

CONCEPTUAL AND METHODOLOGICAL ISSEUS FOR THE STUDY OF A LOCAL SYSTEM OF INNOVATION CENTERED ON AUDIOVISUAL PRODUCTION

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1. Introduction

In influential work with focus on the "Cultural Industries", David Throsby (1994) seeks to construct a formal model based on marginalist microeconomic assumptions to determine the factors that influence and explain the level of remuneration of an artist. In this model the factor called "talent" ends up as a "not explained residual", which however is of central importance for determining the artists' income. This curious similarity with former chapters of economics reflects the difficulties and limitations of mainstream economics to deal with cultural activities and calls for a conceptual framework that pushes to the forefront of discussion the knowledge and its processes of generation and diffusion.

Cultural or creative activities have been recognized as some of the fastest growing sectors of the world economy. Within the cultural activities, those that create, produce and distribute audiovisual products and services deserve attention, especially because of their significant share in the world GDP of cultural activities and in the international trade. Brazil has a prominent role in this sector and the most important productive system of audiovisual content is located in the city of Rio de Janeiro. In the city are also located the main relevant organizations such as ANCINE (the national regulatory agency for the cinematographic sector), RIOFILMES (a public organization with strategic role in to the promotion of the movie industry and an important distribution channel) and the Audiovisual Technical Center (the main institution directed to technological diffusion and training). The city is the location of the majority of studios, AV laboratories and production companies. An important role is played by the Globo Organization,

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the world 25th entertainment company and the 4th in terms of own content production, with activities in the audiovisual sector ranging from open TV, paid TV to cinema.

The study presented represents an attempt of applying the analytical and methodological approach of LIPS and the innovation system perspective to the analysis of the audiovisual system based in Rio de Janeiro, taking it as a point of reference for issues related to the development of the sector in the country. The case of the audiovisual production in Rio de Janeiro is especially interesting for such an analysis, since it encloses several types of activities rooted in a specific territory, as well as an ample network of representative and politic institutions. Together they constitute a complex and unique productive and innovative system with several interconnected processes. Specifically we aim at answering how this system is structured and how specific competences are build, which are determinant for the long run sustainability and competitiveness of this system.

This writing does not constitute a paper that presents the result of the above mentioned study neither that addresses all the theoretical issues related to the analysis of cultural activities within an evolutionary perspective. It addresses some methodological issues considered to be relevant for the structuring of an empirical investigation of a productive agglomeration based on the production of culture and more specifically the production of audiovisual content. We present a set of questions and possible solutions regarding the following issues, which may help to better structure the forthcoming empirical study: what are cultural activities; which are the relevant agents of an audiovisual productive system and how is it structured; which implications for research methodology may derive from the specific characteristics of cultural activities; which questions should be asked or what aspects deserve special attention in order to understand the capacity building process and the productive and innovative performance in such a case.

2. Local Innovative and Productive Systems

This study departs from the concept of National Systems of Innovation (Freeman, 1982, 1987; Lundvall, 1992, and Nelson, 1993) and is based on the conceptual and methodological approach

of Local Innovative and Productive Systems – LIPS. This approach focuses on the role of innovation and learning as central determinants for dynamic competitiveness. Local Innovative and Productive Systems are defined as follows:

Local Innovative and Productive Systems – LIPSs – are groups of economic, political and social actors, situated in the same territory, developing correlated economic activities and that present expressive productive, interactive, cooperative and learning connections. LIPSs generally include companies (producers of final goods and services, suppliers of equipment and other inputs, industrial services, commerce, clients, etc.), cooperatives, associations, and representations and other organizations dedicated to the training of human resources, information, research, development and engineering, promotion and financing. **Local Innovative and Productive Arrangements- LIPAs** – are the fragmented cases, in which the actors are not significantly articulated (RedeSist, 2005)

This methodological framework aims at covering micro, meso and macro elements influencing the evolution of local systems. The methodology chosen focuses mainly on the analysis of how productive and innovative capabilities of selected systems are acquired and developed. This includes the investigation of how knowledge is assimilated and used by firms and diffused within the systems; the form and level of interactions among actors, the competence structure of the system; policies and other incentives more appropriate for mobilizing and developing these capabilities.

