French-German Roundtable on Intangibles and Knowledge

Workshop 2: Dilemmas of the Knowledge Economy

Heidelberg, 17th September 2012

Protocol

Johannes Glückler welcomes the speakers, discussants and participants of this second workshop in the series of French-German Roundtables, organized by Ahmed Bounfour from the Université Paris Sud and the University of Heidelberg. He gratefully acknowledges the financial support of the Klaus Tschira Foundation and the organizational and intellectual support by the board members of the New Club of Paris as well as the local support by Peter Meusburger, founding member of the cooperation between the two universities. He shortly sketches out the four core dilemmas to be dealt with during the workshop and wishes fruitful debate and exchange throughout the workshop.

Session 1 – The Measuring Dilemma

Intangibles in the true sense of the word cannot be 'touched'. The central question in session 1 is how intangibles can be made tangible in the sense of identifying, measuring and valuing them. Can qualities be quantified or monetized? How does business appreciate and value intangibles?

Discussant: Günter Koch, General Secretary, New Club of Paris

1) Non-financial reporting on intangibles: Issues and perspective

Ahmed Bounfour, European Chair on Intellectual Capital Management, Université Paris-Sud; Florence Depoers, Associate Professor, Université Paris-Sud

Speaking about issues and perspectives of non-financial reporting on intangibles, Ahmed Bounfour and Florence Depoers address the dilemma of how to measure intangibles through focusing on the heterogeneity of intangible assets, which leads to difficulties in identifying, measuring and evaluating them. They pose the question of how the measuring, modeling and reporting (and possibly valuing) of intangibles can be further advanced, as research on intangibles needs a lot of basic data which is currently missing. Objects of measuring can either be the input undertaken in the field of intangibles by an organization, or the output in terms of patents, new products, etc. While output data can be available through documents like annual reports, the necessary input data is hard to obtain and further efforts are necessary on this level.

In a second step, the integration of intellectual capital reporting into voluntary Corporate Social Reponsibility (CSR) reporting is discussed as one possible solution to the measuring dilemma. A macro- and sectoral perspective is given and the speakers ask for reasonable reporting, with or without capitalization, and conclude in highlighting the importance of a forward-looking approach considering business models and "accelution".

In the following discussion, one essential problem of IC reporting is recognized in comparability of measurement between firms because firms and industries imply very different corporate and sectoral structures and activities which represent a huge challenge to comparative measures of intangible reporting. Furthermore, participants advert that whenever IC reporting is a voluntary practice, firms follow their incentives to report positively and selectively which even aggravates the problem of real IC appraisal and comparability.

2) The Orse guidelines for reporting on operational risks

Patricia Lavaud, Head of the Finance Club, Observatoire de la Responsabilité Sociétale des Entreprises (ORSE)

Patricia Lavaud speaks about the Orse guidelines for reporting on operational risks. In her presentation, the measurement dilemma is approached through the inclusion of non-financial reporting. Orse is a multi-stakeholder and non-profit organization which includes major corporations, fund managers, banks and insurance companies professional bodies and organizations representing employees and employers as well as non-governmental organizations that collects, analyzes and publishes information on Corporate Social Responsibility and Social Responsible Investment.

Mrs. Lavaud reports on a project within ORSE which aims to develop CSR practices in the financial sector through the integration of environmental, social and governance (ESG) risks into the financial sector's operational risk management methods. The central aim is to formulate standards, to give companies more security through a clearly defined portfolio of intangibles. The definition of central standards is thus considered the central challenge, which is approached through integrating and comparing three existing standards: The ISO 26000 as a standard in reporting on CSR action levels internationally, Basel II as a standard for risk in the banking sector, and the GRI and EFFAS guidelines, which provide a list of indicators to monitor the effectiveness of ESG risk management actions. In conclusion, the approach extends the foundations of operational risk management through the inclusion of ESG and the integration of CSR into organizational management, which also leads to a broader view of reputational risk management.

