting cluster in Hilversum. He found not only the agglomeration of major broadcasters as described in the Giant Anchor type, but also the presence of a Real Estate at the same site. London can be seen as an example that integrates all kinds of types in one region. Still, each media cluster that is located in London functions as a single media cluster type and at the same time, London and its surroundings function as an integrated media cluster (see arrows in Figure 2).

Additionally, the novel typology reveals that the driving factors of media clusters can be distinguished into four rationales: (1) urbanization economies, (2) agglomeration economies, (3) localization economies and (4) artificial formation. As explained in each type (see Part 4), the dynamics within each rationale can overlap and similar benefits occur for the firms. So, what is the difference between each driving rationale? First of all, in the literature, urbanization, agglomeration and localization economies and their differences and influences on firms are often discussed (Moomaw, 1988). Agglomeration economies is most often used as an overarching term for the other two. However, for the development of the new typology, a clearer distinction is needed. Therefore, this article reflects, on the one hand, on urbanization economies as such dynamics that occur in urbanized areas, while agglomeration economies only occur when companies agglomerate, which can be also outside an urban environment. On the other hand, localization economies occur when the specific location of a firm enables more productivity, while no need for an agglomeration of several firms is needed and also no urban context. Artificially formed media clusters as the fourth rationale can be formed while neither the context of a city, the actual agglomeration nor the location is needed, but a driving top-down approach establishes the cluster.

CONCLUSION AND IMPLICATIONS

While the media cluster concept has become not only an appealing approach in the literature but also as policy tool, there are still many fundamental conceptual and theoretical questions not answered yet. One of the most fundamental issues is the comparativeness of the phenomenon. There are essential differences when one talks about a media cluster such as Berlin, Singapore, Manchester, Toronto or London. But in discussions and in research, all these media clusters are lumped together, leading to false assumptions and confusion in debates.

In order to solve this issue, a new typology was developed in this article. The typology is composed of six different media cluster types (Creative Region, Giant Anchor, Specialized Area, Attracting Enabler, Real Estate and Pooling Initiative), which have specific characteristics. Together, the six media cluster types can co-locate and are often intertwined, while they are driven by urbanization, agglomeration and localization economies or they are artificially formed (see Figure 2). Taking all these considerations into account,

a novel typology was formed that enables researchers and practitioners to look beyond the distinction of media clusters by, for instance, sectors and shift the focus towards the differences and similarities. The typology paves the way for future research in the field and a more valuable policy debate around media clusters:

(1) There is a wide range of literature on identifying clusters and methods have been developed that rely on measures of critical mass and the use of concentration indexes such as location quotients, Gini indexes, the Ellison Glaeser measures and the Nearest-Neighbour search (Boix et al., 2012). These methods are only capable to locate and identify high concentrations of activities. Using the novel typology enables researchers to identify clusters based on more clear measures that are, for example, much smaller in scale and rely on other characteristics than localized concentrations.

(2) The case study is the most commonly used method in media cluster research. But it has been often criticized that findings and results of case studies are not generalizable. The media cluster typology streamlines media cluster research and makes results generalizable in the context of each type. The media cluster typology can also guide policy-makers in this matter through enabling them to find similar media clusters they address to benchmark and use as examples.

(3) There is considerable confusion in political and academic debates when media clusters are discussed. The wording is very open and while some people think of a media cluster like a hot-spot within a city, others think about a whole region. The novel typology untangles this confusion and separates different media clusters into different groups that are named differently, supporting future debates on the matter.

Still, there are limitations of the novel typology and they need to be kept in mind when the typology is applied in research and political debates. The typology is built on existing case studies in this field. But, authors come from many different disciplines and, therefore, use different approaches. Boix et al. (2012) summarize the existing approaches in the media cluster literature quite comprehensively: the industrial complex approach, the social network approach, the pure agglomeration cluster approach and general mapping exercises. This heterogeneity of approaches in media cluster case studies makes the grouping into typologies a difficult task and influences the findings. Additionally, a grouping of available case studies in the literature is biased as not all kinds of areas of media cluster research get in academia the same amount of attention. This can be identified when looking at the geographical distribution and media sector focus of the case studies identified (see the appendix). Out of the 43 identified studies, most are located in Europe and North America (40). Most case studies looked at creative industries (14), the AV (17) or the new media sector (7). Other sectors of the media industry are mostly overlooked, such as the advertising, newspaper and magazine sector. A more balanced distribution of data could lead to different results in this study and makes the typology biased. The article tried to overcome these issues by taking considerations into account that go beyond the analysed case studies and tried to be as open as possible for extensions of the argumentations made in each type. This way the novel typology ensures to create value for future

research in the field. Additionally, this article encourages to test the typology and enrich it with further case studies and observations.

