

## High Performance Work Systems, the High Road to Innovation and their impact on the Innovation Ecosystem

The Innovation is still in the focus of attention when it comes to formulating policies for economic development or devise programs to recover from the recent – or still prevailing - global economic crisis (e.g. Wang 2009: 1). In this context the concept of innovation ecosystems has been discussed extensively in the field in recent years, using different scopes, models and perspectives. The current understanding of innovation ecosystems is characterized by a focus on institutions (Wessner, 2007: xiii; Adner, 2006) such as companies, universities, investors, governments and their tightly enmeshed interactions. An Innovation ecosystem can be described from various perspectives such as an individual player (e.g. a company) (Adner, 2006), or a public body (e.g. a nation) (Wessner, 2007: 68). The key questions asked are, how to design, build and operate a – in the eye of the beholder - favorable innovation ecosystem. To answer these questions often rather linear or rather deterministic approaches are adopted (e.g. Adner and Kapoor, 2010: 309), although the notion of an innovation eco”system” per se contradicts suchlike. Socio-cultural aspects are considered as mere contextual domains that influence the rate and direction of innovative activity (Milbergs, 2007: 11). They are not considered as a variable factor, interacting with and within the innovation eco system.

On the contrary we argue, that also aspects have to be integrated , which are not directly related to innovation processes including feedback-loops which lead from all kinds of innovation activities into the regional communities and society and back again into the stream of innovation processes. Thus the “fertility” of an innovation ecosystem is as much an emerging quality of a region as a whole, as a collaborative arrangement of institutions (Adner, 2006: 1), and the former cannot be viewed isolated from the latter. Our medium term objective is to develop a framework for Innovation ecosystems, which includes these feedback loops and is consistent with the “systemic” characteristics.

One of these feedback-loops in this context could be related to the implementation of High Performance Work Systems (HPWSs) in companies of a certain region. Thus our leading question here is: Do HPWSs have an impact on the innovation ecosystem of a region?

Our motivation to do this research came from the observation, that Austria as our home-country was not exactly what you would call innovation friendly or embracing change. This was the finding of the “Innovationsindikator Deutschland 2009”, an extensive study funded by the Federation of German Industries and the Deutsche Telekom Foundation. This index is based on 180 individual indicators including soft factors and investigates the 17 leading developed countries as ranked in the OECD. In the overall ranking Austria is on the 14th position (Von Hirschhausen et.al.2009: 7). In the category societal innovation climate Austria is ranked last out of 17 nations (ebd.: 109) .

Taking into consideration the importance of process innovation and the potential, which lies in the design of new business models or the reconstruction of entire supply chains, this may result in a competitive disadvantage in the future. These aspects of value creation always involve larger parts of a company, often crossing boundaries within the organization and to the outside world as well. Here, an innovative culture of the entire organization or of society itself becomes the fertile ground for innovative progress and substantial change. So the question arises, how can these emergent qualities in the dynamics of an innovation ecosystem, whose manipulation elude the common deterministic approach be fostered; how can the development of these qualities be facilitated? There is some evidence, that HPWSs can make a contribution to that.

## HPWSs and the High Road to Innovation

The research in progress presented in this article is being conducted for (and thus takes on the perspective of) a European economic region which has for itself decided to take the “High road to innovation”. According to exponents of this approach “it has long been clear that “low road” strategies of cost leadership, speed and standardisation cannot build sustainable competitive advantage. Rather Europe needs to compete by utilising its innovative potential to the full. Increasing cultural diversity can be a source of creativity. Companies (including public sector institutions) need to reinvent their products and services on an almost continuous basis and in ways that can’t easily be imitated by their competitors. The rate at which companies translate the creativity, experience and tacit knowledge of employees at all levels (and that of other stakeholders such as customers and suppliers) into a shared resource for innovation becomes a major determinant of competitive success. This “high road” alternative is often referred to as the “knowledge economy” (Totterdill, 2008: 1).

High performance work systems (HPWSs) are considered as a key concept when adopting the “high road to innovation” approach. HPWSs comprise of new strategies and structures concerning the organization of labor but also the company itself, like teamwork, flat hierarchies, job rotation, performance related wages or workforce empowerment (Nolte 2010). Empirical Research so far has shown that a key element to higher productivity and stronger financial performance lies in the systematical implementation of high performance work practices (HPWPs) throughout a company by means of reorganizing the entire work system and not only applying individual practices (‘bundling of work practices’) (Kuhlmann 2004: 39). There is also evidence though that many firms still take a ‘piecemeal approach’ in using such work practices rather than trying to employ a more innovative way (Denton 2006) thus narrowing the possible gain of such a systematic approach (Boxall 2009: 5).

