13. The roles of creative industries in regional innovation and knowledge transfer — The Case of Austria

Simone Kimpeler and Peter Georgieff (Fraunhofer Institute Systems and Innovation Research (Fraunhofer ISI), Karlsruhe, Germany)

Abstract

Creative Industries are regarded as one of the most promising economic sectors with high potential to contribute to local and regional wealth and jobs creation. Thus, the settlement of creative industries firms is an important location, image and economic development factor for the competitiveness of a region. This article presents findings of a study for the third Austrian creative industries report on the role of the creative industries in the innovation system and cross-sectoral knowledge transfer. It starts with a definition of the sector in relation to the 'Three-sector-model' of creative industries and then uses the systems of innovation approach to further explain the innovation activities of creative industries firms and its impacts on the regional knowledge-base and competitiveness. A summary of the main results of the company survey carried out for the study concentrates on the economic significance, innovativeness and role within regional knowledge transfer of the creative firms. It shows that the creative industries, characterised by a rather small-scale company structure and flexible work design obtain new ideas and approaches principally through the mobility of freelance employees. As creative industries make a decisive contribution to the competitiveness of the national innovation system, finally the consequences and challenges for regional innovation policies are outlined, which aim at the improvement of the framework conditions for creative industries.

Introduction

According to recent creative industry reports in several countries and regions world-wide as well as an increasing number of research articles in economics, the creative industries are regarded as one of the most promising economic segments with high potential to contribute to wealth and jobs creation. Creative industries are characterised by their cross-sectoral scope and profit particularly well from the growing demand for high-quality services and customised solutions. The sector offers itself as partner to diverse industries supporting the development of new products and services as well as manufacture and marketing. The creative industries are at the crossroads of the arts, culture, business and technology and defined by carrying out economic activities that strongly rest on individual creativity, skill and talent and predominantly produce intellectual property (UNCTAD, 2008). Due to the worldwide Internet-based diffusion of audiovisual goods, software and copyright products and services, the sector plays a key role in the knowledge and innovation transfer in the information economy. Thus, the settlement of creative industries firms is an important location, image and economic development factor for the competitiveness of a region.

In this article, we will outline some findings on the roles of the creative industries in innovation systems and cross-sectoral knowledge transfer, based on the study 'Contribution of the Creative Industries to the Innovation System — The Example of Austria' (Georgieff et al., 2008; Müller et al., 2008) ⁶. First, we will give a definition of the sector and a brief overview of studies on the economic significance and characteristics of the creative industries. We use the systems of innovation approach to further explain the innovation activities of creative industries firms and its impacts on the regional knowledge-base and competitiveness. Next we will summarise the main results of the company survey carried out for the third Austrian creative industries report. Finally the consequences and challenges for regional innovation policies are outlined.

Definition of creative industries

Since the end of the 1990s, studies on the scope, structure and specific situation of the Creative Industries have been published and discussed from an economic as well as a culture policy perspective. Most of the (continental-)European sector studies and industry reports by now use a so-called 'Three-sector-model' (Söndermann 2007: 7)

⁶ The study was carried out by jointly by Fraunhofer ISI and ZEW on behalf of arge creativ wirtschaft Austria in the Austrian Federal Economic Chamber. It served as information base for the third Austrian Creative Industries Report. The Authors would like to thank Gertraud Leimüller from arge creativ wirtschaft and our project partners Christian Rammer and Kathrin Müller (ZEW) and Helmut Gassler for their contributions. Special thanks to the ZEW colleagues for their empirical expertise and the survey.

to describe the creative and/or cultural sector by distinguishing between the public, intermediate and private sector (Georgieff et al., 2008: 18). Organisations and activities with primarily non-commercial, societal objectives, following a public mission of education and participation belong to the public or intermediate sector. The private sector, in contrast, comprises all firms, organisations and activities which follow commercial or operations side motives of the creation, production, distribution and diffusion of cultural and creative goods and services (Söndermann et al., 2009: 22).

