In this issue

Zeleny's "Eight concepts of optimality"

Increasingly in business and management we talk about optimal systems, optimal solutions, optimality and optimization. Global competition is forcing us to do "the best" under all circumstances and with respect to all criteria. We are expected to optimize just about everything, from strategic positions, through organizational forms, to operations and processes.

Yet, optimality and optimization belong to some most misunderstood concepts. The college and encyclopedia notions reduce it to maximizing of a single function (like profit or utility function) with respect to constraints. This becomes painfully inadequate as soon as we realize that when both constraints and the objective function are given *a priori*, there can be no optimization at all, but only calculation. So, our most cherished and simplest optimization concept does not even qualify as optimization.

Zeleny lists the traditional single-objective "optimality" as *only one of eight* different, mutually irreducible and technically differentiated optimality concepts. Although machines may know how to calculate the first "optimality" in some cases, humans have (and know how) to calculate under all eight optimality conditions, in all their combinations. If we are going to extend the concept of optimality from pure computations to business- and management-oriented design, all eight concepts have to be mastered. That's what humans do, but machines (so far) cannot.

That, which is given, fixed or determined *a priori* cannot be optimized: it *is* given. In traditional operations research and management science tasks, *all* is given *a priori* and no optimization can take place. Only what is not given can still be altered, selected or chosen and it is therefore subject to optimization. So, different optimality concepts can derived from the distinction between what is given and what is yet to be (preferably optimally) determined.

All important business and management thinking can benefit from realizing such simple, common-sense principles. It is not wise to confuse optimization with mere calculation: that's not good enough and it wastes money.

In the era of global competition, the pressure for optimality increases dramatically: only the best – not the given, habitual or traditional – will succeed.

Chen and Lin's "Global outsourcing"

Outsourcing – or the use or integration of outside sources – remains a popular way of managing business processes in the era of global competitiveness. Specifically, many companies are dismantling their internal information technology/information systems (IT/IS) departments and transfer their IT employees, facilities, hardware leases and software licenses to third party vendors.

Outsourcing of IT/IS operations allows companies to redirect their valuable internal skills and capabilities to high value-added areas. As information and related IT/IS are becoming commodities, they do not impart any distinct and long-lasting competitive advantage anymore. Companies have to concentrate on *knowledge and learning* as two major prerequisites of business process coordination. Information and information processing, although invaluable inputs into process coordination, are no substitutes for the knowledge itself and have to be increasingly sloughed off and outsourced, typically to developing countries where a plenty of cheap info-processing labor is still available.

Core technologies, crucial coordinative knowledge, innovation and knowledge production, learning capabilities, etc., do not get outsourced. Only widely available commodities, like information and information processing, physical assemblies and local services are being increasingly outsourced.

The fast progress of information technology has the effect of rapidly making specific IT/IS skills obsolete, thus creating continuous and growing IT/IS skills shortage. Even MBAs thoroughly educated in the MIS fields of recent years have increasingly obsolete skills when facing e-business, telework, network organization and mass customization technologies. It is therefore more efficient to outsource these skills rather than to invest in their virtually hopeless upgrading and maintenance. Third-world IT/IS providers can offer a greater depth and flexibility through specialized and focused upgrading and through creating newer and newer sources while letting the old sources to degrade.

Viewed strategically, outsourcing fundamentally challenges today's manager to rethink the traditional vertically integrated firm in favor of a much more

flexible organization based on core competencies and mutually beneficial outside relationships.

Linking a firm's destiny to a single supplier, especially in the IT/IS areas, prevents a company from utilizing technologies, services and innovations continually created and offered by others in the market.

Euwe and Wortmann's "Logistics control"

Corporate logistics is rapidly moving beyond MRP I and MRP II, beyond the company boundaries, encompassing intercompany cooperation in the areas of logistics structures, forecasting, master scheduling and ordering.

Implementing a centralized control concept across diverse companies is not feasible – reliable and efficient *decentralized control* must be evolved.

Logistics refers to the (logistical) coordination of interdependent activities along the production-warehouse chain from suppliers to customers in terms of *quantity and timing*.