In the discussion, the relevance of focusing not only on risks, but also on the "opportunity space" was highlighted as well as the importance of societal - not only business - reporting, in fields such as trust, health and education. The argument was opposed again by another discussant who argues that reporting should serve to prevent risks, not to seek opportunities.

3) Appraising intangible assets in moments of crisis: Corporate insolvency in Germany

Michael Handke, Lecturer at the Chair of Economic and Social Geography, University of Heidelberg

Michael Handke sets the spotlight on corporate insolvencies as a specific type of situation in which firms and other actors involved face the dilemma of how to measure and value intangibles. Michael Handke states that corporate insolvencies can lead to innovation when intangible assets like knowledge are decoupled from their organizational corset and are recombined. In this phase of creative destruction, intangibles have to be measured and markets for them have to be organized. Thus, he stresses the importance of how these firm specific intangibles are observed and measured in practice and what kind of actors participate in the valuation processes.

In the discussion the question was raised if this concept can also be applied to projects, and the movement of teams was named as one typical process of how intangibles are moved in times of insolvency. In respect to the insolvency of Kodak, the comment was made that extraction of the value of a corporate's portfolio of intangibles, such as patents, does not always occur, as timing, the moment and the market situation the insolvency takes place, has a great influence.

Session 2 – The engineering dilemma

How to plan innovation when novelty comes from serendipity and unforeseen creative recombination? This session contrasts management, forecasting and efficiency seeking in innovation with problems of causal ambiguity, domain-specificity and contextuality of knowledge generation. Do we acknowledge creativity in the periphery?

Discussant: Johannes Glückler, Professor of Economic and Social Geography, University of Heidelberg

1) The innovators dilemma in the print media industry

Robert Crooker, Senior Vice President, Business Development and Strategic Partner Management, Heidelberger Druckmaschinen AG

Robert Crooker refers to the innovators dilemma – what potential holds a new technology and is it worth investing in it? – from the point of view of a practitioner from the print media industry, a very capital intensive industry which currently is in a phase of technological shift. In this phase, the challenge is to understand new solutions, new markets and new business models, and innovation is difficult to engineer, as the novelty comes "out of the blue". As possible solutions in the field of management he refers to "a precise check of the business model - from asset-based to data-based to knowledge-based", to "pursue customer sources of innovation", to "overcome barriers to change" through "addressing incumbent assets, mindsets and the customer's customer", and, if it occurs, to "fail fast". Robert Crooker reports the concrete challenge of Heidelberger Druckmaschinen AG to be confronted with a pioneering new technology – nanographic printing – which might strongly affect the market. The innovators dilemma becomes visible in this concrete situation since the dominant design of offset printing machines might now be challenged and driven out of the market by the NanoInk-technology.

A longer discussion follows in which participants ask questions about the market, the old and new technologies in order to reconstruct the dimension of the challenge. It is emphasized as crucially important to recognize business models as sources of innovation which are usually not analyzed or discussed in conventional innovation discourse.

2) Dilemma for decision makers in early phases of innovation

Peter Ohlhausen, Head of Competence Team Innovation Management, Fraunhofer Institute for Industrial Engineering IAO; Stefan Waitzinger, Fraunhofer Institute for Industrial Engineering IAO

Peter Ohlhausen and Stefan Waitzinger refer to the dilemma for decision makers at the early phases of innovation. They stress that the innovation management process in its complexity holds various decision points, in which gut feeling often dominates rational analysis, and insufficient use of information as well as an insufficient definition of the decision objectives can occur.

The speakers state that improvement is possible through a better defined process as well as through improving the way of dealing with and processing information, in improving the methodology, reaching higher objectiveness and a better risk assessment. Also, they stress the relevance of integrating various forms of education and various mindsets of thinking like those of engineers as well as economists. The speakers consider this cooperation and integration as one central challenge in the future.