The private sector of the creative industries, its capacity for innovation and its impact on the innovativeness of other industries is the focus of this paper. The private sector can be split into 11 sub-segments: music industry, advertising, books, software and games industry, art, film, broadcasting industries, performing arts, design, architecture, publishing and printing industries. The definition used in the study on the creative industries in Austria is close to the German 'Three-Sector-model' (Söndermann et al., 2009) as well as strongly in line with the definition of UK's Department for Culture, Media and Sport (DCMS, 1998), as it defines the sector by firms engaged in a business activity which is quintessentially based on the creativity of the company owners and their staff. They create economic value primarily by generating and utilising intellectual property, which includes artistic works. In addition to the sub-segments mentioned above, the Austrian report includes R & D services, consulting and training are also included. In Austria reports on the Creative Industries have been published not only with a national but also with a regional focus and have already highlighted the special features of the different lines of business in the sector and their outstanding economic dynamism (among others KMU Forschung Austria, IKM 2003:2006).

Creative industries and the innovation system

The significance of the Creative Industries is twofold: firstly, they comprise of particularly innovative lines of businesses which produce a multitude of new products and services; secondly, they are also important suppliers of ideas and new approaches for other companies. They play a special role as creative input providers in the innovation system; in that they increase the innovative capacity of other firms (compare Miles, Green, 2008). Besides, the use of Information and Communications Technology (ICT) plays a prominent role in Creative Industries. Their competitiveness is thereby closely linked to the innovative dynamics of this technology sector.

Only a few studies have analysed innovation activities of creative industries or even the contribution of creative industries to the innovative capacity of the economy (Castaner, Campos, 2002; Handke, 2007; Müller et al., 2008). Examples for studies are

the creative industries positioning based on input-output analyses (see Bakhshi et al., 2008), special evaluations of cross-sectoral innovation surveys (cf. Bakhshi et al., 2008; Miles, Green, 2008; Wilkinson, 2007), special surveys in certain fields of the Creative Industries like the music industry (see Handke, 2006) or case studies (see Miles, Green, 2008). Statements for the economy as a whole on the innovation activities and contributions to innovation on the part of the creative industries in Austria are available which complement the relevant regional studies carried out up to now (cf. Ratzenböck et al., 2004; Traxler et al., 2006).

Miles and Green (2008) introduced the phrase of 'hidden innovations' when describing innovations which could not be measured by traditional indicators and assumed that the share of hidden innovations must be very high in creative industries due to less formalised innovation processes and difficulties in measuring creative service output. Due to a high percentage of small firms within the creative industries, their strong structural dynamics and increasing importance of intangible goods and services it is difficult to assess and measure the innovation activities and its output in this kind of industries (Hill, 1999).

Creative Industries can be defined as a sectoral innovation system, whose institutional structures display national (respectively, regional/local) characteristics, whose enterprises, however, have developed a specific knowledge and technology base as well as organisational structures unique to themselves, enabling them and firms cooperating with them from other branches to carry out innovations. Figure 1 depicts the Creative Industries as an element of the national innovation system.

Three product characteristics play a particular role for innovations in the Creative Industries:

- mainly text, audio or video, respectively, multimedia content is concerned;
- the assessment by clients and users is based on experience;
- aesthetic criteria play a crucial role in the evaluation.

In the third report on creative industries in Austria (arge creative wirtschaft, 2008), which summarises the results of our study, the sector of creative industries was defined as a sectoral innovation system with institutional structures shaped both by its regional and national frameworks (Figure 1).

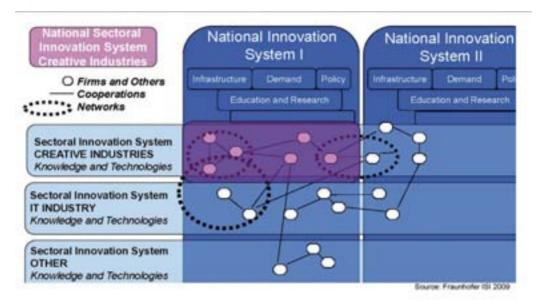


Figure 1: Creative Industries as Element of the National Innovation System

We have learned from the sectoral innovation systems approach (Malerba, 2004) that the firms of one sector have developed their sector-specific knowledge- and technology-base which enables them and their cooperating partners to create innovations. In addition, also the competences, learning processes, organisational structures, goals and business activities and models are sector-specific and developed further by intensive location-based cooperations, high cross-sectoral mobility of experts and institutional settings in the region. So the knowledge generation in innovation systems takes place through learning processes in cooperations, joint acquisitions, competition and market coordination, and not just with enterprises from the same branch, but also cross-sectoral. Furthermore, cultural, social and geographic proximity are pre-requisite for knowledge-transfer in innovation processes (Koschatzky, 2007).