Traditionally, the logistical coordination has been a centralized function. Euwe and Wortmann work with an admirable concept of *quality of a control system*, based on the number of additional supportive activities required: control is good if only the smallest number of additional activities is required. This is a substantial improvement from the "matching" days of the so-called "requisite variety" when control systems were supposed to match the complexity of the controlled system. Firms would not (and did not) get very far with that kind of "wisdom". Trying to catch the complexities of reality by developing complex control systems is an inadequate philosophy in the era of global competition.

Logistic coordination is now taking place over several plants and warehouses: so-called *multi-site processing* is being extended over an integrated supply chain, from suppliers to customers. But the components of the chain are independent, semi-autonomous parties which cannot be centrally controlled by some MRP II-base master schedule. Coordination must be a result of cooperation and local decision making, not of power of enforcement and command. It is necessary to model logistical space which does not belong to a single-company space, i.e., the entire network of logistical relationships.

Logistical systems, in step with management systems, have moved from functional organization of centralized hierarchies, through process-focused re-engineered organizations with central logistics, to supply chain-oriented corporations with control decentralized both across and within the company. The implications for future information technology (IT) development are clear and challenging.

Euwe and Wortmann conclude with a Research agenda outlining the desirable steps towards developing more decentralized control concepts.

Zeffane, Cheek and Meredith's "User involvement in IS"

IT (Information Technology) and IS (Information Systems) are becoming interchangeable terms, indicating the movement away from hardware and software to brainware, i.e., from the means and know-how to the purposes and know-why of technology.

IS require, virtually by definition, more direct hands-on involvement of the end-users of technology. It is important that both IT and IS are developed with that view of end-user involvement in mind, ending the traditional reliance on the interference by specialized, expert middleman.

Zeffane, Cheek and Meredith provide empirical evidence for these common-sense observations: IT and IS managers do perceive the quality of data and information as being related to the degree of their direct involvement in the IS/IT development. It seems that data quality is a good, if not preferred, measure of IS/IT effectiveness. The user involvement in IS/IT is clearly the necessary condition for assuring such high quality perception and reality.

Because IT/IS outputs (data and information) are multidimensional and their quality a multicriterion concept, the development of IS/IT is best carried out through the collaboration of crossfunctional and multifunctional teams of managers and executives, not by "single-dimensional" specialists/experts. Technology is not just hardware, but increasingly software and brainware. Global competition is not taking place along the hardware installed (the means), not even along the software dimension (know-how), but increasingly along the brainware (know-what and know-why). Most global companies can have any hardware – and increasingly any software: what creates a strong competitive advantage are the areas of their application, purposes of use and strong strategic explications of the reasons for their use. That is what separates the men from the boys in the IS/IT arena.

Managers are becoming more aware of the vital functions of IS/IT and, increasingly, are willing to show their support for systems development. Technology in business is a managerial concern, not a technician's concern. Technicians and engineers simply maintain the hardware and install the software: that is not the space where global competition takes place.

It is extremely difficult to improve poor-quality data when they are already in a database. Attention must be directed to the processes that introduce, modify and transform the data have been developed, i.e., to the early stages of IS/IT development. Forget the IS/IT outsourcing.

Wen, Yen and Lin's "Measuring IT"

Corporate investment in IT (Information Technology) is steadily expanding. This is not primarily of specific-payoffs expectations but as a reflection of fundamental redefinition of the way goods and services are delivered. The process is changing, the IT is an integral part of its reengineered form and regardless of economic or financial outcome, introducing IT is necessary just to stay and be considered in the game of the global competition.

So, the investment in IT is less and less a problem of choice or selection and more and more a requirement, constraint and necessary condition.

It is therefore not surprising that IT investments are not viewed as any other investments and measuring their payoffs is less pressing. Not many original IT-payoffs measure have been developed, not many have been sought. The area of IT-payoffs measurement has remained more or less non-existent.

Wen, Yen and Lin have devised a paper summarizing the situation. They start with the realization that measuring IT investment payoff *is difficult*. The question remains: is it also necessary? Is there a way of measuring IT payoffs which would move radically beyond the traditional financial measures and ratios – in order to reflect the process-defining role of IT? What is the point of measuring the payoff of the necessary entry requirements if one has to play the new game? The entry itself is the payoff. The CEOs who are doubtful if they are getting reasonable returns on their IT investment will not be around for too long.

Most IT benefits are process-defining and thus qualitative, multiple and hard to measure. Yet, the authors venture to summarize ten traditional evaluation methods which hold or may hold some promise for future IT measurement.

