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# Regional Networks between Industry and Academia: What can we learn from Bourdieu?

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**Abstract.** This paper is based on an empirical field study on the establishment of a regional network between regional (software) industry and academia. Inspired by recent critique of too harmonic community research under the aegis of mainstream social-capital analyses, this study reflects on related basic concepts. As a consequence, it uses Bourdieu's theory in the interpretation of the results and concludes that Bourdieu's theory is complex, but helpful for the detection of preconditions of sustainability of regional communities.

# 1 Introduction

Many organizations have undergone considerable change during recent times. Besides formal team work, networking has gained significant influence in many inner- and inter-organizational fields. IT-technology has played an important role in these processes, as it enabled new forms of distant communication and remote cooperation, which retroacted on organizations by allowing for new strategies, forms and visions such as, for example, the virtual organization. In the volatile economic environment, diverse change processes often interacted. Clear-cut boundaries between organizational units thus often became blurred. Centralized decision monopolies were reduced, for example, by strategies to reduce the time to market, which became an important success factor on the markets (Lay 1998).

Economic development had a strong impact on innovation and knowledge transfer, and vice versa.. A lot of new disciplines sprang up, established ones often adopted new ICT-related branches. Knowledge management theories have first tackled the opportunities of new technologies for the information support of different actors' roles in organizations and networks by means of repository systems and intranets. However, it turned out that related problems often originated in missing capacity to share and use knowledge (Brown & Duguid 2000b).

At the same time, the conception of regional clusters to promote hi-tech regions and branches (among which ICT is often rubricated) has been widely adopted, in particular, among politicians. Regional clusters, propagated as a means of face-to-face knowledge-sharing and Social Capital generation, have come under scrutiny in diverse disciplines, among which knowledge management, economics, sociology, regional planning, and more. Some of the theories mentioned have received impulses from Pierre Bourdieu, whose focus, however, was oriented on the structural conditions and involved power relations of mutuality and reciprocity. Bourdieu's considerations on conditions of social capital generation do not easily fit into the often micro level-based approaches on regional networks. But a rethinking of community-building efforts on the basis of a Bourdieu-inspired analysis may be helpful for reflection.

In the empirical field study on the regional establishment of a "usability network" presented here, therefore, Bourdieu's capital theory has been used to investigate into the power and knowledge relations between the industrial and scientific actors involved. The paper, therefore, starts with some theoretical considerations on the concept of social capital and its relevance in regional communities. The following paragraph addresses Bourdieu's theory and his concepts of habitus and forms of capital. After a short reference to the methodology, the results of the study will be analysed. Some concluding remarks form the end of this paper.

## 2 Basic concepts

### 2.1 Regional Networks

There is a lot literature on innovative regions, learning regions, innovation clusters, and related subjects. A lot of related conceptions attempt to confer the success of the “Silicon Valley” to other regions. However, not always there is the necessary devotion to the meaning and preconditions of this “model” and to the situation in the targeted regions. Many of them draw upon the opportunities for face-to-face communication, which may benefit from regional proximity.

Porter (2000) points out that in knowledge-intensive branches, geographical proximity in regions can be of major importance. In his definition regional clusters are concentrations „of interconnected companies, specialised suppliers, service providers, firms in related industries, and associated institutions (e.g., universities, standard agencies, trade associations) in a particular field that compete but also cooperate“ (ibid 15).

Further points of theoretical reference can be the cluster concept of Michael Porters (1990, 2000), the “innovative milieus” (Maillat 1996) or “learning regions” (Lawson & Lorenz) or “flexible specialization” (Piore & Sabel 1984). However, as knowledge sharing demands more than merely better opportunities for face-to-face meetings, it can also be advisable to rethink the inter-organizational learning, which is seen as the centre of regional networks’ advantages by knowledge-management related approaches.

### 2.2 Communities and Networks of Practice

Restructuring of economic organizations often has been accompanied by severe problems, some of which can be traced back to missing information. Therefore, the capacity of ICT to support remote communication and to transfer data worldwide was welcomed in order to reduce information problems. However, in organizations, knowledge is related to competences, responsibilities, interests and conflicts. Therefore, relevant information may remain blocked even after the implementation of a data-transfer technology; in this case, it remains too “sticky”. When on the other hand, employees do not care about discretion and communicate the business model of their enterprise to competitors, knowledge may have become too “leaky”.