Economic significance of the sreative industries in Austria — Results of a company survey

In spring 2008 the comprehensive survey of more than 2 000 Austrian creative industries companies was conducted to empirically investigate the role of the creative industries for the innovation system in depth and to arrive at a quantitative assessment (Müller et al., 2008). The central characteristic of the survey is that it focused on firms which are active in a branch of the creative industries and whose business activity is

also characterised by a high degree of creativity. This was operationalised by the use of three criteria: (i) originality and singularity of the product; (ii) appreciation of talents and creativity of own staff; (iii) mainly custom-made products and services (Georgieff et al., 2008: 71; cf. Traxler et al., 2006). In this context, we can speak of 'highly creative' enterprises. With this the survey differs from all other studies in this field, which are based on a delimitation of sectors.

At the beginning of 2008 the total number of 'highly creative' enterprises in Austria amounted to almost 20 000. The creative industries encompass the arts content (music, film/photography, writers, games, etc.), design, architecture, advertising, software, publishing houses and technical offices, as well as the area consulting/training, which up to now was only marginally considered in the creative industries. The low number of creative enterprises in comparison to other studies like 'Kreativwirtschaft in Österreich (Mandl & Dörflinger, 2008) results from the fact that in the survey public or non-profit organisations are not considered. Additionally, no enterprises from the areas of retail trade and rental and leasing were surveyed and, besides, enterprises from creative industries which do not provide any own creative service were excluded (see Müller et al., 2008).

The core of the creative industries is formed by firms which incorporate their creativity in the design of products (including digital products) (design), which produce artistic or otherwise creative work in the areas of film, photography, music, literature and dramatic arts (content), which shape public spaces, buildings and interiors (architecture), which conceive creative approaches to market products and services (advertising) and the varied requirements of IT-technical problem solutions by means of creative programming solutions (software). Furthermore, companies which offer creative consulting and further education courses for other enterprises (consultancy/training), which publish and produce publications and digital media (publishing/printing) and which solve technical problems in a creative fashion (engineering offices) are also regarded as part of the creative industries. As seen from the number of enterprises the areas architecture, software and technical/engineering offices dominate, whereas regarding the number of employees, technical offices, advertising and consulting/training represent the largest share.

For the first time ever, the comprehensive study has investigated the role of the creative industries in the innovation system on a broad empirical basis. It shows that the creative industries can make a decisive contribution to the competitiveness of the Austrian innovation system.

The creative industries are a decidedly innovative bunch. The creative potential of the entrepreneurs and employees is utilised by the majority of the enterprises when introducing innovative products. Sixty percent of all creative companies have

introduced new products (including services) to the market within three years. This puts them on par with branches of the high-tech industry.

The creative industries are an important source of original innovation ideas, i.e. new products, which were not offered on the market by any other firms. This can be perceived by the high share of companies conducting own R & D as well as the fact that one third of the product innovators have introduced novelties to the market. In many cases, these are niche products or are services specifically tailor-made to client specifications. Their direct impact on the overall economy is presumably not very large. It is, however, decisive that the creative industries permanently develop and test innovative ideas. Only this guarantees that such innovations are repeatedly brought forth to meet a large demand and achieve major sales successes.

The creative industries serve as important innovation partners for enterprises from other branches. Almost every second company in the creative industries has supported its client enterprise in innovation activities. This support can range from brainstorming via R & D and product design up to market introduction as, for example, regarding marketing concepts. A decisive factor is that the creative industries affect all branches. In particular those branches which invest little in creativity and R & D themselves, profit from the creative inputs of the creative industries companies.