The unit of analysis of this approach comprises a set of agents that goes beyond the focus at individual organizations (companies), sectors or productive chains, establishing a more narrow relation between the territory² and the economic activities and adopting a systemic perspective of the innovative activity. This allows covering the environment in which the learning processes take place, the productive and innovative capabilities are created and tacit knowledge flows, constituting specific assets that can represent important factors of competitive differentiation (RedeSist, 2005).

Empirical evidence show that the insertion of companies in LIPS' enables and stimulates the direct interaction among agents who share common codes of communication. Further, sharing the same conventions and norms strengthen the mutual confidence, characterizing a propitious

² The territory is not limited to its material dimension. It encompasses a variety dimensions such as: physical; economic; social; political; symbolic (including affective and cultural bounds of individuals or social groups); and cognitive (related to the conditions for the generation, use and diffusion of knowledge) (RedeSist, 2005).

environment for the generation and socialization of knowledge, on the part of companies, organizations and individuals (Campos et al, 2003). Thus, the interaction among different organizations and companies, especially SMEs, have generated competitive advantages, which are decisive for the qualification of enterprise and their insertion in new markets (Britto, 2003). Such evidences refute the thesis of a technological globalization that diminishes the importance of the local sphere and point to the need for a better understanding of the implications associated to this territorial sphere in relation to the productive and innovative performance of the economic agents (Cassiolato and Lastres, 2003).

Throughout more than 50 studies the conceptual and methodological approach of LIPS has been constantly reevaluated and improved. A recent effort of RedeSist consists of the attempt to apply this approach to cases beyond the transformation industry. The biggest challenge consists of how to apply this referential to activities based on the production of intangibles. In how far issues that are specific to those activities, such as the characteristics of the products, the organization of the productive activity and the knowledge and capabilities required lead to implications for the understanding of these activities on a theoretical level? And which implications emerge for the methodology of analysis of those activities? To advance in this discussion, it seems important to take into consideration the recent theoretical and empirical efforts for the study of cultural activities. This may help to expose some conceptual confusion that underlies any new research field and to define the scope of analysis for this study.

3. Cultural or creative activities

The consolidation of a specific field of research focusing cultural activities within an economic perspective starts in the 60's³. Initially, the emphasis was on activities coined as "high culture", especially focusing its characteristics of public goods and the deriving theoretical arguments for public support. Along the last decade, the interest for the study of these activities proliferated, with research efforts specially based on presumptions of traditional microeconomic theory.

³ An important reference is the work of Baumol and Bowen (1966).

Since the study of cultural activities within a system of innovation perspective constitutes a recent effort and does not count with a consolidated bibliography, it is important to better determine the research scope and focus. A first step towards this delimitation refers to the discussion about the many terminologies that have been employed as analytical guidelines and their implications on the scope of analysis. A second step, related to the approach of LIPS adopted in this study, consists of the delimitation of the types of activities and agents to be considered for the description of cultural activities on a systemic perspective.

In relation to the first issue we point to the variety of terminologies that have been employed for the study of cultural activities such as "entertainment economics", "cultural economics", "cultural industry" or "industries", "copyright industries" and "creative industries". These terminologies, often used without much scrutiny, focus on different sets of activities according to different keys characteristics that are emphasized. They also present important variations of the focus of research and the associated theoretical framework.

The "creative industries" are described as those that derive from the creativity and individual ability and that generate economic flows through the exploration of copyright⁴. Generally they include: advertising; architecture; heritage; crafts; design; fashion; films; music; television and radio; performing arts; advertising; and interactive entertainment software (DCMS, 1998). Other studies based on this term even include activities such as pharmaceuticals (Florida, 2002). Many critics argue that this term is permeated by ideological aspects related to the policy agenda of specific governments (Pratt, 2005 and Flew, 2002)⁵. Another analogous classification is that of "copyright industries". In this group would be included all those activities whose product have some intangible aspect that should be protected by copyright laws.

This definition allows the most diverse sectors of economic activity to be included, such as those related to the new of information and communication technologies. The point is that, in thesis, individual creativity, ability and talent are present, to some degree, in any economic activity. Additionally, an increasing variety of products of many sectors incorporate some kind of

⁴ As recent important contributions based on this classification we can cite Barrowclough and Kunzul-Wright (2008), Bustamente (2002) and Caves (2002).