3) Cultural assets strategies: The case of branding for museums

Julien Anfruns, Director General, International Council of Museums (ICOM)

How can intangible value be created in terms of cultural assets? Julien Anfruns discusses the engineering dilemma in reference to the case of branding of Museums. Museums show a large rate of diversity and the creation of a new brand by themselves is very difficult. Brand equity can be obtained through a firm-based or a consumer-based approach, and Mr. Anfruns poses the question of which approach is suited to create brand value for museums. Beneath the creation of a new brand there are the options of Brand Extension and Brands Alliances. Famous example is the case of Guggenheim, which has been very successful to franchise as an intangible asset for modern arts, though it is not the biggest collection if compared to other brands like the Museum of Modern Art or Centre Pompidou. The value of the brand results from negotiation and arises not from the brand itself but from connections, e.g. with names or architecture. From the perspective of regional policy the speaker highlights the question if the museum brand is enough or if an integration in further regional development strategies should be implemented.

Session 3: The Incentive Dilemma

While the state pursues welfare maximization, corporations strive for profits. While the state promotes the advance of knowledge as a public good, firms and inventors usually strive for knowledge monopolies. The focus of Session 3 is set on how policies can reconcile conflicting interests in order to advance the knowledge base of society and economy. What is the role of the third sector?

Discussant: Leif Edvinsson, CEO, Universal Networking Intellectual Capital AB and President of the New Club of Paris

1) Scenarios for the future of intellectual property rights

Clara Neppel, Examiner Directorate 2221, Scenario Analyst, European Patent Office

Clara Neppel discusses possible regimes of intellectual property rights in the future, focusing on the influence of open innovation as a new paradigm which might set new incentives. In different scenarios, where either business, society, geopolitics or technology work as dominant drivers, she illustrates which different forms of usage and relevance of intellectual property protection may occur. Open Innovation could evolve in all four scenarios, as drivers for and against open innovation can be found in all four scenarios. The speaker stresses that the system of the future is unpredictable, though, as there are indicators for all possible regimes. Future challenges with regard to the incentive dilemma are the demands of open, collaborative innovation, of new business models and of new technologies or innovation processes.

2) Why Do Governments (fund and) Conduct Applied R&D?

Georg Licht, Head of the research department of Industrial Economics and International Management, Centre for European Economic Research (ZEW)

Georg Licht raises the question why governments do fund and conduct applied R&D. He states that there are clear reasons for government R&D policy, but asks for the rationales for Government's direct involvement in applied research and discusses the limits to state aid with respect to risk distortions and market failure in state aid regulation. He points out that due to knowledge spillovers and positive externalities, from a private perspective the rate of return may be unattractive, while from a societal point of view the benefits may be much higher. Appropriate R&D policy in his view has to differentiate between general knowledge as a public good and specific knowledge which is related to production and can be protected.

The speaker gives arguments for the foundation of a theory on applied research: He highlights the educational function of publicly funded research institutions as most of their researchers move to the private sector over the course of time. Secondly, he states that the traditional economic thinking about public funded applied research conducted in public institutions is too narrow, e.g. not paying respect to the multidisciplinary nature of new products or processes and externalities which occur during the diffusion process of an innovation. Thirdly, Georg Licht states that "a simple structure of R&D subsidies will not solve the internalization problem" due to the "complex structure of knowledge externalities, market failure in third markets, and externalities in adoption process of new technologies", and highlights the different incentives which drive the activities of public, applied R&D organization on the one hand and private contract R&D firms on the other.

3) Valorisation of public research results: Elements of international comparison

Rémi Lallement, Technical Officer, Conseil d'Analyse Stratégique

Rémi Lallement gives an insight on the valorization process of public research results, presenting results from an international comparison. Valorization is hereby not only understood as a linear process of innovation and technology transfer, but as a circular and interactive process with frequent retroactions, with increasing cooperation between business and public research organizations and an important part of valorization occurring in the collaboration phase before patentation or before the technology is fully apprehended. In the presented approach the valorization performance is assessed through indicators about the commercial potential as well as the actual use. The study on the differences of licensing incomes between North-American and European public research organizations leads to the dilemma that Technology Transfer Offices on the one hand need autonomy to be efficient, while on the other hand they also need to operate in close proximity to the researchers of their respective PROs .