Almost all creative industries companies use modern technologies, above all ICT. They are not merely passive technology users, but repeatedly supply the technology manufacturers and developers with impulses for new technology variations or adaptations.

The creative industries stand out because of the very high qualification level of the employees. The high proportion of academics among the personnel reflects the strong science orientation and cross-sectoral networking ability of the creative industries. Almost a quarter of the companies in creative industries conducts R & D cooperations with science or collaborates in supervising students writing diploma theses or doctoral theses. This allows creative industries to form an important link connecting scientific research results to their creative application in industry.

Personnel fluctuation is a further important element in the exchange of ideas and innovations within the creative industries themselves, as well as with other branches. An essential impulse stems from the high share of freelance employees. According to Florida (2002) the creative class is gathered in metropolitan cities and thus plays a key role for their economic growth. His concept on the 'rise of the creative class' has been discussed quite controversially (Wiesand, 2006; Hoyman & Faricy, 2006; Fritsch & Stürzer, 2007) and the main criticism is that Florida does not provide evidence of a causal link between creative class and economic growth. In this context, the Austrian study aims at filling this gap by measuring the performance of creative industries and

its impact on the innovativeness of the region by also taking into account the role of the creative industries in local knowledge transfer.

The sub-segments of the creative industries are closely networked. This applies not only to the procurement of creative inputs and for personnel fluctuation, but also for team collaborating. 'Content providers' (e.g. artists, photographers, copywriters), advertising agencies, graphic designers and the publishing and printing trade form a creative cluster characterised to a high degree by collaborating which results in creative value-added chains.

Conclusions: principal challenges and policy recommendations

Different studies show that in recent years the creative industries' value added contribution and their share in the number of dependently employed persons has remained relatively constant, while the share of turnovers is declining. The share of all firms, however, has clearly risen, which points to a high level of start-up activity and a lower share of market failures. Due to the rather small-scale company structure and flexible work design (mainly project work), the creative companies obtain new ideas and approaches principally through the mobility of freelance employees.

The creative industries' contribution to the innovative capability of their clients, the so-called user industries of creative products and services, is expected to be considerable. The survey of our study shows that creative industries in Austria are typical cross-cutting industries, which due to their specific situation act with particular flexibility in different markets and for different client segments. Given to their strong service orientation and the associated proximity to clients, creative industries play an important leading role in opening up the innovation process by integrating clients in the value added. This way cooperation and interactions with other actors of the creative branches as well as data on branch structure, the availability of qualified staff, educational/training focuses of the skilled personnel and the networking activities prove to be relevant indicators for measuring the innovation activities of the creative industries.

The realisation of the high innovative potential of the creative industries is confronted by some challenges arising from the structural idiosyncrasies of the branch. Most creative industries companies are very small and for this reason face typical problems of mini firms, such as issues of financing, maintaining capacities and competences, market cultivation and investment in R & D.

The high innovation orientation is accompanied by high growth. However, the majority of innovative products also find willing buyers. This presents many of the very small creative industries companies with new challenges, for instance, as far as time management or hiring qualified additional personnel are concerned. A (justifiably) cautious attitude towards an increase in staff — which in the case of an unfavourable development represents a costly burden — also prevents full utilisation of the growth potentials.

The high personnel fluctuation is accompanied by the danger of losing important knowledge and competences.

The lack of copyright protection is a problem for the further supply of digital products and services. Users are required to play an increasingly active role in codesign and distribution of creative content. Users are not only co-producers of the content, they also play an active role in selecting, editing, with reference to the recombination and the reference to the digital content.

Possible measures to prevent these problems arising from the small-scale structure of the branch are:

- A strong network of persons and service providers who can stand in and help out at short notice when the workload is especially heavy. Greater market transparency concerning exisiting offers and if necessary, knock-on actions to help establish if such offers are needed.
- The possibility to take 'time off' from everyday business, possibly by accumulating corresponding tax-favoured reserves. One way could be to transfer income from one calendar year to the next so that, in a profitable year, profits can be transferred to the following year and so finance 'time off' for the new and further development of business ideas. Such a transfer could amount to 20 % of the annual turnover of a one-man business and would, of course, only be possible once.
- The offer of financially attractive contingency insurance in case of illness or other reasons for not working.

