

The founding of new firms and efficient decision-making structures in localized production networks. The example of television production in the Cologne Media Cluster (Germany)

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Abstract:

Based on the example of the production network of TV programs in Cologne's media cluster, this paper will examine two aspects in order to obtain a deeper understanding of how localized production networks arise and how they function. First of all, the role of the founding of new firms within a localized production network will be analysed in detail. As a second step, the decision structures within the production network will be discussed. In this context the question arises as to how the parts of a particular production chain are linked together and how a smooth production flow can be guaranteed. The theoretical findings will be verified by an empirical study of the networks producing TV programs in Cologne.

1. Introduction and aims

An intensive debate on the significance of localized production networks is currently going on within the regional sciences, and the examples being analysed demonstrate an enormous range of characteristics. There are case studies of high tech agglomerations (e.g. Silicon Valley; Boston Route 128; the M4 corridor; Tokyo), as well as clusters that require high levels of craftsmanship (e.g. in parts of the 'Third Italy', the Swiss luxury watch industry or the Venetian glass industry). Some studies deal with spatial concentration in large scale, employment-intensive industries (e.g. chemicals, automobiles), while others focus on small branches with only a few employees. Localized production networks are to be found not only in the manufacturing sector, but also in services such as the financial sector or software programming (Enright 2001).

Despite the wide range of the examples analysed, there is an emerging consensus about certain factors and characteristics associated with successful localized production networks. These concern flexibility, informal networks based on frequent face-to-face contact, trust-based interconnections among numerous small firms and their sub-contractors, the role of local institutions, and the speeding-up of the dissemination of knowledge and ideas (May et al. 2001).

All of these factors require the interaction between two or among several agents. They would not succeed if even one of the agents were to act disengaged from its environment (if that were at all possible). Consequently, an analysis of inter-connections and networks is crucial to the understanding of positive economic development on both regional and supra-regional levels.

Based on the example of the production network of TV programs in Cologne's media cluster, this paper will examine two aspects in order to obtain a deeper understanding of how localized production networks arise and how they function:

- a) The role of the founding of new firms within a localized production network will be analysed in detail. First of all, it will be shown that the founding of new firms constitutes an essential contribution to the development and strengthening of localized production networks and is an important prerequisite for the establishment of a flexible-specialized system. Secondly, the founding of new firms within a production cluster constitutes an essential contribution to quick and flexible adaptation to changing markets, both within the given industry and the locality.
- b) As a second step, the flexible character of a flexible-specialized production network on a local level will be discussed. This flexibility is a result of the rigorous division within the production chain and specialization in small areas of production. In this context the question arises as to how the parts of a particular production chain are

linked together and how a smooth production flow can be guaranteed. Therefore, the decision structures within the production network are a point of major interest. In this context, it will first of all be theoretically demonstrated that decision-making powers among the individual units of the production chain are very unevenly distributed and hierarchically structured. It will be argued that a rigorously disintegrated production network can only exist based on clear decision-making, executive and monitoring structures. For this reason, just a very few key figures play decisive roles in building and directing the network.

The theoretical findings will be verified by an empirical study of the networks producing TV programs in Cologne's media cluster. TV program production in Cologne is an excellent example. For one thing, the growth of the establishment of new firms in recent years has been remarkable. Furthermore, TV program production is taking place in closely connected, flexible-specialized structures, not least due to the rise and success of private TV stations.

2. Theoretical framework: New firm formation, flexible-specialization and decision-making structures in localized production networks

In recent years an intensive debate has been taking place between economists and economic geographers on the explaining of localized clusters. In the field of economics, the spatial dimension of economic activity has been discussed in particular by the influential work of Krugman (1991, 1998, Fujita et al. 1999) and Porter (1991, 2000). Porter (1991) focuses primarily upon the level of the nation state and notes that industrial agglomerations within a nation state contribute towards international competitive advantages for a given industrial sector. Krugman (1991, 1998) cited centripetal forces as a main reason for clustering. In accordance with Marshall he stresses three types of factors promoting external economies: labour market pooling, the development of intermediate inputs and technological knowledge spill-overs.

Geographers do recognise the relevance of these economic models and suggest that they be treated seriously (Martin/Sunley 1997). However, they criticise them for ignoring the cultural and institutional aspects of economic activities, which cannot be modelled mathematically in the way described. The real effective economic and social processes and relations are given insufficient recognition (Martin 1999, Bathelt 2001a). Also, the cited factors take effect only where spatial concentration already exists. Besides, there is no guarantee that clusters will have positive effects per se (Bathelt 2001b, Hassink 1997). Consequently, the question of the origin of such production clusters remains unanswered (Moßig 2002). Nevertheless there are some indications that the founding of

new firms has considerable significance for both the origin and further development of a localized production network (Hayter 1997: 224ff., May et al. 2001, Moßig 2000).