Identifying the nature and environment of knowledge has become a major problem for organisational development (Brown & Duguid 2000b). The exchange of knowledge is not as simple as the transfer of data via ICT. Lave and Wenger (1991) developed the Community-of-Practice (CoP) concept to describe knowledge-exchange practises which neither demanded for technical bases of

abstract knowledge nor pre-defined interaction rules, but only for simple opportunities for narrating and over-the-shoulder learning of situated knowledge (Suchman 1987). In order to function, however, the self-organizing interaction between the actors demanded for some pre-conditions such as a common practice, understanding of problems and sense of purpose, all reproduced in shared narratives and identities.

The CoP concept has some similarity to occupational communities (Van Maanen & Barley 1984), clusters of people in or among organizations, who do not necessarily share an organizational role, but feel related to each other due to some perceived commonalities in work situations. In order to identify the CoP concept in relation to this view upon the work situations clearer, Brown and Duguid (2000a) differentiated Networks of Practice (NoP) from CoPs: they saw the difference between both concepts in the fact that in NoPs “people [...] engage in the same or very similar practice, but unlike in a community of practice, these people don't necessarily work together”.

The discussions on CoPs and NoPs motivated many attempts to promote related structures in order to allow for inter-organizational learning. Therefore, it is not surprising that community building has been identified as an important means to promote regional knowledge exchange. However, not in all related research, the different concepts and the conditions for successful knowledge exchange are taken into consideration in necessary detail. Before trying to apply related differentiations to a concrete case, another general concept requires regard, the concept of Social Capital.

## 2.3 Social Capital

The concept of social capital stems from a longer history of development in social sciences. First shaped at the beginning of the 20<sup>th</sup> century, it has been theoretically founded by Coleman (1986) and Bourdieu (1986) in the Eighties in reaction to the narrow neo-classical concept of the “homo oeconomicus”, that distinguished sharply economic from social action. Coleman (1988, 98) defines social capital as a “variety of entities with two elements in common: they all consist of some aspect of social structure, and they facilitate certain action of actors - whether persons or cooperated actors – within this structure”. In the course of emphasising the embeddedness of economic action (Granovetter 1985) the social metaphor facilitated the analysis of social issues in economic activities.

Its sudden and excessive use in several recent research fields leads back to the Harvard political scientist Robert Putnam. His application of the concept of social capital to empirical research on civic engagement on regional and (US-) national level draw special attention in politics and public opinion. From Putnam's communitarian view, social capital enables joint cooperation and activities for mutual benefit in horizontally formed self-regulating networks. Putnam

interpreted engagement in voluntary organisations as an indicator for mechanisms of trust-building between the actors and in between these networks. In a next step, participants even develop generalised trust.

Recently, his understanding of the concept has been very much criticised, especially for the fact of concentrating on horizontal communities and networks by blinding out power issues and suggesting harmonic views on society. In contrast, by focussing the “dark side of social capital”, researchers as Portes (1998) and Uzzi (1997) have identified negative aspects of social capital of communities, e.g. for those who stand outside the community borders. Additionally, Putnam’s use of the bridging/bounding concept in/between communities has been criticised. Harriss (2005) argues that Putnam’s concept of bridging between communities is to reproduce power issues and social inequality rather than being an instrument to broach the issue on power inequalities.

The discussion on Social Capital has drawn much attention in the last years (Huysman & Wulf 2004, Coleman 1988, Putnam 2000), especially due to the problems with human-capital formation in the context of the “first generation of knowledge management” (Huysman 2004) and its attempts to store all relevant information in central data stores and to see knowledge management mainly as a technical challenge. Taking relational and socio-cultural issues at the community level into account heralded a “second wave of knowledge management” as a sociotechnical, context-related matter. This new course engaged in “[...] addressing in more detail how people relate to one another, how shared practices emerge and how communities evolve [...]” being able “to understand better if, when, how and why such communities use or do not use technologies” (Huysman & Wulf 2005, 82).

Recently, Bourdieu’s view on social capital has become more widely discussed, having been marginalized under the “Putnam boom”. Pierre Bourdieu receives social capital as an aspect of the (re-) production of power, for him, power is inherently bounded to controversial social activities. While Putnam only peripherally addresses such vertical dimensions and power relations and conceptualizes social capital with collective values and societal integration, Bourdieu's approach starts from the viewpoint of actors engaged in a struggle in pursuit of their interests (Siisiäinen 2000.)