To improve the finance situation in companies of the creative industries, the following measures could be considered:

The above mentioned possibilities to accumulate reserves should strengthen
the equity capital base of the enterprise. In the year 2007, with the permitted
deduction for invested profits for cash basis accounting, an instrument was introduced which makes tax-free treatment possible to a small extent (up to 10 %
of the annual profits). A further improvement, especially for only self-employed

- enterprises could be that they would be treated exactly like dependent employees as regards tax benefits of a virtual 13th and 14th month's salary.
- On the other hand, the access to possible outside financing such as small credits for 'intangible investments' should be improved. This can be achieved either by improved marketing of already existing offers or by collaborating with banks as to whether specific offers geared to the creative industries could be set up.
- The availability of venture capital is an important precondition in particular for those creative companies which would like to grow swiftly, on the basis of innovative products and service offers. In this context, the establishment of a corresponding venture capital (VC) fund which could be designed as a public-private partnership model would be extremely helpful. Most of the existing VC funds investments in creative firms are either too low from the amount involved or require very specific investigation of the market situation and the innovation projects. This means high handling costs on the part of the potential capital provider.

Creative industries play a significant role in the innovative ability of national innovation systems, as well as ensuring innovative activities which can be compared to those of the high-tech industry. This calls for stronger integration of the creative industries companies in economic and technology policy programmes. The interest of innovation policymakers in the creative industries should, in addition to promoting the education and culture sector also include safeguarding the competitiveness of the creative companies. Improving the framework conditions for start-up founders and creative clusters, as well as for knowledge transfer should be an important component of a sustainable location policy.

Appropriate promotional measures to integrate the creative industries in mainstream innovation policy even closer are:

- Promoting creative potentials: expanding offers in education and further education in fields relevant for the creative sector, ideally in cooperation with local industry on the spot. This will support the broadly based promotion of creative potentials, on the one hand, and the development of the unique selling points of a location, on the other hand. Promoting creative potentials should start as early as possible, even at pre-school age.
- Promoting innovation: direct or indirect measures to stimulate innovations on the spot by means of events, platforms for knowledge exchange, knowledge transfer, promotion of network building, competitions, innovation funds, transfer between different sectors, etc.

- Promoting start-up activities: qualification measures (marketing, management, accounting, corporate planning), providing information, network promotion, start-up support for young founders, support in the development of new business models are part of this category. In addition, stronger integration of the creative industries in university incubator initiatives is recommended, as creative potentials can in this way be recognised and promoted economically as early as possible.
- Supporting access to venture capital: as regards the creative industries, an own VC fund for the sector and an improved access of the sector to private VC is proposed.
- Promotion of (inter)national market development: government support for international market development is common practice in all industrialised countries. For creative industries the support in the development of new markets at home and abroad by means of traditional export promotion, support through trade missions, foreign missions, encouragement for network building, etc., is called for.
- Promoting the development of industrial clusters: this type of promotion has become generally accepted in the past few years. Promoting local networks of organisations/actors, whose production processes are characterised by the exchange of goods, services and/or knowledge. Many cluster policies do not develop only on a regional or local plane, but also on a national level, e.g. competence clusters.
- Questions of Digital Rights Management (DRM): these play a vital role in the
 creative industries. As a result of the 'content revolution', new possibilities of
 integrating user-generated content in Web 2.0, amendments to the laws are
 urgently required. In this connection, issues here are national and European
 legislation and regulations, as well as support for structuring applications for
 protection and preservation of copyright protection.

When judging the economic significance of the creative industries, the high share of self-employed and freelance workers must not be forgotten. In this respect, analyses which only cover enterprises with dependent employees or refer to the number of dependent employees are less reliable, as a large share of the personnel in creative industries companies is self-employed. Far more than 30 % of the creative industries companies are one-man firms.

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