Founding dynamics and localized production networks

A dynamic-evolutionary approach seems to be exceptionally useful for answering the question of the origin of production clusters. The complex combination of historical events and the individual decisions and actions of the key agents, including random factors, can be grasped by analysing the development path of a particular cluster (Moßig 2000). The dynamic-evolutionary perspective has been criticised for merely acquiring a deeper understanding of past processes, but not providing any clues for future developments, which would facilitate forecasting and planning (Schamp 2000a: 18ff.). Nevertheless, the significance of the founding of new firms in a given locality for the evolutionary development of a cluster seems to be indisputable (Moßig 2000, 2002). The total number of enterprises rises with every new setting up of a firm. This is important because a certain 'critical mass' of firms is necessary for the formation of the interaction-based characteristics and factors brought about by a successful localized production network. Due to the distinct immobility, particularly of small and medium-sized enterprises, relocations are of less significance in reaching this 'critical mass' (Schamp 2000b). Thus the setting up of new firms in the locality acquires a key significance. Furthermore, the increase in the number of enterprises leads to advantages of diversity and adaptability. This wider range results from the varied perceptions and insights and the divergent spheres of activities of the respective owners, managers and employees. Thus different solutions to given problems are developed by each firm (Maskell 2001). As derived from case studies on entrepreneurial motivation (Sternberg 2000, Galais 1998), new firms demonstrate a high degree of willingness to try out new ways and apply new ideas. This flexibility is essential, especially for those clusters producing goods with short life cycles and high rates of single-part production. Even if the markets are subject to sudden changes in consumer tastes or demand, the continuous renewal of the local economy through the setting up of new firms and the associated variety of ideas contributes to the rapid and flexible adaption to changing market conditions, both within the branch of industry concerned as well as in the regional location. On the whole, the founding of new firms thus makes a considerable contribution to the origin, development, well-routed and continued existence of a localized production network.

Flexible-specialization in localized production networks

The scientific debate on the significance of localized production networks starting in the late 1970's and 1980's was sparked by the discovery of the phenomenon that the

regions of the so-called 'Third Italy' were generating growth rates above the national average during a period of stagnation and economic transition (Bathelt 1998, Benko/Dunford 1991, Scott 1988). The introduction of a highly disintegrated, flexible-specialized production system has been considered to be an essential factor of success (Piore/Sabel 1989). The central prerequisite for the attainment of flexibility is the rigorous division of labour in the production chain. By specializing in a small subset of the production process, the individual firms obtain great product-specific competence, such that they are able to offer with remarkable flexibility a wide range of variants in their field of production. Close inter-connections and interdependence among firms makes possible the transference of their competence and flexibility to the entire production chain (Bathelt 1998). Harrison (1992) stressed that the creation of relationships of trust among the local producers is necessary for the stability of such a flexible-specialized production system. Relations of trust do not arise automatically, but are the result of a recursive process built upon frequent interactions and positive past experiences. Spatial proximity facilitates interaction among the agents, favoring the establishment of trust and thereby a flexible-specialized network. Such embedding in a common socio-institutional context has recently been increasingly stressed (Oinas 1997). Formal and informal institutions facilitate the planning and co-ordination of the interaction and exchange processes resulting from the division of labour. These have the effect of lowering transaction costs. Furthermore, because formal and informal institutions are able to sanction opportunistic behaviour, they reduce uncertainties (Berndt 1996).

Decision-making structures in localized networks

So far, it has been explained that the founding of new firms is a central prerequisite for the emergence and development of a localized production network and is essential for the adaptability of those networks. Flexibility as an important characteristic of a successful production network is attained in particular through the flexible-specialization of the enterprises. Ideally a production chain consisting of specialized firms is newly constructed for a specific project and then dissolved after the project is completed. Thus, production takes place through new constellations of partners according to the specific stipulations and demands of the project. Now the question arises as to how the joining together of firms of a particular production chain proceeds and how it works. Who decides which firms are to work on a project and which not? How can a smooth production flow be assured, considering the numerous linkages and very frequent changes within the production chain? In order to answer these questions, the decision-making structures and power relations among the economic actors in a network are an

essential consideration. Some studies give one the impression that the relations among the networked firms are harmonious and based on an equal distribution of power. Yet, an equal distribution of power can be a considerable barrier for decision-making processes in a network, delaying both solutions to problems as well as speedy adaptation, and blocking the implementation of new ideas (Bathelt 2001b). Therefore, networks should not be equated with harmonious relations. Rather, unevenly distributed decision-making powers represent a functional characteristic in a network (Hellmer et al. 1999: 62ff.). Clearly defined decision-making structures facilitate the co-ordination of a strongly disintegrated production network and speed up the processes among the members of the production chain. Thus unevenly distributed power relations are not contradictory to the efficiency of a production network.

When dealing with network relations, the concept of power should be defined in a wider sense than in the hierarchical forms of co-ordination in economic activity. In hierarchical co-ordination, power means the one-sided domination of a particular agent over another ('power over'), resulting from a continued and fixed relationship of dependency. In contrast, in a network relation, the position of power of the individual agents is less rigid and should be conceived of as distinct opportunities and freedoms to act which nonetheless do not put other agents at one's disposal. In a networked context, one could define power as the power to do or to achieve something ('power to'). This type of power comes into being as a result of mobilizing for common activities or goals and accrues to the one who successfully launches an initiative (Allan 1997). This form of power is not therefore based on a fixed relationship of dependency, but is produced and distributed anew in each distinct network constellation.

A key activity shifting an agent into a position to control a production network is the organisation of access to the market (Schamp 2000a). In a publishing system, for example, the publisher takes on this central role (Sabel 1994). In the case of some of the so-called 'industrial districts' in the 'Third Italy', a special broker collects the orders from the final customers and then assembles networks of small firms to produce them - e.g. the 'impannatore' in Prato's textil district (Becattini 1991). Thus, the one who gains the order or sells the product to the final customer possesses a superior position of power. He becomes the final decision-making authority in situations where there is disagreement. He also has a decisive influence on the composition of the production chain. In organizing access to the market, this agent takes on particular responsibility for success. At the same time, he hopes for greater profits and is willing to incur the associated higher risks. All in all, the attainment of a privileged position in the decision-making structures of a localized production network can be attributed to this combination of chances, risks and responsibility.