After having cleared some of the basic conception to interpret regional networks, in the following chapter Bourdieu’s concepts of capital and habitus, two of his main figures in his practice theory, will be presented in more detail.

### 3 The concepts of capital and habitus by Bourdieu

Østerlund & Carlile (2005) refer to traditional sociological scholars as Bourdieu (1977) and Giddens (1979) as the groundwork of recent practice theories. In order to compare the relational issues in recent practice theories Østerlund & Carlile create a framework of several attributes. One of the identified attributes are power issues. They state that sociologists and anthropologists influenced by Marxist views as Bourdieu held the assumption that “the most important forms of action or interaction for analytical purposes are those that take place in asymmetrical and unequal power relations.” (p. 94)

The notion of power relations subsequently leads to the notion of conflictive relations. Although early emphasised by Jean Lave (1993), this standpoint has not very often been explicitly referred to in the CoP- Discussion. Putting the relational aspect to situated action, she noted that uniformity of knowledge or belief of a set of people must not be taken for granted. Rather different knowledge, experience and interests from other situations are likely to come to conflictive situations and relations in other practice situations.

#### 3.1 Forms of capital

At the centre of Bourdieu’s theory there is reproduction of classes by means of production of meaning (Bourdieu 1980, 1986). In his research he pointed at social connections to be a matter in the reproduction of classes. He concluded that the investment in connections within an elite club can be a form of social capital to be transferred back into economic capital. In his understanding, social capital is “the aggregate of the actual and potential resources which are linked to possession of a durable network of more or less institutionalised relationships of mutual acquaintance and recognition” (Bourdieu 1986, 248.) The access to specific durable connections may open the doors to important resources.

In this reception of the term, social capital is a personal asset providing advances to those individuals or groups that are connected. This is a significant difference to the perception of the concept by Coleman and Putnam, who construct social capital as networks of trust, solidarity, and reciprocity of homogenous communities with common interests and shared values.

In contrast, Bourdieu described social capital in the context of other forms of capital, i.e. cultural, economic, and symbolical capital. In his conception, *economic capital* is directly convertible into money and may be institutionalized in the forms of property rights. *Cultural capital* is divided up into three states : 1. *embodied* in the individual person, i.e. incorporated in the *habitus*. The habitus will be outlined later. The second state equalizes to human capital and skills. 2.

*objectified* in cultural goods, 3. *institutionalised* as educational qualifications or academic credentials. Cultural capital is convertible on certain conditions.

Bourdieu argued that all capital forms have to be considered to get a complete picture of economic life. By the differentiation of the forms of capital he challenged economic theory for the narrow focus on economic capital. By this he argued against the reduction of the whole set of exchanges simply to those monetary ones, which are based on the self-interested maximization of profit, whereas all other forms of capital are perceived as non-economic and thus economically irrelevant. He advocated a general science of the economy of practices to examine capital (i.e. power) in all forms of appearance.

Bourdieu perceived the social world as a plurality of social fields. In these fields the forms of capital are to define the positions and possibilities of the singular actors in these fields. Each field has an own profile depending on the proportionate importance of each form of capital within it: “The structure of the field, i.e. the unequal distribution of capital, is the source of the specific effects of capital” (Bourdieu 1986). And thus the forms of capital under control of various agents in a field are trumps that define the chances of holding and reproducing the given position.

## 3.2 Habitus

Considering Bourdieus sociology as one of social practice, the category of *habitus* is at the core of it (Krais & Gebauer 2002). It describes a paradigm shift in the social sciences, as such, the turning away from the conceptions of social activity as a result of conscious decision-making *and* social activity solely as obeying rules: "I developed the concept of 'habitus' to incorporate the objective structures of society and the sub-jjective role of agents within it. The habitus is a set of dispositions, reflexes and forms of behaviour people acquire through acting in society. It reflects the different positions people have in society, for example, whether they are brought up in a middle-class environment or in a working-class suburb. It is part of how society produces itself. (Bourdieu 2000, 19)

Habitus stands for principles of perception and thinking, principles of reasoning and evaluation being societal formed. Habitus is the embodied social (Bourdieu & Wacquant 1996, 161). As such, habitus is a social constituted system of structured and structuring dispositions, acquired by practice, and constantly focussed on practical functions (ibid. 154).

