

In this issue

Conti and Warner's "Technology, teams and Theories of the Firm"

Business Process Re-engineering (BPR) requires horizontal organization of autonomous, self-managing teams, not the vertical hierarchy of command of traditional departments. Flexibility, mass customization, co-location, customer orientation and other aspects of global competition are incompatible with hierarchical command systems.

Professors Conti and Warner have undertaken the task of exploring this new management paradigm of horizontal organization of business processes, rather than functions and departments. At the same time, the nature of the firm has also shifted fundamentally: from maximizing a single aggregate objective function with respect to given constraints, to balancing a portfolio of multiple objectives and goals by optimizing the constraints themselves.

The authors argue that process orientation may represent a *new paradigm* for economic activity, but there are barriers and resistance to its successful and widespread diffusion.

Such barriers are often formidable. It is in the nature of *any* paradigm change that its fundamental challenges are being resisted by habits, vested interests, stagnant cultures, power structures and intellectual inertia. As Thomas Kuhn taught, it takes at least one dead generation for any scientific paradigm to make significant inroads. It is probably even worse with management where questions of money, power and influence play a much greater role.

Although the firm evolved in order to protect the benefits of the division of labor, these initial benefits have long time ago been surpassed by the benefits of reintegration of labor: multifunctionality, teamwork, reprogrammability, functional rotation, task reintegration, knowledge reintegration, etc. The firm, rather than protecting traditional specialization, must promote and provide space for autonomy, contractual freedom, responsibility and team entrepreneurship. Thus, the nature of the firm, the nature of its boundaries and the nature of its organization has to change and is bound to change.

This change can *only* come about by overcoming formidable barriers and resistances. No hierarchy and

its top management will voluntarily give up power to teams, go from vertical to horizontal and from specialization to reintegration. Top management is clearly the largest barrier and it is forced to action and accepting change only by competition on a global level, bounded by top management 'team' tenure and longevity – at least 20 years?

Mathews's "Economic learning"

Any successful business organization operates in two kinds of areas: producing "the other" (heteropolesis) and producing "itself" (autopolesis). The firm's ability to produce products and services ("the other") is crucially dependent on its continued ability to produce its knowledge as embodied within its human and organizational capital (produce "itself"). The production of knowledge and knowledge-producing structures goes often under the heading of organizational learning.

Organizational learning is not only about what people and teams learn *within* their organizations, but also about how the organizations themselves, their institutional and economic structures, affect the firm's capacity to learn and acquire new competencies.

Some economic structures (networks, clusters, alliances) encourage and enhance learning, while others are by their very design destined to stifle and prevent it. People do not learn *per se* (except autodidacts), but only as part of institutions (family, school, corporations). The nature of these institutions is crucial to organizational learning.

John Mathews introduces the concept of *economic learning*, an accelerated type of learning enhanced by networks, clusters and consortia. He takes three levels of such organizational structures into account within organizations, between organizations and above organizations.

The pervasive presence of collaborative and cooperative arrangements within competitive free markets is due to the need for more reliable and accelerated (economic) learning by organizations. Such collaborative arrangements include subcontracting, licencing, alliances, consortia, partnerships and joint ventures, among others. Cooperating, interre-

lated and resources-sharing firms learn faster through their various forms of inter-organizational and extra-organizational structures, faster than the disappearing corporate “islands of isolation”.

Different countries exhibit different abilities to establish the institutional arrangements which sustain and accelerate organizational learning. These social or learning infrastructures represent one of the most important forms of capital, the necessary embedding for human capital to flourish. Most advanced, most successful and most promising countries are distinguished by their high formation rates of social infrastructures.

Supra-organizational institutions of collaboration, sharing and learning seem to provide a distinct competitive advantage in the era of global competition, knowledge-based industries and mass customization.

Benedetti and Solari’s “Long run economics”

Economic theories aiming to study long run evolutionary trends cannot avoid analysis and study of institutions. Evolutionary and institutional economics are the tools for answering questions which neoclassical (static or short term) economics cannot begin to comprehend. Sufficient to recall its total failure as transformational economics in Russia and Central Europe, puzzlement over Japanese and Asian takeoffs, inability to comprehend the role of trust in culture, the role of knowledge (even though knowledge has become the most important form of capital).

Benedetti and Solari, both from Padova, are searching for the non-reductionist study of information and learning (and hopefully, later, of knowledge and wisdom) as the foundation of evolutionary economics.

They review a number of general systems and epistemological theories and approaches, many drawn from biology or cybernetics, which could be considered conceptual tools for evolutionary economics.

The current shift in management practices from product and operation *to process* is a reflection of establishing an evolutionary perspective and process-oriented emphasis. Although neoclassical economics is correct in putting market processes in the center of its investigation, it has dismissed all its intricate and beautiful mechanisms and self-production cycles by a rather crude if not medieval metaphor of the “invisible hand”. As centuries pass by, the notion of the “invisible hand” becomes more and more a witness to intellectual incompetence and laxity.

For sure, the “invisible hand” hides autopoietic cycles of production, build-up and degradation, creating visible structures and institutions from the underlying cyclical organization of dynamic processes. Studying emerging structures is insufficient without comprehending the underlying organization. The invisible hand must be made visible, not through state dirigism, but through unveiling its mythical and religious garb.

It appears that perhaps only von Hayek, through his emphasis on spontaneous social orders, achieved a level of comprehension of free market systems among economists.

Benedetti and Solari distinguish between viewpoints external to the system (uninvolved) and internal to the system (involved). Of course, the involved approach cannot become effective without fully mastering the uninvolved approach: in order to affect any natural system effectively, one has to comprehend its spontaneous formation or self-production. Treating natural systems as man-made machines is now becoming a cruel caricature rather than a serious approach of a scientist.