Based on the example of TV production in Cologne's media cluster, the following sections in this paper will analyze the theoretical considerations for the relevance of the founding of new firms in a production network, and the significance of decision-making structures for a friction-free process within a localized production network. In the next chapter, the methodology will first of all be outlined, followed by a brief introduction to Cologne's media cluster. It will be demonstrated that the example of TV production in Cologne is eminently suited to the analysis of a flexible-specialized production network. Afterwards, some first results of the empirical research will be shown, before closing the paper with some final remarks.

3. Methodology

First of all, in order to investigate the performance of firms, three volumes of the 'Cologne Media Handbook' ('Medienhandbuch Köln') (Steinmetz et al. 1992, 1996, 2000) will be systematically evaluated. All those enterprises dealing with audio-visual media are listed in the 'Media Handbook'. Besides the TV stations, which organize the market access to the consumers, the TV production companies are of special significance. They are the ones who negotiate with the TV stations over the production of TV programs and in this way co-ordinate the market access for the subsequent production chain of a TV program. The evaluation of the 'Media Handbook' includes the total number of TV production companies and some of their characteristics, such as their age, the number of employees and their occupational fields, the dynamics of new firm launchings, and the firms that have left the market. The dynamics of new firm launchings of suppliers and specialized service companies in 62 subsets of the film and TV production chain have been identified in the same way. In the year 2000, a total of about 3,300 independent firms in the audio-visual media sector were active in Cologne. During the past two years alone, 770 new firms entered the market, demonstrating the dynamism of the TV production industry (Steinmetz et al. 2000).

Besides this preparatory analysis, 19 guided interviews with experts were carried out. Decision-makers at various stages of the production chain were questioned on the decision-making structures within the production network and in order to obtain a deeper understanding on by what criteria a production chain is built und how the network ultimately functions smoothly.

4. TV production in Cologne's Media Cluster

The media sector is regarded as a harbinger of increased employment rates. Yet not all media branches are able to fulfil these expectations. Especially the traditional areas of print media and postal services have shed a considerable number of employees in

Germany. Thus, the hopes for increased employment rest upon the dynamic branches of the media sector, which clearly include TV production (see table 1).

Table 1: Development of employment rates in selected branches of the media sector in Germany 1985-1998

Media branch	Development of employment 1985-1998
Advertising	+107,4 %
Film production	+ 79,2 %
News agency	+ 57,6 %
TV / radio broadcasting	+ 41,0 %
Publishing	+ 13,8 %
Printing	-12,2 %
Post	-22,9 %
Employment media sector (total)	+ 1,5 %
Employment in Germany (total)	+ 8,4 %

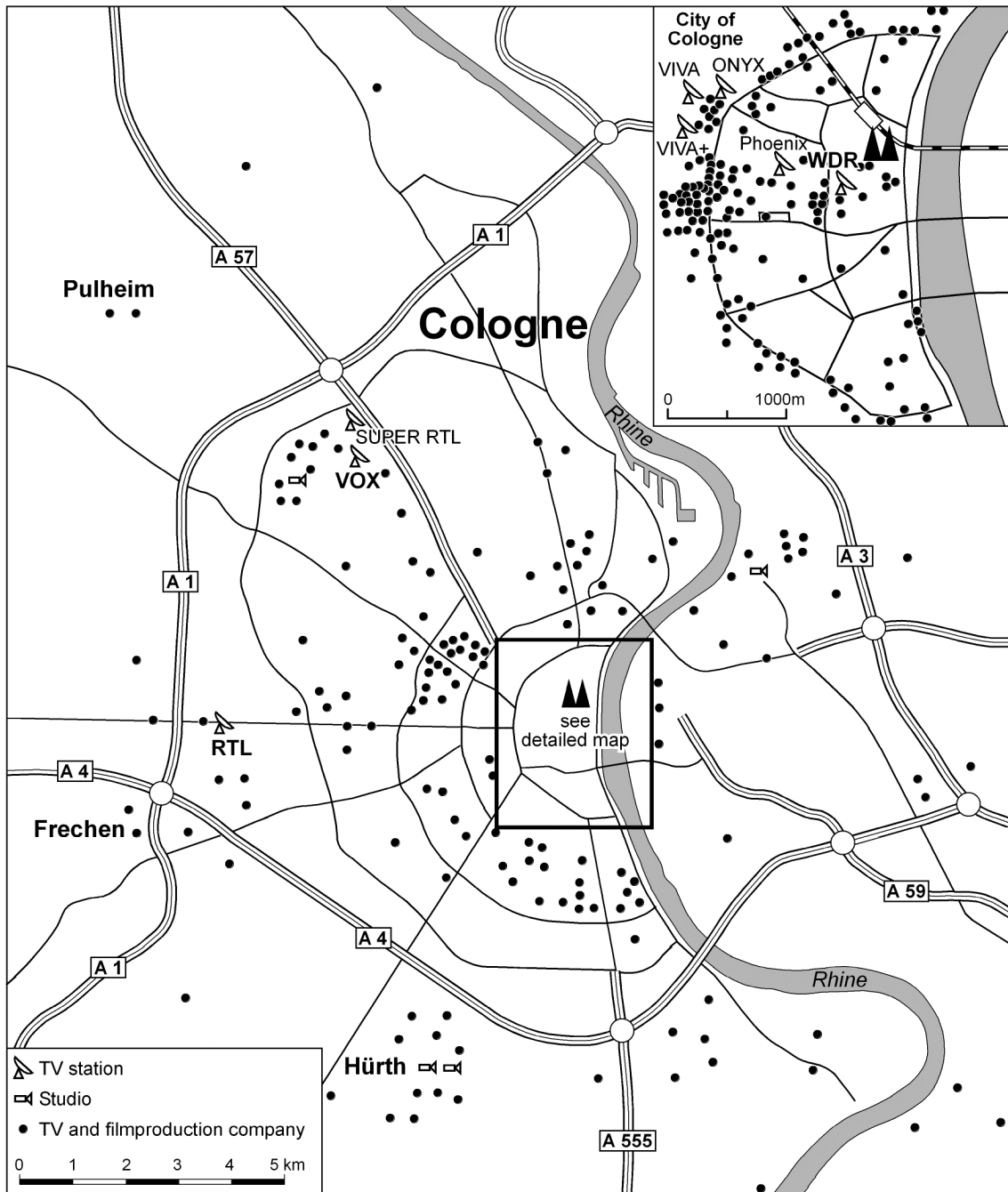
Source: Schönert/Willms 2000.