The new measures must undoubtedly be multidimensional (MCDM), measuring the impact on quality, cost, flexibility, timeliness and reliability at the same time and without tradeoffs: no single-dimensional "ratio" would be appropriate for IT decisions – if a corporate "disaster" is to be avoided.

The authors have provided a comprehensive discussion of a large spectrum of measurement possibilities. These must be directly connected with strategic considerations and business goals in order to avoid narrow "return on investment" considerations which would leave most companies with no IT whatsoever – in an increasingly technological world.

Baruch's "Organizational Commitment"

Mutual commitment and loyalty between organizations and employees is being challenged in the era of globalization, virtuality, downsizing and "lean", horizontal organization of teams.

Dr Baruch emphasizes the need to stress the *mutuality* in organizational commitment and trust. As trust becomes a leading prerequisite of innovation and performance, it is clear that it cannot be a one-way street. The most successful companies are those which extend their commitment, loyalty and trust towards their employees at an equal if not increasing measure.

Commitment and loyalty are becoming scarce goods at the time when self-management, innovation and knowledge of employees are becoming competitive weapons of world-class companies.

Only private owners show high levels of commitment to their organizations. Hired hands and public owners display very low, temporary levels of loyalty. So, the only sure path towards strong, mutual commitment leads through employee/management shareholding and coownership.

Mere "staying on the job" is not a sign of commitment or loyalty and could be accompanied with passivity, non-performance and sloth-tolerance. Self-motivated performance and innovation are the key attributes of commitment, not formal affiliation.

As the global competition forces corporate strategies to move from cost-focus to innovation-focus, the level of commitments towards active and innovative groups of employees is bound to increase. The most important asset of a modern corporation are not people but *knowledge*, i.e., knowledge-producing and

knowledge-maintaining people. So, corporate commitment is bound to become more selective and focused, even though more pronounced and intensive. The depth of organizational commitment is going to grow, while its breadth is going to narrow down significantly.

As the corporate boundaries are weakening (networks, alliances, virtual corporations, internet, globalization, etc.), it is clear that the traditional, boundary-based commitment is going to weaken and be replaced by new and stronger forms of commitment to small, knowledge-producing groups of employees: both organizational and individual commitment are moving from boundary-bound to boundary-crossing forms. Although managers as a group have been significantly affected by vigorous downsizing, their new job opportunities are created faster and in larger volumes than for any other category of employment.

Verschuren and Zsolnai's "Goals and stakeholders"

Corporate decision making is traditionally related to goals and their achievement. Obviously, achieving stated goals through unethical means or unfair processes is not in itself a sign of good decision making. Not only the goals, but also the process itself must be ethical and fair – and must be also perceived as such.

In other words, goals are not only to be achieved, but they must be achieved through a fair process, adherence to ethical norms and the equity of opportunity for all stakeholders. These are clearly the conditions of success and good decision making in the free-market environment of civil societies. "Free markets" based on corruption, assets tunneling, cheating and loose ethical standards are the new caricatures of free markets encountered in many transforming

economies. They have to lead to crisis and collapse in the long run, to the demise of free markets and democracies. Free markets based on corruption and deception are not free.

Verschuren and Zsolnai have written on the need of extending the traditional goal rationality also to the more modern process rationality. Through that they reaffirm the age-old wisdom that the achievement of stated goals is not a sufficient condition for good decision or successful program implementation.

Process justice and fairness are primary complementary criteria to goal rationality: only their unambiguous assurance can provide the vigor to goal pursuit. Most economies of Eastern Europe have lost or neglected this perspective, as did some heads of governments, often to a larger extent than free-market businesses. Human rationality relates not only to the ends but also to the processes employed for reaching them.

The need for process rationality is not based on limited information or capacity in human decision making: even under the conditions of perfect information the need for just and fair process would remain crucial. It is also a very good business, as many corporations are discovering.

The perception of process fairness mobilizes employees, motivates their innovation and enhances their trust and loyalty. Achievement of stated goals then become more productive, vigorous and reliable – as the structures of global competition dictate. Goals do not justify the means but the fair means justify an ever broadening variety of goals. Goals without fair processes are unworthy artifacts, but fair processes without worthy goals are aimless preserves of mediocrity, unsuited for global competition. Verschuren and Zsolnai have restated these old wisdoms to the benefit of all human systems management practitioners and theorists.