The concept of habitus can explain inter-action processes between different milieus. A person entering a new, unknown milieu is not expected to show an already perfect constructed habitus. But what he is supposed is to bring in a convertible habitus. By participation, the actor engages with the circumstances of the “game”. Thus, the actor accepts the interaction like the rules of a game, its

preconditions, assignments and goals. Without this form of commitment, society would appear absurd, because there is no basis for a negotiation of meaning.

Participation thus means inserting countless acts of recognition, investing resources, working hard to understand the explicit and the tacit rules and the positions of other people. All this requires a long process of learning (Krais & Gebauer 2002, 61-62.) As a “structuring structure”, the habitus, can be seen as a web of dispositions, absorbing and orienting experience. The habitus thus is a sort of interaction culture, influenced by class and power relations, but also dependent upon the (un-) consciousness of the actors.

Using Bourdieu’s theory for the interpretation of regional networks emphasized the “outside” factors at work, which may be helpful to explain conditions and limitations of regional networks without pushing aside their possible advantages.

## 4 Research Method

The research method used to analyse the usability network was strongly based to the “paradigmatic model” according to Strauss and Corbin (1990), which was combined to a classical interview-based hypotheses-testing procedure.

A heuristic model was used to commonly identify the research focus. In the model, focal actors’ activities meet in an autonomous network. Regional networks as frames of focal actors’ activities compete with, combine with or separate form other network structures, especially associations and entrepreneurial nets (e.g. bidding consortiums). Communicative or commercial relationships, for which a regional network has been an initial frame or motivation, were interpreted as indicators of potential sustainability, without the relations being defined more closely a priori.

Based upon this model, hypotheses were developed as a resource for reflected participation of the interviewees in the interview situation, not as to-be-tested propositions like in behaviourism. The hypotheses were completed iteratively and validated in ongoing adjustment by means of the analysis of collected empirical data.

A half-standardized questionnaire was set up intended to motivate a strong influence of the persons interviewed upon the interview. Interviewees’ emphasis diverging from the hypotheses was accepted. Starting from document analysis (member lists etc.) the interviews were organised, executed and recorded (if permitted). The interviews were transcribed in paraphrases, conserving argumentation patterns.

The 20 interviewees were, besides the organizers, entrepreneurs and employees of SMEs, one agent of regional business development, and officials of concurring networks. Qualitative data interpretation was carried out using a combination of

methods: As a first step, codes commenting on hypotheses were identified. Ongoing research then elicited remarks that had not been addressed by the interviewers when defining the hypotheses. An additional level was finally identified through semantic conspicuities uncovered in the interviewees' responses and narratives.

## 5 Empirical evidences

The creation of the regional usability network was first initiated in 2002 by three colleagues of a research institute in the Rhineland area that came up with the idea to promote the knowledge transfer between research and local firms in the field of usability engineering. The three colleagues are now members of the managing committee of the usability network with two other regional firms and are responsible for organizing the different network activities. The main activities of the usability network are events that take place regularly two to four times a year. These events are organized in form of meetings on which researcher and representatives of local firms come together to discuss about different usability engineering topics. The meetings take place in the evening in an ancient castle on the campus of the research institute. Usually the meetings are launched by an introductory lecture on a specific usability topic by a prominent guest from industry or research. After the lecture the participants have the possibility to discuss about the lecture, before going on to the more informal part of the event which consists of small-talk accompanied by sparkling wine and canapés served in the special atmosphere of the ancient castle.

The first event was held in 2002 and 500 invitations were sent off via a mailing list from the regional chamber of commerce to potentially interested regional actors in the field of usability engineering. Since that, the number of participants for each event varies between 40 and 15 persons.

### 5.1 Reciprocity requires dispositions for negotiation of meaning

Organizers of regional networks may have different perspectives and motives. Besides mutual support and a shared understanding of a professional field, they can aim at other motives, according to Bourdieu's approach, for instance, power. Therefore, one can look, if common activities are organized according to power reproduction motives.

In the given network, a part of the invitations was sent to persons of the personal networks of the organizers. Thus the events were used to strengthen existing personal ties. If these invited persons attended the event or not, the

invitations eased the sustaining of relationships of the focal actors. They could combine private and common interests, other members could not.