The city of Cologne ranks 4th position in the list of number of employees in the media sector after Berlin, Hamburg and Munich (Schönert/Willms 2000). In terms of the broader spatial basis of the German planning regions (Raumordnungsregionen), Cologne only occupies 6th position (DIW 2001). Yet in terms of TV production Cologne ranks 1st position in Germany. About one-third of all German TV programs are produced in the Cologne region (Stadt Köln 2001). Nearly 20% of all employees in the TV/radio broadcasting sector work in Cologne. Furthermore, spatial specialization, documented through the localization coefficient, is unequalled in the nation. The proportion of employees in the TV / radio broadcasting sector is 12 times higher in Cologne than the German average (Schönert/Willms 2000). The majority of TV programs produced in Cologne are studio productions. According to research carried out by the 'Formatt-Institut' (1999), 83.3% of all German 'TV-Gameshows' are produced in North Rhine-Westphalia, of which the overwhelming majority are produced in Cologne. The share of the studio format 'show' amounts to 75.6%, and 'talkshow' 40.2%. Cologne, on the other hand, occupies only rank 3 after Berlin and Munich in the production of 'film/fiction' (Formatt 1999). Figure 1 shows the spatial concentration of TV production companies and TV stations in Cologne.

The development path of the Cologne media cluster is closely connected to the founding of the 'Westdeutscher Rundfunk (WDR - West German Broadcasting)', now the biggest broadcasting company in Europe (Stadt Köln 2001). WDR was founded in 1924 as 'Westdeutsche Rundfunk AG (Werag)' in Münster, and in 1926 it was relocated to Cologne. After the Second World War, in September 1945, the broadcasting company was re-launched under British control with the name 'Nordwestdeutscher Rundfunk

(NWDR - North West German Broadcasting)'. The NWDR transmitted its first TV program from Cologne at Christmas 1952. On January 1st 1956 the WDR commenced its activities as an independent broadcasting station under public law. Today, the WDR in Cologne employs approximately 4,300 TV and radio employees and is a commissioner for around 20,000 freelancers, such as authors, film producers, actors, directors, camera teams, scenery decorators, illustrators, etc. (Bläser/Schulz 2001).

Figure 1: Spatial concentration of TV production in Cologne's Media cluster 2002



Source: Survey results.

An important date for TV production in Germany is New Year 1984, the date of the launching of private, commercial TV in Germany. The relocation of the privately financed TV station 'RTLplus' (since 1993 'RTL' - Radio Television Luxembourg) from Luxembourg to the Rhine in 1988 was an important event for Cologne. At the same time, 'RTLplus' gained a special transmitting frequency, increasing the transmission area in North Rhine Westfalia to include 6.5 million people. This was an important competitive advantage over the other privately financed TV stations. In 1993, just 9 years after the commencement of broadcasting in Germany, RTL attained the market leadership as the TV station with the greatest TV audience. Besides WDR and RTL, further TV stations have established themselves in Cologne: 'VOX' (broadcasting started in 1993), the music channels 'VIVA' (1993), 'VIVA 2' (1995, since 2002 'VIVA^{plus}') and 'ONYX' (1999), as well as the childrens channel 'Super RTL' (1995) (Fig. 1). In the meantime, 'Deutsche Welle TV' began transmitting from Cologne until their relocation to Berlin.

Besides the establishment of the TV stations, the enormous intensification of telecasting hours was an essential factor for the development of the production network. In 1985 the two main TV stations under public law, 'ARD' and 'ZDF', had telecasted only an average of 12.9 or 12.8 hours a day respectively and the private TV station 'RTL' only 11.2 hours. Since the mid-90s all important TV stations offer a 24 hour selection of programs, doubling their transmission time (Hickethier 1998). The total viewing time on German TV screens has increased explosively due to the establishment of numerous new TV companies and the aforementioned intensification of telecasting hours.¹ As a result, an enormous increase in demand for programs has arisen. Since this demand could not be met by the TV companies themselves, there has been a sharp increase in the demand for external TV productions. Besides the development of technical infrastructure - e.g. the big studio complexes in Cologne-Ossendorf, Cologne-Mülheim and Hürth (fig. 1) - the training of new personnel in all subsets of TV production is of great significance for the development of the production cluster too. Related to this, a comprehensive range of supplies has become available during recent years, financed both publicly and privately (Stadt Köln 2001). Another key factor in the historical development of the TV production cluster in Cologne is the interaction on the political level between the local government of Cologne and the state government of North Rhine Westfalia, leading to an active establishment policy in Cologne. Moreover, the 'Stadtsparkasse Köln' ('Cologne savings bank'), as a local financing partner, accepted

