

In This Issue

Ronen's 'Reengineering'

Reengineering, as a fundamental rethinking of the entire traditional system of business processes, continues unabated and is even accelerating in its momentum, especially in globally competitive economies and corporations.

Whether or not the achieved improvements are dramatic is now irrelevant: a different game is being played at a different stadium. It has its own rules and its own measures of success or improvement. Some teams simply do not show up.

One is reminded of elegant horse-drawn buggies, besplendored, polished and well equipped, their occupants holding up their noses when viewing those smelly, sputtering and totally inadequate internal combustion engines. Yet, no amount of continuous improvement of the buggy can ever lead to an automobile. In fact, no amount of dramatic improvement can. The name of the game changes, with all its rules, players and even spectators.

Many corporations fail in implementing reengineering because they do not understand its imperative nature and keep handling it as some sort of horse-buggy adornment. It is not that they would fail to achieve improved performance, but they fail to grasp the fact that their performance is measured differently in the new world of competition.

The name of the game is not profits, quality, cost, speed, flexibility or customer satisfaction. In fact, it is none of the above. The name of the game is *all of these*, at the same time, in parallel, no tradeoffs, no questions asked. Nobody can play such a game without fundamental reengineering.

No buzzword has been subjected to so many misinterpretations as reengineering. The most guilty are its very authors, Hammer and Champy, who almost totally failed in conveying its full understanding to a larger business community. Belated reengineering of their own work and writings is just belated. Misunderstandings and misinterpretations abound, revisionism flourishes and doubts are mounting.

It all adds up to delays, hesitations and missed opportunities – as usual. It all amounts to sticking up with TQMs and JITs for a bit longer, beyond their prime, after their time had passed.

Yet, reengineering, understood correctly as reintegration of the process and its tasks, labor and knowledge, is irreversible and the companies who have recognized this, the Compaqs, the Fords and the Kyoceras, will set the rules of the new game. The hunted have become the hunters.

Foss's 'Incomplete contracts'

Firms should be organized to adapt to unforeseen contingencies, to generate flexibility of response and to facilitate organizational learning. All other dimensions, like information processing, decision making and problem solving are dependent and follow to facilitate the above organizational form.

Foss has identified the *incomplete contracts* as being sufficiently flexible and accommodating tools for providing sufficient incentives for organizational learning.

Modern firms are not held together by their striving for transaction cost minimization (although they still do that reasonably well), but their primary role, not attainable through other institutional arrangements, is to produce, maintain, renew and upgrade knowledge. The production of knowledge, rather than the production of goods and services, has become the primary competitive strategy of most successful firms in a globally conceived environment.

Modern firms are not producing just fishing rods and nets, but the very knowledge of fishing. Their knowledge of how to produce anything is more important than producing a particular thing.

Knowledge is the ability of coordinating action, both one's own and that of others. Action coordination (in-formation) rather than a symbolic description of action (information) is at the core of firm's rationale. Firms are not depositories of information (symbols, records), but perpetuators of in-formation (action). That much is known and experienced. In order to perpetuate action, i.e., in order to know, one has to be able to maintain and expand one's own strategic flexibility of response.

As was stressed in Integrated Process Management (IPM), the trick is no longer to predict and forecast

the market and its circumstances, but to evolve and strengthen one's ability to respond to an ever wider set of unforeseen circumstances and conditions. It is therefore mandatory that not all future contingencies are covered by the contract, but that the contract itself remains incomplete, open to amendments, capable of 'responding' to a changing circumstance. Incomplete contracts can be carried out by autonomous and self-confident employees, not by narrow automations of overspecialization. Incomplete contract provides the needed room for knowledge accumulation and experimentation and thus makes the firm adaptive and cognitive: the antithesis of the centralized and hierarchical command systems of the past.

Mathew's 'Holonc organizations'

Cells, amoebas, networks, teams, etc., are increasingly populating organizational architecture in practice and also in research. Koestler's 'holonic organizational architecture' provides a metaphor for the necessary coordination of decentralized, autonomous or semi-autonomous components.

How does one coordinate more or less autonomous contractual agents? One way is to make them less autonomous, more dependent and impose the control of the traditional hierarchy of command. It works – up to a point (of global competition and customer sovereignty). Another way is the free market, based on free prices, open information and individual empowerment.

Mathews insists that the conventional organizational model, based on functional division of labor (and task and knowledge) and centralization of control, is leading to system malfunction and collapse in one technical (and non-technical) field after another.

Following Jan Christian Smuts and his notion of holism, Koestler too has insisted that 'wholes' and 'parts' in an absolute sense do not exist, but are inventions of human inadequate perception of reality. Each part is obviously a whole and each whole is obviously a part, depending on the vantage point of the observer. This dichotomy disappears as soon as the observer becomes included within the observed system. Mathews gives three examples of this new, holonic architecture: cellular manufacturing, holonic robotic systems and object-oriented programming.

Basic *holon* is an autonomous, independent, intelligent operating entity that is both a system in itself and at the same time a subsystem of a broader en-

tity. Kyocera's *amoebas* are holons, as are all active participants in a free-market exchange.

Holonc systems ensure that control is shared between holons themselves, through their relative autonomy, and a systemic coordinating mechanism which takes responsibility for steering the system as a whole.

Mathews has attempted to sketch out some basic principles of the emerging horizontal corporation, based on semi-autonomous teams or cells. He drew on various systems theories, from holons and dissipative structures, through self-organization and double-loop learning to autopoiesis. Many of these principles are currently fully functional in practice. It will be interesting to follow to what extent theoretical constructs of the artificial are going to match the practical developments and advances of the natural.