⁵ Not by chance, the term "Creative industries" appears in 1997 in a document of the just created Department of Culture, Media and Sport - DCMS of the Tony Blair government in the UK (Pratt, 2005). As argued by O'Connor (1999a) and Flew (2002), this list has a very pragmatic and ad hoc character, given the activities that became priority for public support in the country.

intellectual component in the form of patents, elements of design or other intangible and symbolic assets (Bilton and Leary, 2002). In fact, there are important changes in the productive sphere, with increasing knowledge intensity and in which creativity is a key factor for the innovative performance. But such aspects are not exclusive to some set of economic activities, but apply, to some degree, to the whole economic sphere. Authors such as Howkins (2001), Flew (2002) and Cunningham (2002) who apply the concept of creative industries to encompass, beyond the cultural activities, the transformations of the entire productive sphere that are stimulated by the diffusion of ICTs and the increasing importance of knowledge as a strategic asset seem to give a “new look” to a discussion that is already consolidated in the evolutionary literature.

Another well known term is that of "Cultural Industry". This term appears in the scope of the distinction between the "true culture" and the cultural production dominated by a commercial logic and dictated by the industrial segment, which constitutes the popular mass culture (Adorno and Horkheimer, 1996). Following the School of Frankfurt tradition, this term has been used to distinguish essentially commercial activities from the set of cultural activities that lack of economic sustainability and that should receive public support because of their merit good characteristics. Alternatively, many authors adopted the plural version of the term – Cultural Industries – abandoning a distinction between high culture and popular culture and focusing on a broad set of activities of cultural character (Hesmondhalgh, 2007)⁶.

The terminologies discussed above have been set up based on some function, either to bring to the front stage some aspects that are of specific interest for analysis, or to determine the set of activities that should be target of public politics, etc. As mentioned above, the present study is based on the conceptual and methodological framework of Local Innovative and Productive Systems - LIPS. Thus, the above mentioned delimitations and classifications are not so useful for this purpose, either because of their rigid sectorial delimitation, or because of the specific aspects within economics they set the focus on. Considering the central questions posed by this research – those related to the generation and diffusion of knowledge, development of capabilities and the

⁶ The following activities are considered to constitute the Cultural Industries: music, cinema, television, radio, books and periodicals, publicity, design, performing arts, paintings and sculptures, and crafts (O'Connor, 1999 e Bilton e Leary, 2002).

productive and innovative processes – we stress the importance of adopting an analytical cut that encompasses the variety of agents and processes that are relevant for a systemic perspective.

Considering the importance of the generation, diffusion and use of knowledge and stressing the importance of tacit knowledge incorporated in agents and organizations, culture or the "cultural knowledge" is considered to be an appropriate dimension of definition. In this sense, the delimitation proposed for this study is close to the concept of "cultural industries", since it recognizes culture as an element that is specific to each country or social group and that confers specific characteristics to the goods and services produced in that context. On the other hand, taking into account the broad set of agents that play some role in the processes of generation and diffusion of the relevant set of knowledge and that influence the productive and innovative performance of one given central activity, we must go beyond classifications centered on a sectorial or productive chain delimitation. An ample set of economic agents (and in the case of culture even productive agents without explicit economic orientation), as well as institutional and public agents are relevant for this systemic perspective. For this, we prefer not to use the concept of "industry" or "industries" and choose to adopt in its place the term "activities", stressing the focus on a more ample and diversified set of relevant actors.

Therefore, this study it adopts the ample concept of “Cultural Activities”. They can be described as those activities that deal with essentially symbolic elements - whose economic value (in case that it has some) derives predominantly or exclusively of its intrinsic cultural value. Therefore, the definition of Cultural Activities has as main reference and adopts as delimitation criteria the production and reproduction of symbolic cultural elements and the ample set of economic and non-economic agents who take part in this process⁷. Based on this definition the Cultural Activities would encompass the following groups of activities: music; audiovisual; editorial; performing arts; crafts; painting and sculpture; heritage; popular cultural festivities and manifestations.

