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# **Innovation, Knowledge Intensive Firms and Creative Environments**

Patrick Cohendet, BETA, University of Strasbourg, & HEC Montréal  
Laurent Simon, HEC Montréal

## Evolutionary analysis of the firm: some open questions.

- How to untangle the threads of the discussion between the evolutionary and knowledge-based theories of the firm (Resource-based view, competence-based approach, etc.)?
- How to define the theoretical positions of these new theories vis-à-vis the traditional theories are. Are they complement or substitute? Do firm manage only *transactions* (according to the traditional vision), or only *competences*, or do they manage both?
- What is the role of the entrepreneur in the evolutionary/knowledge-based vision is unclear. Is there a pilot in the evolutionary theory of the firm?
- How to improve the central concept of routine, and its application to the understanding of innovation.
  - Felin and Foss (2004, p.23): “*While references abound to notions of organizational routines and capabilities, at present in evolutionary economics and strategy we have 1) no theory of their origin, 2) no agreed upon, clear definition, 3) no measurement and 4) no clear understanding of how exactly they relate to competitive advantage...*”

## Hypothesis: going behind the scene of the routine

- What is needed is an in-depth exploration of the micro-context of the origin of routines, of the conditions of their emergence, and of their degree of replicability.
- To understand the dynamics of innovation, one should go behind the scene of the routine, and look at the dynamics of the social groups which are the active units of knowledge from which routines emerge and change
- Routines experienced in a functional group, in a project team, in a network of partners, in a community of different kind, may be all different in terms of power of replication, of degree of inertia, of potential of search

## (Hierarchical) Teams and (informal) Knowing Communities as different contexts of emergence of routines.

- 1. *Teams*:
  - Hierarchical working groups in the firm (functional groups, project teams, task force, etc.) for which the context of work and coordination of specialized tasks is defined *ex ante* by the hierarchy;
  - Learning activity results from a *learning by doing* process: the cognitive construct of the group (the jargon, common grammar and codes, social norms, etc.) is only a *by-product* of the "main" objectives of the group
  - The cognitive construct that supports the routine is fragile in the sense that it has not been elaborated as the routine has been constructed. Most of the time, the hierarchy tries to absorb and replicate the routine of a given team with the global cognitive tools of the organisation (common language and representations) which are necessarily somewhat “distant” from the actual practice of the team.

## (Hierarchical) Teams and (informal) Knowing Communities as different contexts of emergence of routines.

- 2. *Knowing communities:*

- The learning process is intentional. It is the *raison d'être* of the community that deliberately engages itself in a cognitive activity in which the cognitive understanding of the routine is inherent to and inseparable from the daily functioning of the group.
- The cognitive construct that supports the routine is thus built as the routine is formed. This explains the strong degree of encryption and replication of the routine, which however is supported by jargons and norms which are specific to the community

## Communities and the innovative firm

- Brown and Duguid (1991), the firm *“as a collective of communities, not simply of individuals, in which enacting experiments are legitimate, separate community perspectives can be amplified by inter-changes among communities. Out of this friction of competing ideas can come the sort of improvisational sparks necessary for igniting organisational innovation.*
- Kogut and Zander (1992) *« the firm as a social community depending on voluntary co-operative exchange and informal communication as sources of collective beliefs and corporate culture »*
- Crémer (1999): *“A considerable amount of work is yet to be done on non-hierarchical communities in firms. In contrast with the theory of hierarchies, the research in this perspective should aim at a better understanding of the advantages and drawbacks of the different networks of communication. It should also aim at exploring their organizational consequences”.*
- Boland and Tenkasi (1995), *“Organisations are characterised by a process of distributed cognition in which multiple communities of specialised knowledge workers, each dealing with a part of overall organisational problem, interact to create the patterns of sense making and behaviour displayed by the organisation as a whole.*

## Knowing communities: some properties.

- Active units of *specialisation* (in a given domain of knowledge)
- Active units of *absorptive capabilities*.. They permanently interact in their specialised domains of knowledge with the outside world collecting new ideas and benchmarking the best conditions of practice.
- Active units of *competence*: “A community of practice - drawing on interaction and participation to act, interpret, innovate and communicate - acts as a locally negotiated regime of competence”.
- Knowing communities can take in charge some of the irreversible *sunk costs* associated with the processes of creation and maintenance of knowledge.

## **A case study (an experiment) of an innovative firm (in the videogame industry)**

- The company is highly innovative and occupies a leading position in a highly creative sector
- It has no research department.
- It did not outsource its research activities to another company, or contracted research with a given lab.
- It is not involved in intense cooperative agreements, nor in technological networks
- It did not rely on intense knowledge based subsidiaries

## The sources of innovation

- This innovative firm tends to adopt a very specific mode of organisation: it concentrates internally on the governance of *multi-project activities* which contribute to generate, exploit and develop a “*creative slack*” as a source of growth of the firm, while it tends to place its indirect capabilities, and in particular their absorptive capabilities captured by the knowing communities, in the soil of a creative city.
- The key point is the following: the core of the innovative potential of the firm resides at the interaction between the hierarchical structures of the firm (the projects) and the informal structures (the knowing communities that nurture the *creative slack* of the company).

# Decoupling creative work from routine work?

- The “dual identity” of the members of the knowing communities contributes to solve to solve the dilemma between creativity and efficiency that may physically separate creative work units from more routine work units.
- One of the advantages of this permanent connection is that it provides opportunities for feedback between the micro creativity that emerges from the daily activities during the project, and the macro-creativity set up at the beginning of the project by the project.
- If a micro-creative idea that has emerged during a project appears to be relevant, it can quickly circulate within the communities through regular exchanges, be improved and validated through these exchanges, and be introduced directly into the project, *i.e.* be enacted.
- Micro-creative ideas that emerge during a project can be absorbed in the active memory of some communities of specialists, as a *creative slack* that could be used in other projects.

# The “Creative Slack”.

- The notion of *creative slack*, which refers to the notion of *organizational slack* proposed by Penrose (1959) plays the role of an important reservoir of opportunities of innovative knowledge for the organization, and guides to a large extent, the growth of the organisation.
- The specific conditions of formation of the creative slack in innovative firms, - which rely on the functioning of autonomous communities which naturally take in charge, at negligible costs, the production and conservation of knowledge in their domain of specialisation - is a guarantee of the efficiency of maintaining the creative slack at low costs.
- The potential of the slack is diffused in the diverse communities of specialists of the firm that have memorised (thanks to the knowledge brought by their members) parts of the learning during projects. Although it is well known that organizations have extreme difficulties in memorizing what has been learnt during a project, the interest of communities with regards to this issue is that they rather easily memorise the routines practiced by their members.

## **The « fertile » local environment: the creative city.**

- Montreal plays the role of a large scale forum consisting of a myriad of creative (underground) communities which is a fertile soil for igniting sparks of creativity.
- Through this constant opening to the external world and the permanent search for the best practices from outside the organization, communities of specialists in innovative firms are unique devices tapping into the external world to bring permanently useful knowledge and creative ideas to the firm.
- Thus, tracing the sources of creativity in innovative firms reveals a maze of creative communities of different sizes and scopes, a “hidden architecture of creativity” which starts from the different elementary communities of specialists of the firm that are also participating in the dynamic socio-cultural life of the city.

# Integrating the knowledge-based visions of the firm