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APPENDIX. THE IDENTIFIED MEDIA CLUSTER CASE STUDIES.

	Author(s) (alphabetically)	Year	Title	City, country studies	Sectors included	Method of author(s)	Origin	Identified typology	Included in coding (Appendix 3)
1	Achtenhagen	(2011)	Creating a Film Production Cluster in Sweden's West: The Cast of 'Trolleywood'	Trollhättan, Sweden	Film	Desk research	Book chapter	4	✓
2	Barnes & Coe	(2011)	Vancouver as Media Cluster: The Cases of Video Games and Film/TV	Vancouver, Canada	Video Games	Interviews (55)	Book chapter	2, 3	
3	Bathelt	(2011)	Munich's Media Cluster at the Crossroads	Munich, Germany	AV	Interviews	Book chapter	2	
4	Bathelt & Boggs	(2003)	Toward a Reconceptualization of Regional Development Paths: Is Leipzig's Media Cluster a Continuation of or a Rupture with the Past?	Leipzig, Germany	AV	Desk research	Journal paper	2	✓
5	Bayliss	(2007)	Creative industry cluster: Dublin's Digital Hub	Dublin, Ireland	New Media	n.a.	Journal paper	5	
6	Blackburn & Conway	(2008)	Clusters in the new media industry: relevant model or artifact?	Sussex, UK	New Media	Interviews	Conference paper	3	
7	Britton & Legare	(2005)	Clustering and the digital economy: New media in Toronto	Toronto, Canada	New Media	Interviews	Journal paper	3	✓
8	Casper	(2007)	Creating Silicon Valley in Europe: Public Policy Towards New Technology Industries	Silicon Valley, US	New Media	Empirical study	Book	3	
9	Chapain et al.	(2010)	Creative clusters and innovation (pp.29-41 Cardiff Media Production)	Cardiff, UK	TV	Survey	Commissioned report	2	
10	Chapain et al.	(2010)	Creative clusters and innovation (pp.29-41 Manchester Advertising Cluster)	Manchester, UK	Advertising	Survey	Commissioned report	3	
11	Cook & Johns	(2011)	The Transformation of Broadcasting and Film in Manchester and Liverpool	Manchester, Liverpool, UK	AV	Interviews (40)	Book chapter	2	✓
12	Currid & Williams	(2010)	Two Cities, Five Industries: Similarities and Differences Within and Between Cultural Industries in New York and Los Angeles	NYC & LA, US	CI	Empirical study	Journal paper	1, 2	
13	Davis	(2011)	The Toronto Media Cluster: Between Culture and Commerce	Toronto, Canada	CI	Desk research	Book chapter	1	
14	Davis et al.	(2009)	Applying an innovation cluster framework to a creative industry: The case of screen-based media in Ontario	Ontario, Canada	AV	Interviews (200)	Journal paper	1	
15	Dugmore & Mavhungu	(2011)	Media Industry Clustering in South Africa: Prospects for Economic Development and Spatial Reconfiguration	Johannesburg & Cape Town, South Africa	CI	Desk research	Book chapter	1, 2	
16	Eriksson	(2011)	Can Singapore Develop into a Global Media City?	Singapore, Singapore	CI	Desk research	Book chapter	1	✓
17	Goldsmith & O'Regan	(2003)	Cinema cities, media cities: the contemporary international studio complex (pp.57-59)	London, UK	AV	Desk research	Commissioned report	4	✓
18	Gwee	(2009)	Innovation and the creative industries cluster: A case study of Singapore's creative industries	Singapore, Singapore	CI	Desk research	Journal paper	1	
19	Harper et al.	(2013)	Nashville Music Industry: Impact, Contribution and Cluster Analysis	Nashville, US	Music	Desk research	Commissioned Report	3	
20	Hitters	(2011)	Back to Hilversum: Consolidation of the Dutch Broadcast Cluster	Hilversum, Netherlands	TV	Desk research	Book chapter	2, 5	✓
21	Kaiser & Liecke	(2007)	The Munich Feature Film Cluster: The Degree of Global Integration and Explanations for its Relative Success	Munich, Germany	Film	n.a.	Journal paper	3	
22	Krätke	(2004)	City of Talents? Berlin's regional economy, socio-spatial fabric and 'worst practice' urban governance	Berlin, Germany	CI	Empirical study	Journal paper	1	✓
23	Krätke	(2002)	Network Analysis of Production Clusters: The Potsdam/Babelsberg Film Industry as an Example	Potsdam, Germany	Film	Survey (42)	Journal paper	4	✓
24	Laur, Klofsten & Bienkowska	(2012)	Catching regional development dreams: a study of cluster initiatives as intermediaries (RockCity case)	Hultsfred, Sweden	Music	Interviews	Journal paper	7	✓
25	Lyman & Roberts	(2010)	Ontario's entertainment & creative cluster a framework for growth	Ontario, Canada	CI	Desk research	Commissioned report	1	