Having established a delimitation of the scope of analysis, in the next item we apply the conceptual framework of Local Innovative and Productive Systems for the cultural activity

⁷ In the case of cultural activities the symbolic elements are specifically related to each social group with their set of beliefs, values and codes. That's exactly the point that sets the distinction between the concepts of “creative” and “cultural”. While creativity is a characteristic of any human being and that can be applied in the most varied circumstances, culture is a specific element of each country or region.

characterized as audiovisual. We try to identify the variety of agents that constitute the audiovisual productive system and that should be taken into account in an empirical investigation, in order to answer the main questions posed by the Systems of Innovation and LIPS approach.

4. Audiovisual in Rio de Janeiro in a systemic perspective

The focus on Local Productive and Innovative Systems represents an unit of analysis that goes beyond the perspectives based on individual organizations, sector or productive chains/complexes, establishing a connection between the territory and the economic activities. It proposes a systemic perspective of productive and innovative activities, considering a multiplicity of economic, politic and social actors. Taking into account this variety of actors and the multiple possibilities of interaction among them, this framework encompasses the dimensions in which the learning process occur, the productive and innovative capacities are created and tacit knowledge flows (RedeSist, 2005).

A first methodological step for the analysis of the audiovisual production in Rio de Janeiro within this framework consists of identifying the relevant actors of the system. This identification can be schematized in the drawing of the system, which includes the main productive activities, related suppliers and service providers and the set of organizations related to representation and support, education, training and research, public and private policies.

Activities of cinema, television or audiovisual are normally cited in all the above mentioned classifications. But most times they are treated as different objects, with studies that focus exclusively on cinema, broadcasting or new Medias for the audiovisual content. Such separations are perfectly justifiable in accordance to the specific focus of study. If, for example, the central focus rests on questions related to financing or distribution in these activities, this distinction is

functional for the analysis, given the differences among cinema and television verified in these stages⁸.

Alternatively, as can be verified in the definition of cultural activities presented above, the activities of cinema and television are not listed individually, but are joined under the term "audiovisual". This aggregation follows a criterion and a specific function, which is to consider the whole set of activities centered on the production of audiovisual content. This aggregation can be justified by two related arguments. In first place, it can be justified due to the central focus of the LIPS and the Systems of Innovation framework and of the evolutionary theory, which are the generation, diffusion and use of knowledge and its implications for the productive and innovative capabilities and performance. The key knowledge and capabilities for the creation of audiovisual products for the most diverse Medias are similar and correlated and most times the same agents - independent producers - produce the content for all these niches. In second place, we can present an normative argument. Positive experiences in different countries suggest that support and promotion policies and regulation should address the audiovisual production for its different windows, articulating the strategies in these different activities and promoting the whole set⁹.

After these considerations, we can draw what constitutes the audiovisual productive and innovative system. The ample set of actors that should be taken into account during the empirical investigation that seeks to answer the main questions of the LIPS research agenda is presented in figure 1. As in any abstraction from reality, we opted to focus on the multitude of actors considered to be central for the audiovisual activity. Thus, many actors indirectly linked to the audiovisual production are not portrayed. The productive agents are organized in great groups: producers and suppliers of specific inputs; agents directly involved in the creation of the audiovisual product; actors involved in distribution through diverse channels and in commercialization for different windows. These three groups characterize what we can call the

⁸ There are many differences between cinema and television. Films have a longer and less standardized production cycle. The product live cycle may be much longer because of the successive exhibition in different Windows. These activities present also considerable differences in the way the production is financed. Television is of an interest for films more especially as it can constitute a second circuit of exhibition. Conversely, the cinema can constitute a complement of income for television, with the adaptation to the large screen of successful series, for example.