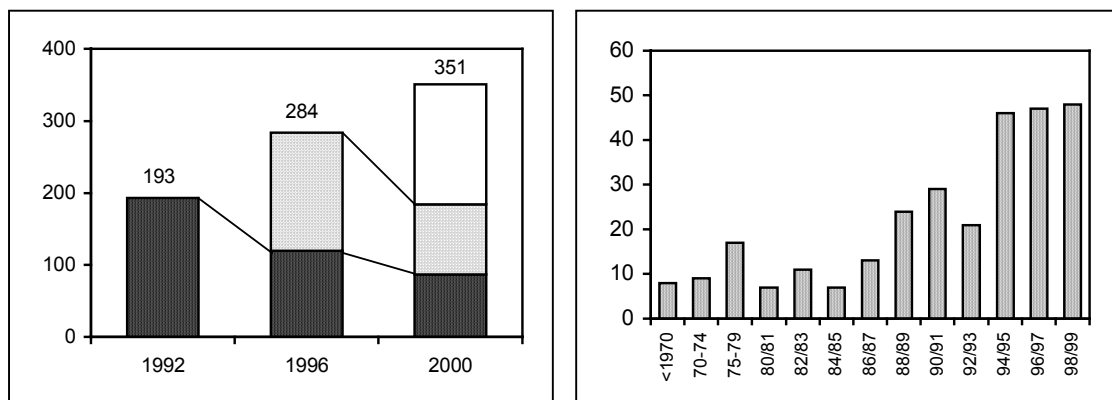
¹ 15 TV stations under public law and 22 private stations are currently transmitting in Germany.

immaterial good such as TV rights or TV licences as securities for agreed credits much more readily than other creditors.

5. The dynamic of new firm foundations in Cologne's TV production cluster

The large number of independent firms is a key characteristic of the TV production cluster in Cologne. Thus the number of TV production companies increased by 82% between 1992 and 2000 (Fig. 2a). Besides the large number of new firm foundations, a large proportion of firms have left the market after ceasing production activities after just a couple of years. Of the 193 TV production companies listed in 1992, only 120 still existed 4 years later, and of those only 87 survived until 2000. Therefore, more than half of the TV production companies ceased production between 1992 and 2000. Of the 284 TV production companies listed in 1996, there were only 184 remaining in 2000. At the same time, the total number of firms had increased to 351 by 2000, meaning that the 100 terminations during the preceding 4 years were countered by 167 new foundations (Fig. 2a). Accordingly, the average age of the present TV production companies is very young. Half of the firms (49,8%) were founded after 1994 (Fig. 2b).

Figure 2: Dynamics of the total number of TV production companies and TV production companies according to year of foundation in the Cologne Media Cluster (2000)



Source: Survey results, Cologne Media Handbook (Steinmetz et al. 1992, 1996, 2000)

From the expert interviews, two main features could be identified which are causally related to the numerous foundations of TV production companies in recent years:

- Adaptability to uncertain and rapidly changing market conditions:
The dynamic of new firm foundations and the increasing number of TV production companies can be regarded as a mode of adaptability to an extremely unpredictable and rapidly changing market. Some new TV formats have achieved meteoric success worldwide, but disappeared from the TV screens shortly afterwards. Examples of this are Reality-TV formats such as 'Big Brother'. Despite much market research it conti-

nues to remain unclear what the television public prefers to watch and which format, genre or which popular individual is going to trigger the next big success story. Most of the TV production companies are small-sized enterprises, firmly tied to a certain format (e.g. talk-show, comedy, quiz-show), or their activities are based on the connection to a well-known TV star. As a rule, newly founded firms launch their business with only one single project idea. Whether such a firm survives will thus depend upon the success of their particular TV program - a prospect replete with uncertainties. Due to the simultaneous attempt of many production companies to make their particular project idea successful, there is a broad range of experimentation to discover which programs are able to remain on the market. In this way, quick adaptation to changing demand conditions but also an accelerated selection process takes place, resulting in the many new foundations and closures of TV companies (Fig. 2a).

- Extreme spatial concentration in Cologne due to the proximity of the TV stations:
The extreme spatial concentration of the TV production companies in Cologne can be clearly explained both by the spatial proximity to the TV stations and by the personal networks of the producers. As will be explained in more detail in the following chapter, the advantage of close contact to the TV stations plays a key role in acquiring a commission. For the TV production companies, especially at the beginning of their development path, it is of central importance to be in the locality. Moreover, many of the important entrepreneurs are spin-offs from TV stations and in that way enjoy excellent contact to their former employers.