Secondly, public research organizations bear the cost of transferring the knowledge (patents, contracts), revenue mostly captured by private business and by society. Thus, measuring intangibles in terms of valorization of public research results is to be considered a complex and multidimensional task, as it is not sufficient to consider microeconomic criteria: the macro- or socioeconom-

ic benefits need to be considered as well. In conclusion, the speaker stresses the "need to clarify the ultimate goals of valorization".

Session 4: The Circulation Dilemma

Intangibles are bound to people and organizations. Session 4 deals with the question of how localized knowledge can be mobilized, reproduced and improved in other places. How does learning work? How can new knowledge be transformed in marketable goods and services?

Discussant: Peter Meusburger, Distinguished Senior Professor, University of Heidelberg

1) Intangible assets of territories

Ahmed Bounfour, European Chair on Intellectual Capital Management, Université Paris Sud; Danielle Bourlange (online), Deputy Director, Agence du patrimoine immatériel de l'État (APIE); Kristof De Meulder, Project Manager, Agence du patrimoine immatériel de l'État (APIE)

Ahmed Bounfour, Danielle Bourlange and Kristof De Meulder refer to the intangible assets of territories, with the focus on the reproduction of public intangibles assets as one aspect of the circulation dilemma. Apie, the Agency for Public Intangibles in France, was founded 2007 within the Ministry of Economy, Finances and Foreign Trade to develop value from public intangible assets. The objective is "to unlock the potential of public intangibles to create social and economic value through the modernization of public services" and through "contributing to the development of the knowledge economy".

In respect to regional development, Apie pursues the measurement of the impact of public intangibles on a region. The basic idea behind is that interactions between private activities and public intangibles lead to an increase in public intangibles. Public entities manage at several local levels a variety of intangible assets, which can generally be shared without costs or losses with third parties. This results in an increasing of a region's attractiveness, while the private sector's activities at the same time also affect the image and the social and economic development of a region. How to measure this interaction is thus basic part of Apies research activity and gives further insight on how intangible value is created and can be measured.

2) From inventions to innovations: Universities between basic science and IP management

Jürgen Rühe, Professor and Vice Rector for Internationalization and Technology Transfer and Head of the Laboratory for Chemistry and Physics of Interfaces Department of Microsystems Engineering – IMTEK, University of Freiburg

Jürgen Rühe refers to the circulation dilemma with respect to Universities as institutions between basic science and intellectual property management and gives an insight to the knowledge and technology transfer practices of the University of Freiburg. He distinguishes outbound technology transfer, targeting at the dissemination of knowledge to society, and inbound technology transfer, targeting at supporting research cooperation with external partners. Money supply to universities is in his view no substantial motive of technology transfer cooperation. He divides University technology transfer into four sections: Firstly education and qualification, secondly research,

including third party funding, know-how transfer and industry on campus, thirdly inventions and intellectual property, and finally spin-offs and joint ventures. Basic feature of cooperation between university and industry in respect to funding and IP-control are in his view contract research and cooperative research as well as industry on campus and spin offs or joint ventures. The sharing of risk and profits is the basic principle of cooperative research. Cooperative research bases on the covering of the direct costs such as personnel and materials through the industry, while the university covers most of the indirect costs. Intellectual Property results from both partners bringing in their knowledge, and both partners hold joint ownership of the new intellectual property. Jürgen Rühe stresses that there are specific problems which occur in this cooperation: Beneath other aspects the interests of the industry in cooperative research projects may lie mainly in advisory missions or development work rather than in advancement in the state of science or technology. Further typical problems in cooperation are questions of liability, as well as problems concerning sublicensing and opening clauses. Contract research on the other hand is based on the clients bringing in research questions and suggesting ways of solving these. In case of full cost accounting through the industry partners a complete transfer of the new IP is possible. The speaker thus considers contract research as not really an interesting option for universities.