Another strong motive of the organizers was the possible acquisition of projects. In some cases there has been success of these efforts. Yet, such motives were not directly communicated to other participants. Instead the accentuation of reciprocity was presented as the main target “outward-bound”, whereas within the inner circle of the organizers and their personal network partners self-interests were not hidden. To the outside, a different self-image was transported than to the insiders.

But how could the focal actors know before hand about promising images to be presented outside? This can be explained by Bourdieu’s concept of habitus: the relational perceptions between industry and academia were mediated by differences in habitus, which allowed for mutual anticipation and ongoing negotiation of meaning.

## 5.2 Social capital is constituted more easily by the social powerful

Some external participants raised the claim of receiving support by the research institute by means of getting perfectly elaborated “best practices” free of charge, which conflicted with the interests of the majority of the organizers to reduced preparation efforts for the events and keep their basic competencies “sticky”.

Some other external participants demanded to focus more on the actual practice of SMEs regarding the content of the presentations and the organisation of the events, for example, using workshops and focussing more on a defined target group. This critique does not succeed, as it demanded more from the focal actors without rewarding them.

In social worlds, interests seldom exactly coincident. But interests may be interpreted by actors allowing for a common production of mutuality. But such a state of mutuality in interests is only possible, when actors are not fully excluded. In the given case, a network has mainly emerged among the focal actors, while their relation to visitors was not of equal inclusion.

## 5.3 Even merely staged activities may contribute to social capital

Another motivation of some organizers in the beginning of the activities was to improve their reputation in their own institute. At this time, they had just started their jobs at the research institute and needed to produce more visibility of their activities. The activities around the regional network thus were directed in part to

the institute. Even when pronounced goals of regional network building, i.e. reciprocity, shared meaning, and mutual support remained very limited, on behalf of the visibility and reputation, there could be benefits.

Another example of staging came from an organizer, who was an external entrepreneur and engaged in usability issues for large firms. On the occasion of one event, he brought with him colleagues of this firm. Thus, he could demonstrate his social and cultural capital. Although he was friend with some of the researchers, he used the network event as a representative surrounding to bring people together.

#### 5.4 Common dispositions ease the access to situated and tacit knowledge

Motivations of participants can roughly be divided by the mode of the acquaintanceship to the organizers: Those, who did not know the organizers before their attendance to the events, were mainly attracted by the topics. Those, who were familiar to the organizers, e.g. former colleagues, business partners and friends, mainly stressed communication in the second part of the event as a major motivation of participation in the events.

Some individuals appreciated to talk to their former colleagues on both professional and private issues. In contrast, participants who did not know any organizer did not like the atmosphere, but often bemoaned that presentations and discussion were too academic. Thus, acquaintanceship to the organizers represented cultural capital that eased the access to situated and tacit knowledge on the events. In contrast, the participants from SMEs found it difficult to get into discussion or derive valuable insights from it.

## 6 Conclusion

In this paper, Bourdieu's theory was used for the interpretation of empirical research conducted on a regional network. While the especially Robert Putnam's reception of the social-capital concept has become identified with the thesis that a high level of social capital automatically emanates positive effects on community building and knowledge sharing, the application of Bourdieu's Marxist view is useful to catch problematic aspects of social capital more sharply.

Bourdieu's concept of social capital refers to his understanding of economic and cultural capital. All these capital forms are to define the positions and possibilities of actors in social fields. Thus, power relations can be defined by the ability of mobilising the different capital forms. With the related habitus concept

Bourdieu explains the interaction between actors entering different fields and milieus.

Bourdieu's theory shows social relations as connected with resources issues. Mutuality thus stems from the resources the actors are willing to invest for a common negotiation of meaning. Adopting this view, social capital is constituted and accumulated by actors in relation to their access to resources.

Applying Bourdieu's theory, it was possible to focus on power relations and understand problematic aspects in the activities aiming at bridging between regional entrepreneurs and scientists in a regional network. This critical view, however, does not necessarily focus upon a "dark side of communities". In contrast, it can be useful to elaborate the preconditions for a common understanding and functioning of mutuality. The detection of such contextual preconditions can be extremely important in order to improve the performance and sustainability of regional networks.

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