But not only the number of TV production companies has increased rapidly due to the establishment of new firms. The number of suppliers and specialized service companies has multiplied too (Table 2). The increasing number of suppliers and specialized services has much to do with the rigorous division within the production chain and the resulting demand for specialized suppliers and services. The first reason for this extreme disintegration is connected to the production process itself. The production of TV programs is generally a commission-based single-part production with low repetition rates. Even in the case of TV series, as a rule the commission starts out with a plan for only 6 or 12 episodes and any decision on a continuation occurs much later. In the production process of a TV program there is a long period of preparation before the actual filming begins. The actors in front of the camera and the teams behind it, as well as the studio or technical equipment are not needed at all during this preparation phase. But by the time the filming begins the work of the script authors has been largely completed. The producer too has already accomplished some parts of his job. He has

launched the project, managed the financing and assembled the production chain. Consequently, if all the parts of the production chain were to be vertically integrated, high co-ordinative expenditure would be required in order to achieve full economic capacity at each of the sub-units of the production chain. Thus the rigorous division provides considerable advantages for reducing fixed costs.

Table 2: Number of suppliers and specialized service companies for TV production in Cologne's media cluster 1992, 1996 and 2000

Activity	1992	1996	2000	1992-2000
TV production company	193	284	351	+ 82 %
Casting (actors, candidates, audience)	11	27	26	+136 %
Coaching	--	3	18	--
Computer animation	9	19	21	+133 %
Costume design	21	56	95	+352 %
Cut / Editing	29	57	58	+100 %
Director	48	106	163	+240 %
Equipment lending	8	13	20	+150 %
Executive producer	11	28	51	+364 %
Film and video engineering	17	20	26	+53 %
Film architecture / stage design	18	45	67	+272 %
Film music	36	48	39	+8 %
Graphics / design	--	23	47	--
Cameraman	47	101	119	+153 %
Lighting and lighting engineering	9	25	42	+367 %
Make-up	25	44	62	+148 %
Post production	12	22	39	+225 %
Requisites (indoor / outdoor) / equipment	22	67	102	+364 %
Script / authors	60	138	204	+204 %
Stage director	--	17	34	--
Rented studios	3	18	20	+567 %
Sound engineers (film / TV/ video)	13	23	31	+139 %
Studio sound (film / TV/ video)	14	15	16	+14 %
Sychonisation / translation / subtitles	8	19	28	+250 %
Presenters / speakers	25	81	146	+484 %

Source: Survey results, Cologne Media Handbook (Steinmetz et al. 1992, 1996, 2000).

Besides the reduction of fixed costs, the second reason for the rigorous division within the production chain is in order to minimize certain risks. If a program fails to satisfy TV audiences it will be rapidly withdrawn from the repertoire. In such a case, the entire production chain will be immediately reduced to individual firms. The risk of running out of work for long-term personnel engagement is greatly reduced by this extreme externalisation. Without this type of structure the risk for a single firm operating in the unstable and rapidly changing TV market is incalculable.

Thirdly, different sorts of TV programs require different sorts of production chains. The remarkable advantages of a flexible-specialized production system are realized through the specifically project-based composition of the production chain and the subsequent

possibility of filling a certain position with a suitable specialist. Altogether this confirms that the founding of new firms is an important requirement for developing and strengthening a flexible-specialized production network. At the same time, the new foundations are themselves a consequence of such a production system. In this way, cause and effect are connected in a circular fashion and the processes mutually reinforce one another.

6. Decision-making structures in the flexible-specialized TV production network in Cologne

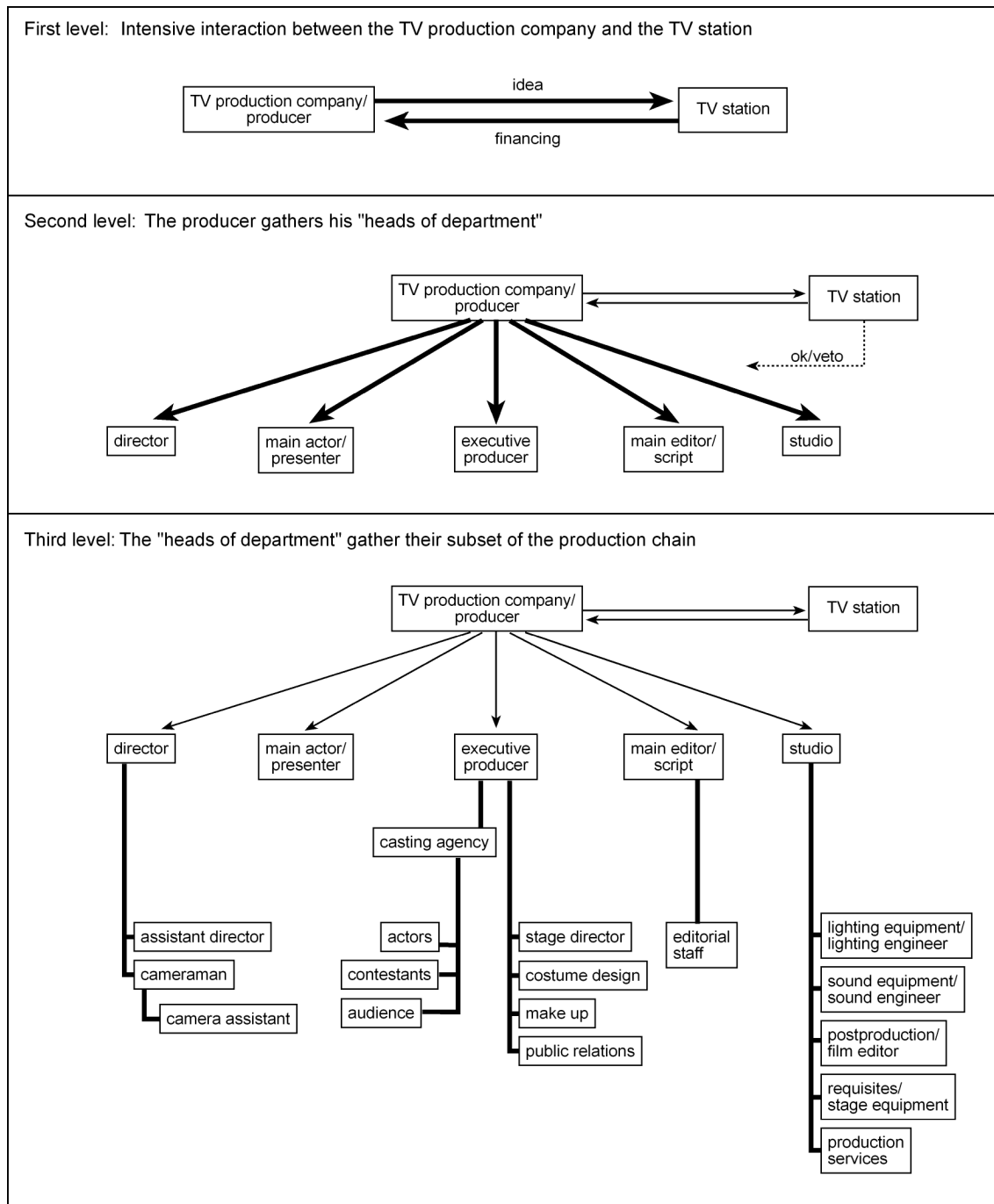
This chapter will analyse the production of a TV program in Cologne's media cluster. It will explain the empirical results relating to the decision-making structures both for the assembly of the production chain as well as the decision-making structures during the production process. In figure 3 the decision-making processes are portrayed schematically. This diagram is a simplified representation, which is meant to stress the main levels of the decision-making processes. Of course, the reality is more complex, since the individual authorities and the course of decision-making vary according to the project and the agents.