Machado's 'Complex organizations'

Complex organizations are not limited only to business and production systems. A complex medical organization is the organ transplantation system of Sweden, characterized by a high degree of complexity. This includes not only complex transportation and communication systems, but also administrative, professional, market and network relationships and orders which are used to coordinate hospitals, physicians, patients and donors, real and potential, individuals and groups, at a high level of reliability, quality, cost and speed.

The complex organizations, like this organ transplantation system (OTS), argues Prof. Machado, evolve perceptible zones of incongruence and tension at the interfaces and junctions among their different types of relationships.

In any complex organization, different social and physical suborganizations and suborders must be linked together into an integrated, functioning whole. Often there are tensions and conflicts among participating groups, professions, individuals and other stakeholders. There are contractual, free-market relationships cohabitating with administrative and bureaucratic command relationships, being embedded in complex network relationships on both formal and informal levels.

For example, the administrative requirements of predictability cannot be met by the network character of the social organization. Similarly, the administrative rationality does not fit and cannot accommodate the professional rationality and both are at odds with

customer-patient's rationality. A particularly problematic interface arises in the contact among the next of kin, the organ requesting physician and the emergency units, as well as between transplantation surgeons and the relatives of 'living' donors.

Machado's approach to identifying the zones of tension, conflicts and incongruence can be applied to government, universities and multinational corporations facing similar network complexities of multifaceted interlinks. Mediators, ceremonies and rituals, organizational buffers and safety valve occasions are among the organizational devices for alleviation of persistent, embedded incongruencies.

Do we approach these problems (say of ethics) by requiring professionals to integrate ethics into their functions, or do we establish a new specialization (like ethicists or bio-ethicists) and keep the professionals unburdened and specialized in their narrower profession? This still remains and will remain unanswered for a while.

Jacobson's 'Real work of teams'

What do *teams* do? Certainly teams cannot be directed externally but must be coordinated and self-directed internally. Otherwise they would revert to just regular departments or work gangs.

Jacobson is attempting to synthesize some relevant practical experiences – directed to leaders, facilitators and trainers – about what the real teams do and what is the real content of their work.

There are five key self-directed team processes – *plan, share, learn, administer, and produce* – similar to those of any self-directed corporation. Autonomous teams are after all functioning as companies within companies, as closely as possible.

Teams are not only producing: if somebody performs the first four processes for them, they are probably not teams but work gangs. Compaq teams (cells) consist of three persons fully responsible for the entire computer assembly. This virtually eliminates narrowly defined jobs and mechanistic division of labor. Effective teams must be multifunctional, multiskilled and customer-driven, not supervisor-driven.

Such aspects are organizational, independent of the personality types and other psychological 'insights'. Teams are not some 'feel-good' groups or expensive means for enhanced psychological insights and understanding. Teams have to become productive, compet-

itive, reliable and self-sustainable. *Then* its members can 'feel good'.

Teams must not *feel as if* they were the owners of the process, they must become the owners. Then they can understand, accept and carry out what is to be done.

Jacobson has seen that correctly: the work of the team is not only to produce a product or service, but, more importantly, to 'produce' (also renew and maintain) all the capability that enable is to *be* productive. The ability to produce is crucial and competency more important than the production itself. Planning is a crucial function of an autonomous team.

Currently, teams are not living up to expectations. The main reason is that they are *not* teams but tightly supervised and centrally coordinated work gangs which do not create their organizational structure, are not motivated from within and their ownership (of anything) is only that inadequate and degrading 'as if'.

Teams should not be instituted by simply 'parachuting' them into the existing hierarchical structure. Teams should not be based on any 'as-ifs' but encouraged to *evolve the real* leaders, motivations, skills and work. Then they will work.

Hartz and Elrod's 'Role of optimism'

It is quite clear that optimists make quite different choices and pass different judgments than pessimists, and so do risk takers rather than risk avoiders. So do optimists evaluate or judge risk more favorably than do pessimists. Subjective emotional factors do affect the estimation of subjective probabilities – that is what subjectivity is all about. Subjective probabilities are thus virtually rooted in subjective factors, i.e., emotions, among others.

Emotions play also a great role in choosing and selecting criteria: optimists pursue different criteria than pessimists. Optimism is often characterized as a rather 'shallow' emotion, uneducated and ignorant, while (non-pathological of course) pessimism is mostly deep and profound, rooted in knowledge and experience.

One would therefore expect unjustified and damaging optimism to be a more frequent problem and bias than unwarranted pessimism (caution, risk aversion). One would therefore, quite naturally, expect that optimists would be wrong more often than pessimists and pessimists more often right than optimists.

Hartz and Elrod review research on the biases of unjustified optimism and unreasonable risk aversion as resulting in overly bold forecasts and timid choices.

The bias of unjustified optimism is clearly one of the plagues of decision making and judgment in business and politics. It is related to the required and expected confidence building and overreliance on experience in human institutions.

All of this sounds trivial and experientially accessible. The problem is that so-called normative models of probability functions and expected values do not adequately describe observed probability functions and expected values. The same is true for normative models of fuzzy membership functions and the

observed, contextually rooted individual expressions of fuzziness.

There is an unjustified optimistic bias in most of these models and the authors are justified to draw our attention to it. The very belief in the normative utility theory and its expected value criterion is an expression of such optimistic bias. Subjective probabilities and degrees of fuzziness are fundamentally contextual and unique to the individual. If they are unique to the individual, their modeling usefulness is quite doubtful and optimistically biased. Unjustified optimism could be quite functional in sales and promotion but it remains deadly in the sciences.