26	Mossig	(2004)	The networks producing television programmes in the Cologne media cluster: new firm foundation, flexible specialization and efficient decision-making structures	Cologne, Germany	TV	Empirical study	Journal paper	2	
27	Musterd & Deurloo	(2006)	Amsterdam and the Preconditions for a Creative Knowledge City	Amsterdam, Netherlands	CI	Desk research	Journal paper	1, 2	✓
28	Nachum & Keeble	(2003)	Neo-Marshallian Clusters and Global Networks: The Linkages of Media Firms in Central London	London, UK	AV	Interviews	Journal paper	3	✓
29	Njo	(2002)	Mediaport Rotterdam	Rotterdam, Netherlands	CI	Desk research	Commissioned report	5	
30	O'Regan, Goldsmith & Ward	(2011)	Sydney's Media Cluster: Continuity and Change in Film and Television	Sydney, Australia	AV	Desk research	Book chapter	1, 2	
31	Oakey, Kipling & Wildgust	(2011)	Clustering Among Firms in the Non-Broadcast Visual Communications (NBVC) Sector	South East England, UK	AV	n.a.	Journal paper	3	
32	Parejy-Eastaway & Pradel	(2010)	New economy, new governance approaches? Fostering creativity and knowledge in the Barcelona Metropolitan Region (22@ case)	Barcelona, Spain	CI	Interviews	Journal paper	7	✓
33	Perrons	(2004)	Understanding Social and Spatial Divisions in the New Economy: New Media Clusters and the Digital Divide	Brighton & Hove, UK	New Media	n.a.	Journal paper	3	
34	Picard & Barkho	(2011)	Dubai Media City: Creating Benefits from Foreign Media Developments	Dubai, Emirates	CI	Interviews	Book chapter	5	✓
35	Plum & Hassink	(2014)	Knowledge bases, innovativeness and competitiveness in creative industries: the case of Hamburg's video game developers	Hamburg, Germany	Video Games	Interviews (20)	Journal paper	3	✓
36	Pratt	(2002)	Hot Jobs in Cool Places. The Material Cultures of New Media Product Spaces: The Case of South of the Market, San Francisco	San Francisco, US	New Media	Interviews	Journal paper	3	
37	Pratt	(2011)	Microclustering of the media industries in London	London, UK	CI	Empirical study	Book chapter	1, 3	
38	Scott	(2002)	A New Map of Hollywood: The Production and Distribution of American Motion Pictures	Hollywood, US	Film	Empirical study	Journal paper	2, 3	
39	Sövell, Lindqvist & Ketels	(2003)	The Cluster Initiative Greenbook: Cluster Initiative Cases (pp. 59-63)	Scotland, UK	CI	n.a.	Commissioned report	7	✓
40	Sydow & Staber	(2002)	The Institutional Embeddedness of Project Networks: The Case of Content Production in German Television	Cologne & Berlin, Germany	TV	n.a.	Journal paper	4, 2	
41	Turok	(2003)	Cities, clusters and creative industries: the case of film and television in Scotland	Scotland, UK	AV	Desk research	Journal paper	2, 3	
42	Vang	(2007)	The spatial organization of the news industry: Questioning assumptions about knowledge externalities for clustering of creative industries	Denmark	Print	Interviews (25)	Journal paper	4	
43	Watson	(2008)	Global music city: knowledge and geographical proximity in London's recorded music industry	London, UK	Music	Empirical study	Journal paper	3	