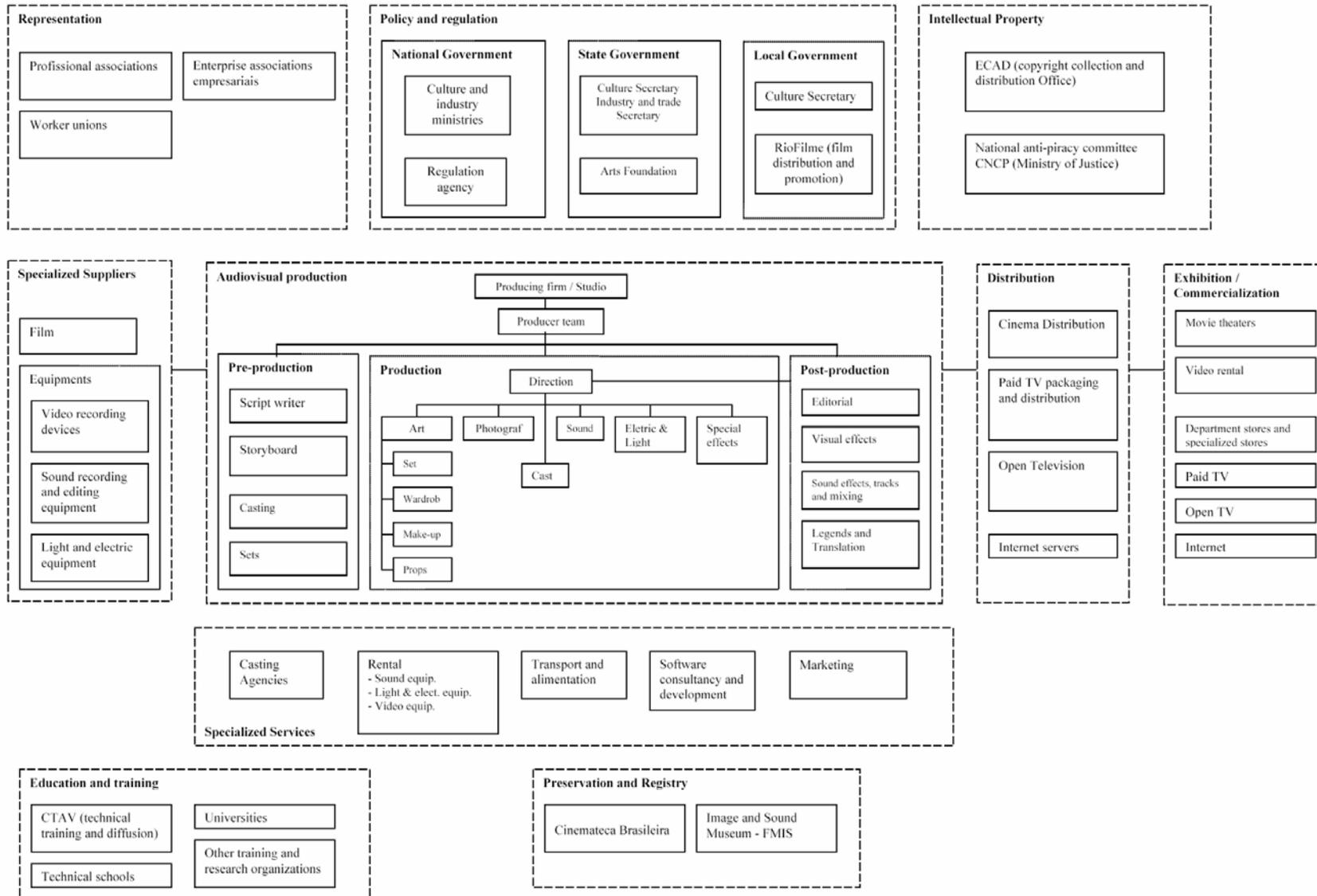
⁹ Many policy and regulation experiences in European countries support that assertion. In most cases, policies take into account the importance of promoting the synergies and links among these different activities that work with audiovisual products.

productive chain of audiovisual. Adding to it the specialized service providers we characterize the productive complex that will be focus of research.

To embrace the true dimension of a system, we add to the productive complex the different groups of institutional actors, which are grouped according to the function they exert: representation; policy and regulation; copyright; education and training; and preservation and register.

Conscientiously, we have not yet illustrated in this schematized figure the varied economic and information flows that occur within this system. It is exactly the main objective of the field research to identify on a quantitative and qualitative level the many economic exchanges and the varied forms of interaction that contribute for the generation and diffusion of knowledge.