## The research design

In order to answer our research question we had to work in an environment, where HPWSs are in the course of being implemented. So the study presented here is a side-project of larger research project which focuses on the impact of HPWSs in a corporate context.

As already stated, we assume that there is an interaction between the socio-cultural condition – aspects thereof are often described as “innovation climate or innovation culture” – and innovation institutions and innovation processes in a region in general. We furthermore assume that HPWSs in particular have an impact on the Innovation Ecosystem. Consider e.g. a few thousand people of a major employer in an economic region starting to work according to principles like:

Individual responsibility

Selforganization, selfmanagement

Substantial involvement in management activities such as planning and controlling

Substantial involvement in process optimization

Process oriented decentralization

Our first step to support this presumption is to investigate, whether the implementation of HPWSs has an impact on the individual mindsets of the employees involved.

As a methodological reference we work with some of the subcategories and indicators as used by the “Innovationsindikator Deutschland 2009” to depict the category “societal innovation climate”: The category societal innovation climate is composed of the following sub indicators:

- 1) Attitude towards change comprising
  - a. Attitude towards entrepreneurial risk taking (will be dropped).
  - b. Openness and tolerance
  - c. Attitude towards women’s employment
- 2) Attitude towards science and technology comprising
  - a. Interest in sciences
  - b. Trust in scientists and organizations doing research
  - c. Appreciation of opportunities and risks coming from scientific research
- 3) Social commitment

In many of these subcategories Austria was ranked last in the “Deutsche Innovationsindikator” by the way (Von Hirschhausen et.al. 2009: 96).

#### A look at the context

Our study is embedded in an extensive research project in the manufacturing plant of a global player in the automotive industries. The main scope is the scientific accompaniment of the implementation of various high performance work practices (HPWPs) on the shop floor. Furthermore we are performing explorative research about the applicability of HPWSs in other areas than production such as production logistics and the R&D department.

Various sub-projects are being realized and are therefore in different developmental stages. For example a pilot area has been selected to test teamwork in manufacturing. We are monitoring the process of this implementation, will evaluate its effects and will again do the accompanying research, when the measures are rolled out on the entire shop floor. Further activities include a complete reorganization of operational management towards flat hierarchies and innovative approaches of summarizing relevant areas on the shop floor.

This extensive reorganization project is a perfect context to do our side-project which is presented here. Various HPWPs are being implemented in a systematic way so we can expect a more substantial impact on the organization (as already pointed out above). Likewise not only a small section but the bigger part of the plant will be involved in this project; all in all, 1.200 employees will be affected.

We are setting up a multistage research process that relies on a combination of various sociological data collection analysis and methods. We tie this selection to the requirements of the case study method associated with industrial sociology to make sure that we fully understand the differences between the social processes and the company context it is embedded into. We understand that this approach is especially applicable when researching and evaluating the implementation and the effects of new forms of labour organization.

To gather necessary data we plan on performing the following methods at various points in the progression of our research.

- Cross-Examination to systematically survey the perspectives of various relevant stakeholders or groups thereof within the firm
- Expert interviews in the form of individual interviews and group discussions.
- Quantitative Surveys focusing on employees

- Workplace observations and observation-interviews
- Document analysis techniques (Including documents of completed and ongoing projects within the firm in the course of the reorganization)

These activities give us plenty of opportunities to interlace our additional research task about the impact of HPWSs on the mindset of the individual employee.

#### Outlook

We are currently integrating the respective methods for data collection into one concise design in order to satisfy the various requirements coming along with the diverse scopes of our empirical work.

By end of 2012 we will have completed our final evaluation of the leading project as well as of the side-project.

Aside the results we will obtain with regards to the main focus of our attention, which is the impact of the implementation of High Performance Work Systems on categories such as job satisfaction and various aspects of company performance, we will also have pinned down the effects of HPWSs on the mindsets of the employees involved.

Although this will not suffice to provide scientific evidence for the impact of HPWSs on the “Innovation Culture” of an economic region, it will support our reasoning in this respect and provide us with valuable insights in order to conduct further research in the development of the Innovation Ecosystem framework already mentioned above.

In the future, our approach will offer a different view on how regional innovation ecosystems can be developed and their emergent qualities can be fostered by means of attracting companies. Professionals and political advisors responsible for the design and implementation of regional development programs will gain deeper insights into how such a program interacts with the socio-cultural condition of a region. They can obtain indications which aspects of a program will support and foster the emergence of an extended innovation ecosystem as a whole. Innovation managers of companies will gain a broader perspective on the long term innovative potential of a region.

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