An intensive interaction between the TV station and the TV production company shapes the beginning of the production process. The intention of the TV production company is to realize an idea for a TV program. Usually the TV production company proposes its ideas to the TV station in order to obtain a broadcasting slot as well as the financing for the project. Sometimes a TV station develops an idea of its own and seeks a TV production company to realize it. This initial preparation phase is marked by intensive negotiations, the eventual harmonization process being facilitated by spatial proximity. However, only every 5th or 10th project discussed between the TV production company and the TV station will ultimately be realised.

A production contract is made as soon as the production of the TV program is decided. The contract specifies in detail the expenditure for each item. Due to the disintegrated character of the production system, the TV production company bears none of these production costs. However, the TV production company is entitled to 6% of the calculated production costs for their expenses, plus a profit of 7.5%. If it turns out that the costs are higher than calculated and there is no possibility of additional negotiations, the TV production company has to pay these costs from their expense funds or from their profits. During this initial preparation phase the decision as to whether a project is launched or not clearly lies with the TV stations. This power is accounted for by the fact that the TV stations provide the total financing. Furthermore, the TV stations co-ordinate the market access to the final customers, the TV audiences. The reason is that the

TV stations are financed through advertising and for that reason they are indirectly dependent on the extent of interest of the public.

Figure 3: Decision-making structures and composition of the production chain in the production of a TV program



Source: Survey results.

A second, subordinate level of decision-making power emerges during the realization phase of the project. The TV production company starts to appoint the main positions. These so-called 'heads of departments' are almost exclusively external suppliers. Even

the executive producer, responsible for decisions on the filmsetting (including the administering of the finances), is usually an outsider. Other 'heads of department' are the director (responsible for the artistic rendering), the main actors/presenters, the main editor/script authors (responsible for the content) and the studio manager (technical services). The TV production company takes the leading role in the appointment of these key positions. Again, the most important criterium for the extent of decision-making power of the TV production companies compared to the other sub-units in the production chain, is its co-ordination of the market access. The TV production company, by negotiating with the TV stations, ultimately secures the financing of the remaining subunits of the production chain. The TV stations generally do not involve themselves in the selection of the 'heads of departments' unless certain key positions have already been specified in the contract as being an inseparable part of the whole project concept (e.g. a talk show master). They merely want to be informed about the filling of the positions, sometimes giving recommendations or occasionally vetoing. The further assembly of the production chain takes place on a third level of decision-making. Subcontractors are recommended by the appropriate 'heads of department', who are then taken on by the production company or producer. The director chooses his own assistant and the main cameraman, while the cameraman selects his assistant. As a rule all of these people are independent freelancers. In the same way, the main editor, who is responsible for the content, independently engages his own editorial team and assistants. The selection of other actors, extras or contestants is mostly assigned to a casting agency. The studio manager functions as an all-round technical supplier for the TV production company, offering his complete services, including lighting, sound and other technical equipment, by appointing other independent subcontractors. The TV station is mostly not involved in the decisions on this third level. The TV production company and the executive producer give their consent and make recommendations or vetos, if necessary. Any positions in the production chain still unfilled (e.g. costume designer, make-up, media spokesman, public relations) are supplied by the executive producer. Altogether, at the first level of decision-making the TV station is the main authority compared to the TV production company. At the second level, the TV production company decides on the filling of the subsequent key positions, while the TV station participates in this procedure in an observatory way. At the third level, the TV station is no longer involved in decisions. The main decision-making powers lie with those in the key positions, and the TV production company merely monitors these procedures. The respective positions of power at each level are derived from who co-ordinates the market access for the subsequent subunits of the production chain by acquiring the necessary finances. These power relations emerge from the ability to mobilize to

achieve a common goal ('power to'). They are not fixed relations of dependency ('power over').