Figure 1 – A stylized representation of the audiovisual LIPS of Rio de Janeiro



The set of actors in the group called “audiovisual production” deserves a closer examination. Within this group we screened a structure of coordination hierarchy that is established for the production. Diverse teams with different attributions and distinct qualifications integrate the stages of pre-production, production and post-production. The biggest challenge for structuring a homogeneous sample for field research is related to the diversity of arrangements that are set up for the formation of teams for the audiovisual production. Theoretically, all the functions cited in the great group of “audiovisual production” can be executed by a single company, that is, by specialized professionals of a single company. Alternatively, as occurs in great cinematographic projects with huge budgets, each of the functions shown in the figure can be executed by a specific company or by specialized autonomous professionals hired by the producing company or studio, who assumes the function of coordinating the work of these service providers. Moreover, the number of people involved can vary significantly. In an extreme case one of the specific teams – for example, that called photography – can be constituted by more than ten professionals with specific functions and sub-areas of specialization. At another extremity, all the functions of pre-production, production and post-production can be handled by one or few people, which is the case in independent productions with low budget.

This variety and heterogeneity of agents involved in the audiovisual production becomes evident when consider the case of the audiovisual production of Rio de Janeiro. This system is constituted by approximately 215 independent producers. Amongst them we find the greatest and best structured companies of the country, such as the Conspiração Filmes, RA Produções, Diller & Associados, and a majority of small and medium enterprises. Amongst the producers, we highlight the case of Globo Filmes, a company owned by the Organizações Globo and that is responsible for 9 of the 10 biggest box offices of national cinema in the last decade. In the table 1 we propose a segmentation of the producers, based on their receipts in the period from 2004 to 2006¹⁰.

¹⁰ The average exchange rate was of R\$ 2,8 for 1 Euro.

Table 1 – Segmentation of independent audiovisual producers of Rio de Janeiro

| Audiovisual producers | N° |
|--|-----|
| Big film producers ¹ | 4 |
| Medium film producers ² | 7 |
| Small film producers ³ | 13 |
| Micro film producers ⁴ | 48 |
| Other audiovisual producers (short-films, videos, documentary, TV content) | 143 |
| TOTAL | 215 |

¹ Box Office above R\$ 10 millions from 2004 to 2006

² Box Office from R\$ 1 million to R\$ 10 millions

³ Box Office from R\$ R\$ 100.000 to R\$ 1 million

⁴ Box Office below R\$ R\$ 100.000 or without available data

The Organizações Globo has an important role in the audiovisual system of Rio de Janeiro. Beside the activities in cinema through the Globo Filmes mentioned above the group also owns TV Globo, the biggest TV channel of Brazil. It produces most part of its fictional content, of which the soap operas are the most successful product, in a big complex in Rio de Janeiro called Projac. Although this company still adopts a relatively vertically integrated model of production, it has been increasing its interaction with the independent audiovisual producers in a variety of co-production projects and through subcontracting. Additionally, other TV channels, with headquarters in the city of São Paulo – Bandeirantes, Record, Rede TV, CNT, SBT and TVE Brazil – have offices in the city and produce there a small part of their content, mostly journalistic programs. In addition to the companies responsible for the production of the audiovisual content we find a multitude of enterprises specialized in different stages of the productive process.

With functions of distribution we find the same TV channels mentioned above and other ten television companies who retransmit the content of the previous. In the distribution for the window of paid television the Brazilian market is dominated by other companies owned by the Organizações Globo called GloboSat (packaging) and NET-Brasil (distribution). In cinematographic distribution the North American majors play a prominent role. Beside Warner Bros and Paramount Pictures Brazil, we find other eight companies established in Rio de Janeiro. The same important presence of North American groups can be verified in the stage of exhibition. The three most important are the foreign UCI and CINEMAX and the national group Severiano Ribeiro. The number of firms and autonomous professionals in the audiovisual system of Rio de Janeiro is displayed in table 2. These constitute the set of productive agents that will be interviewed with the application of the questionnaire that is presented in the next section¹¹.

¹¹ The variety of other organizations that integrate this system is not discussed here because they would deserve an extensive and detailed presentation. But they will also be included in the empirical investigation.