Beneath these traditional forms of cooperation at the University of Freiburg also modern forms of cooperation such as industry on campus and joint ventures occur. One example at the University of Freiburg is the JONAS research network between BASF, ETH Zürich, University of Strassbourg and University of Freiburg. On behalf of the industry, technology transfer gives firms the opportunity to gain access to creative research and helps to define interesting new problems and to stay at the very forefront of research. Also, technology transfer between university and industry facilitates the recruitment of university graduates into industry, and through the close contact between industry and academia knowledge transfer may occur in both directions.

3) Innovation practices in Europe: A complexity theory approach based on CIS surveys

Andrés Barrenche, PhD Student and Research Assistant, Université Paris-Sud

Andrés Barrenche refers to innovation practices in Europe and presents a complexity theory approach based on CIS surveys. He focuses on the research problem if there is a relationship between different strategies in intangible assets and how companies relate to each other. In a second step he deals with the question if this relationship affects the performance of the companies. The theoretical background of the research is the idea that relational capital enables co-operation among firms, and that strategic similarity is a significant predictor of knowledge transfer more than customer or location similarity. He tests for the hypothesis that firstly, Companies with similar sizes and profiles in intangible assets will have higher propensity to experience valuable co-operation. Intangible assets he hereby measures as R&D intensity, public grants, patenting, importance to co-operative sources and qualified personnel. His second hypothesis is that companies with similar sizes and profiles in intangible assets will have higher propensities to innovate.

His preliminary results lead to the conclusion that cooperation with other companies from the same sector are most valuable. Different types of similarity yield different relationships, that more "average" firms are more likely to benefit from collaboration, that having an "intermediate" profile restraints both intra-sector co-operations and innovation performance, and finally, that "simi-

larity to concentrated groups of firms (clustering) is associated with lower propensity to rewarding co-operations, but with higher innovation intensity".

4) Rhine-Neckar Chamber of Industry and Commerce: Supporting innovation and technology transfer

Nicolai Freiwald, Technical and Environmental Consulting, Rhine-Neckar Chamber of Industry and Commerce

Nicolai Freiwald brings insights on the incentive dilemma from a practitioner's point of view, presenting the Rhine-Neckar Chamber of Industry and Commerce as an organization which supports innovation and technology transfer**.** He describes how the Rhine-Neckar Chamber of Industry and Commerce acts as a gateway of knowledge transfer between science and industry, and formulates that exchange between industry and science is desirable by all participants and results in innovation. Main questions influencing the activities of the IHK are "Where is knowledge?", "Who possesses the knowledge?", and "How can the individual (company) gain access to this knowledge". Based on these questions, the IHK acts as a connecting point between industry and science. It offers assistance in consulting, technical events, information sessions and tech-transfer. The main focus of action is on initiating personal contact between scientists and companies, with mainly small and medium sized companies using the offer due to their individual lack of contacts into universities. Clusters and networks are supported as centers of concentrated knowledge, with focus on internationally renowned and EU-funded networks.

Plenary Discussion

Peter Meusburger starts the plenary discussion highlighting the problem that the discussion about knowledge spillover or knowledge transfer is handicapped by the use of too simplistic communication models. Various categories of knowledge travel at different speed and some of them will never reach certain areas. The spatial diffusion of scientific knowledge depends more on the skills, experiences and cognitive processes of the potential receivers of information than on the willingness of the sender to share his or her knowledge. The fact that knowledge is made public or available for free does not mean that it is understood, accepted or used by all who have access to the information. Scholars supporting the assumption that knowledge is a tradable good, should not forget to mention between how many persons the specific knowledge is tradable worldwide (500, 5000 or 500 million persons?). Some forms of high-grade knowledge will only be understood, applied, accepted or replicated at a small number of places by experienced and knowledgeable agents working there. He proposed a more sophisticated model of knowledge transfer. Finally, the plenary discusses the relevance of intellectual property rights and possible scenarios in the future. Critical comments address the legitimacy of the patenting practice of universities for their findings are financed by public money and since they serve public interests. Most participants consent in the belief that property right management, patents and other forms of property rights will continue to play a major role for future innovativeness of the global economy.