The number of firms and individual freelancers involved indicates the number of links in the production chain. Only two firms interact at the highest level: the TV station and the TV production company. Both parties are represented by only a handful of persons. A single program editor and his assistant are normally responsible for a TV slot, and a production company generally has only 4-5 employees. During the execution of the project, however, the participation can easily increase to 50-150 persons, employed in 20-40 independent firms.

An advantage for the production process lies in the fact that every actor naturally accepts these decision-making structures in the composition of the production chain and during the production process. These decision-making authorities, associated with the roles in a TV program production system, are part of the firmly rooted standards and rules within Cologne's media cluster. They are accepted by every part of the production network, meaning that decisions can generally be made very quickly.

Yet it is not only the clear division of decision-making powers that guarantees smooth production flow in the network. The criteria for decisions concerning external commissioning are also of great significance. Irrespective of the level on which decisions are made, the most important criteria for the assembly of the production chain are personal contacts, successful co-operation in the past, or recommendations by friends or confidants. The following four representative answers are typical in reply to the question of decision-making criteria:

- "We have built up a regular group of producers who supply us with material. They know our format very well by now, we know what kind of work each producer provides and what the trademarks of their films are " (Program editor of a TV station).
- "When we select the suppliers and technical services we always contact first the best ones from the last production" (Producer of a medium-sized TV production company).
- "Besides the financial factor, which can be advantageously negotiated through frequent commissioning, the decisive factor is to know each other. It doesn't make sense to always start at zero with new people, and only then to find out how good someone is" (Producer of a small-sized TV production company).
- "The most important criterium is qualification [...]. How can you find out whether someone is good? Either by knowing him, or co-workers know him, or the candidate has the necessary credits in his curriculum vitae" (Producer of a medium-sized TV production company).

The personal network obviously has a considerable influence on the decisions of the agents. One reason is that uncertainties resulting from the sharp divisions within the production chain can be reduced by personal ties. Access to external suppliers can be accomplished more easily and speedily when suitable partners and their productive capacities are known. Also, when commissions are being awarded, acquaintances are approached first.

The interviewees often stressed that TV production is purely a 'people business'. The spatial concentration within the Cologne media cluster obviously plays an important role in the formation and strengthening of these personal networks. When good personal ties have been developed, spatial distances can be more easily overcome. But especially in the beginning phases, each agent considers it to be a decisive advantage to be in the locality oneself, in order to form and maintain personal networks. Besides experiences of working together, informal meetings are of great significance, typically producing an overlapping of the private and professional spheres. Such occasions include, for example, meetings at favorite restaurants or pubs, attending cinema premieres, or visiting the theatre.

7. Conclusion

This paper had the goal of analysing and explaining the relevance of new firm foundations for localized networks. Further, based on this, it sought to comprehend the decision-making structures which guarantee a smooth and efficient production flow in such networks. The example of Cologne's media cluster is remarkably appropriate for this study because of the founding dynamics within the cluster and the roles of the numerous firms involved at all stages of the production chain.

At the same time it could be recognized that the founding of new firms is an essential prerequisite for the emergence of a localized flexible-specialized production network. Moreover, a certain 'critical mass' of firms is required by flexible-specialized production structures, in order that the rigorous division of the production chain (along with the sharp rise in demand for TV program contents) can offer suitable possibilities for successive new firm foundations. Furthermore, new firm foundations are responsible for a quick and flexible adaptation to the frequent and sudden changes in conditions in the TV branch. Thus they contribute considerably to the variety and flexibility and therefore to the maintenance of a localized production network.

Next, it was explained that the decision-making structures within a localized production network are of key significance for the guaranteeing of an efficient production process with greatly reduced frictional losses within the rigorously disintegrated production chain. Clear decision-making structures contribute decisively to the realization of the

full potential produced by specialization and by the flexibility of the production network. It was shown that unevenly distributed decision-making powers exist within the network. Particularly those agents who co-ordinate the market access for the subsequent subunits of the production chain obtain a dominant position due to their initiative. The decision-making powers associated with the various positions within the production chain of a TV program are part of the well-established norms and rules in Cologne's media cluster. These norms and rules are accepted by all of the agents, so that decisions can be made very quickly, if necessary. Yet, despite the uneven distribution of power, the decision as to which firms or individual freelancers are to participate in a given project is based on personal contacts, successful working relationships in the past, or the recommendations of friends or confidants. These personal networks and connections are obviously at least as significant as one's own position of power, because it is very difficult to exercise one's decision-making powers without them.

The strong spatial concentration in Cologne affects two aspects: First, the network functions much more effectively during the production of a TV program if the specialized suppliers and services below the 'heads of department' level originate in the regional vicinity. Besides costs savings on travel and overnight stays, etc., the TV program production process is replete with uncertainties. Since many persons are involved in the production of a TV program, often unexpected and unpredictable things happen, which require a swift response. For this reason, direct access on the spot to the respective agents is required and, accordingly, local suppliers are consciously favoured when commissions are being awarded. Secondly, spatial proximity considerably simplifies the development of relationships of trust and personal networks. The diverse procedures for reaching agreement among the agents are facilitated by the uncomplicated possibility to meet personally. Both the formal and the informal meetings are important. An overlapping of the private and professional spheres is therefore common in Cologne's media cluster.

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