Table 2 - Productive agents of the audiovisual system of Rio de Janeiro

| Firms | n° | Autonomous Professionals | n° |
|------------------------------|------------|------------------------------------|------------|
| Casting | 7 | Director (films and TV) | 21 |
| Shooting board e story board | 1 | Script Supervisor | 9 |
| Equipment rental | 10 | Script writer | 12 |
| Producing firms / studios | 215 | Art Director | 5 |
| Studios (infra-structure) | 19 | Wardrobe | 20 |
| Set Design | 2 | Set Designer | 4 |
| Visual effects | 3 | Photography Director | 51 |
| Editing and finishing | 7 | Camera operation | 10 |
| Legends and Translation | 12 | Lightning and electricity | 9 |
| Distribution (films) | 10 | Musical production | 6 |
| Exhibition (films) | 12 | Sound technician | 9 |
| Insurance | 3 | Editing | 19 |
| Technical consultancy | 9 | Visual effects and animation | 63 |
| Transport | 1 | Drawing and illustrations | 2 |
| TV channels | 17 | Translation | 3 |
| Paid TV | 5 | Consultancy for tax incentive laws | 9 |
| TOTAL | 318 | TOTAL | 252 |

Although there are many studies of cinema, audiovisual and broadcasting activities in economics these contributions do not analyze the production process properly said and illustrate the firm as a black box. The main objective of this study is to look inside this black box and in relation to such a focus there are very few theoretic and applied references. In order to open that “black box” and understand the system in which it is inserted we apply the research methodology of LIPS. In the next section we discuss the methodology and the tools for field research, as well as the way the information obtained shall be analyzed.

5. Methodology for field research

This research is based on the previous research experiences of RedeSist and the methodology developed by this research network. Some interesting experiences of applying the LIPS approach for the study of cultural activities can be found in Matos and Lemos (2005), Matos (2006), Cassiolato et al (2008a) and Cassiolato et al (2008b). In these studies different cases, ranging from music and carnival to religious manifestations and crafts, have been analyzed within this research framework.

The tools used for field research in such studies consist of a questionnaire and different interview guides. The questionnaire is directed to the productive agents who compose the local system. The set of productive agents to which this questionnaire will be applied is

listed in the table 2 above. The interview guides present specific questions directed to other organizations with different functions in this system. The public and private organizations that will be interviewed are not listed in this text because of space limits, but the diversity of relevant actors can be seen in the figure 1 above.

The questionnaire is structured in five blocks of questions. The first one is directed to the identification of the company, with questions about size, origin and structure of the capital, characteristics of owners and employees. The second block poses questions about the economic performance of the enterprise, such as turnover, sales and markets attended, as well as factors considered to be important for the competitive capacity of the enterprise. The third block poses the central questions for the analysis, investigating the innovative efforts and performance of the enterprise, the activities of learning and cooperation with diverse agents and the impact of these interactive processes on the capabilities of the enterprise. The fourth block investigates aspects related to the local productive structure, the patterns of governance and the competitive advantages associates to the local environment. The fifth block evaluates the existing and potential support and promotion policies.

As mentioned above, the field research tools also encompass three different interview guides. The first is directed to organizations with functions of education, training and research such as technical schools, universities and technological centers. The main questions include issues about the research lines, characteristics of the courses that are offered and the main agents with which those organizations interact. The second interview guide is directed to organizations with representation functions such as associations and unions. It evaluates their action in relation to the productive agents, other organizations and the public sphere, considering their role in the intermediation and coordination of the diverse policy actions. We highlight the questions related to the efforts of the organizations for the technological capacity building of the associated enterprises, to the main potentialities and difficulties of the productive sphere and the possible implications for future policy actions. The third interview guide is directed to public and private organizations with promotion and policy functions. It includes questions related to their action in relation to professional training, technical consultancy, credit lines, fiscal incentives, scholarships and support to spin-off enterprises. These questions try to identify the main policy actions, their objectives and targets, the organizations that are involved and their function, the tools and the methodology for evaluation, the origin of resources and the lessons that can be extracted from the present stage of those programs.

These interview guides pose main relevant questions that may lead to specific issues that reveal to be relevant in each specific LIPS. Additionally, many questions of the interview guides are complementary to questions of the questionnaire, focusing on the same issues on to different perspectives – that of the support and promotion organizations and that of the productive actors. The combination of these different perspectives allows to identify with more detail the positive and negative points of actions, projects and policies. This helps to propose targeted policy actions that may have a greater chance of being successful and contribute to the development of the LIPS and territory in which it is inserted.

6. Analysis of a Local Innovative and Productive System

The conjunction of information and data based on secondary sources and the results from field research provide a rich material for the analysis of a LIPS that encompasses the many dimensions that are relevant within this framework. In order to guide this analysis RedeSist developed a proposal of how to structure the research report in order to address on a structured way the many issues that are relevant for this research framework. The structure that will be applied to the present study on the audiovisual system encompasses the following blocks.

The first block specifically addresses the national and international panorama in which the LIPSs are inserted. A first item focuses on the supply and competitive patterns of the industry or activity, the main products and processes, producers, level of concentration, origin of capital, production scales and firm sizes, characteristics and segmentation of the national and international market (countries and regions which produce and import). A second concern for the characterization of this broad picture would be the main technologies and knowledge bases which influence the LIPS's dynamic, as well as general characteristics of innovation and their forms of appropriation and diffusion (technological regimes). This discussion is of first importance for the study of a LIPS, since it permits to analyze and understand the productive and innovative dynamic within its geopolitical, economic and technological context, establishing a analytical connection among the local, national and global sphere.

A second block discusses the profile of the Local Innovative and Productive System. A first approximation consists of analyzing the origin and development of the LIPS's, its importance, decisive facts for its constitution and development. A second section analyzes

the main actors of the LIPS, focusing on: the productive activities (their sort, number, size, shareholding composition and origins of the capital, main products, suppliers of inputs and equipment, patterns of commercialization, and characteristics of the consumer market); the promotion, regulation and financing activities (actors which promote, regulate and coordinate the interactions in the LIPS); the knowledge infra-structure (actors that integrate the teaching and research infra-structure, identifying their potentialities, scope of activity, offer of vacancies, laboratories, equipment, qualification of their human resources, main programs, and services offered, identifying how these can contribute for the diffusion of innovations and stimulate the process of capacity building.

Taking into account these different organizations a next item addresses issues of embeddedness and forms of cooperation (collective activities, main partners and relations among the actors, identifying the flow of goods, services, information and knowledge). The combination of the previous topics allows to identify the recent performance and the competitive strategies that have been pursued by the firms in the LIPS. A last item of this block directs attention to the policies that influenced and influence the formation and/or development of the LIPS, identifying the public or private organization that implemented it, the type, the scope, the level, and nature of those policies. The analysis of the role of promotion organizations and programs and of the financing policies will be emphasized, identifying their impact on the LIPS's dynamic.

The third block will discuss in detail the processes through which productive and innovative capacity is generated. For this we first focus on the formal and informal learning mechanisms, identifying the information sources and forms of productive and innovative capacity building and how knowledge is acquired, used and diffused. A second step consists of discussing the interactive learning among different productive actors (producer-supplier and producer-client interactions) and among these and education and research institutions, identifying the relations that are established for technological and innovative capacity building. Finally, we address the importance of the local dimension for the development of productive and innovative capabilities and the relations of the innovative environment with the economic performance of the region.

The last block of analysis addresses the perspectives of policies for the promotion of the LIPS. Summing up the main potentialities and challenges faced by the LIPS, it is possible to envisage policies that may stimulate and direct the development of the LIPS, emphasizing the support to the development of productive and innovative capabilities.

Summing up

The study presented represents an attempt of applying the analytical and methodological approach of LIPS and the innovation system perspective to the analysis of the audiovisual system based in Rio de Janeiro, taking it as a point of reference for issues related to the development of the sector in the country. As argued by Lastres and Cassiolato (2005), the LIPS approach represents a powerful instrument to understand and to orient policies to promote learning, innovation and competence building processes. There are several reasons for this. First it helps to overcome the limitations of the focus on individual organizations, sectors, agglomerations and space (municipalities and micro-regions) as analytical and intervention units. Second, it covers economic, political and social contexts and the cognitive environments, where the main processes of learning, capacity building and innovation takes place and where tacit knowledge flows. Third it offers a broader understanding about the possibilities of acquiring and using technologies. Fourth, it stresses the importance of a joint consideration of economic and social development. Finally, it represents an important conceptual basis for orienting innovation policies in Least Developed Countries and particularly those similar to Brazil, which have a significant productive, social and cultural heterogeneity among different regions and within one region.

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