

## In This Issue

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### Tomasek's 'Inverting the Organizational Pyramid'

Traditional management hierarchy of the command economy, which is becoming increasingly detrimental to the U.S. global competitiveness in the era of knowledge, creativity and innovation, has to be purposefully toppled if it resists withering on its own.

The problem of *hierarchy inversion process* is addressed by Dr. Hana Tomasek from the Innovative Consulting Services in Minneapolis. She reports practical consulting experience with the implementation of the inversion process in two small companies. Its underlying principles relate to quality orientation, employee participation, customer integration and firm's demonstrated respect for all of its employees.

The broader issue is that of organizational and cultural change. Deming's fourteen Transformation principles serve as a guide for instituting the change: *fundamentals* are established to create a firm purpose and philosophy; *barriers* of fear and non-cooperation are removed and reliable and tested *practices* of quality assurance, based on loyalty and trust, rather than dollar figures, are implemented.

Client's 'readiness for change' is one important issue, 'going slowly' about the necessary change process is another. As a result, the traditional organizational pyramid with the CEO at the top, managers and supervisors in the middle, and workers and customers at its very bottom, can be successfully inverted: placing the customers on top and the CEO at the very bottom, properly 'servicing' all of his constituents. Customers are the purpose and the driving force of an enterprise, employees and managers are the only competent parties to address customers' needs and deliver the required quality, and CEO's task is to provide support, guidance and servant leadership, i.e., to create the best possible

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conditions for the above crucial groups to go about their task without unnecessary hindrance or interference.

Inverting the 'top' management to its proper place at the bottom of the organizational pyramid is a challenging but necessary task requiring enormous patience and persistence on the part of consulting change agents. The inversion itself is a *process* and not a static end-point: it can never be fully completed. Dictatorial style of a command system can be static and final, intracompany participative democracy has to be always changing and continually evolving, by definition.

Dr. Tomasek's article presents one of the first real-life experiences with conscious and planned hierarchical pyramid inversion process which is crucial for integrating the customer into the production process and recognizing the customer as the first and dominant claimant and stakeholder of a modern enterprise.

### Eom's 'Current State of Multiple Criteria Decision Support Systems'

Professor Hyun B. Eom has in recent years performed invaluable service to the Decision support systems (DSS) and Multiple criteria decision making (MCDM) communities by researching the development of decision support systems over the last two decades. He has created a database of 203 specific DSS applications extracted from over 1,100 English-language journals published from 1971 through April 1988.

As Peter Keen observed in 1987, 'The multicriteria problem is at the core of Decision Support.' Integrating MCDM models into DSS is certainly a priority of the upcoming decade of DSS.

There can be no 'decision making' without multiple criteria, goals or objectives. Also their unscientific 'collapsing' into a unidimensional index simply perpetuates the singular simplicity of this 'measure-

ment and search' approach and further removes it from any decision-making process. Measurement and search is not decision making. Similarly, no decision support system can support decision making without having multiple (and 'uncollapsed') criteria at its core: such systems only support routine measurements and searches.

A single-criterion system cannot support a multicriterion decision maker: it must replace him, by definition. Therefore, it is not a *support* system.

This is all very trivial and self-evident. The capacity to attack ill-structured problems rests with MCDM and yet, MCDM is rarely part of 'mainstream' OR/MS/DSS modeling.

Prof. Eom has coined the 'MCDM model-embedded DSS (MCDSS),' designation which is very appropriate at this time. Logically, of course, there should be no such designation because any DSS has to be characterized by such embedding. Similarly, even Multiple criteria decision making is a misnomer because there can be no decision making *without* multiple criteria.

At this point, MCDSS applications are about 13 percent of the total DSS applications. Approximately 30 percent of MCDSS applications were developed to support strategic decisions. These are encouraging numbers considering the resistance and neglect of MCDM and MCDSS over the past two decades. As the single-dimensional cohorts of OR/MS are passing away, the new generations are starting to assert themselves more vigorously in the crucial direction of multiple criteria considerations.

Eom's MCDSS are forming only a core of future MSS (Management support systems); they are not a final goal in themselves. Eom concludes:

'The MCDM model-embedded DSS has become an effective tool in conjunction with such advances in information systems technology as data base management systems and data communications. We expect more companies will design and implement MCDSS for formulating corporate strategy to cope with the increasing complexity and uncertainty of the future.'

### Smith, Dykman and Davis' 'Integration in Technology and Communication Systems'

'Integration' is rapidly becoming key word for the nineties. Group of information researchers from Texas, led by Professor August W. Smith (the author of *Stages of Management Evolution*) have presented their new taxonomies and classifications in order to take the concept of 'integration' directly into consideration.

Peter G.W. Keen's, in his recent article in *Baron's*, entitled, 'Defining the Integrated Workplace' states: 'Bring together the telecommunications and information systems units under a single umbrella; *integrated technologies need integrated thinking and skills in an integrated organization*'. The authors of this article go even further, beyond the specialized DSS/ES technologies, and describe a rapid movement towards fully integrated, complete Management Support Systems (MSS).

Technology, both hardware and software, certainly exists or can be rapidly developed and tested. The obstacle today is the narrow technical/mechanistic view of support systems by computer scientists, programmers and system analysts. Technical emphasis on 'quick' commercial *hows* has temporarily neglected much more important and scientific *whats, whos* and *whys*. This loss of perspective is now being remedied.

Smith, Dykman and Davis state it very clearly: '*In spite of advances in information technology, and improvements in information systems, there is a great need for more 'systemic' designs which integrate technical, human and organizational concerns.*'

The authors also propose some devices for measuring advances in information technology. Among the most important ones they list major 'wares', like *procedeware, hardware, software, fileware, organizationware, userware* and *brainware*.

This 'integration' perspective, reflecting the powerful movement from the age of specialization to the era of integration, leads its proponents and professors to inevitable restatement of purposes: '*It is one thing to optimize on organization, stakeholder and user requirements, and another thing to know what is ultimately best for all concerned in the long-term future, Knowledge and intelligence may*

*be more concerned with rational expediency, while wisdom is concerned with underlying reasons and values.'*

The paper concludes with the detailed analysis of development stages in computers and communications, complemented by a similar study of developments and transitions in expert and support systems.

*Human systems management* has now established certain tradition in the area of 'integration' and its editors will continue to bring integration-related studies to its readers throughout the nineties. Smith, Dykman and Davis are now certainly part of the emerging mainstream.

### **Zeleny's 'Knowledge as Capital: Part 2, Knowledge-Based Management Systems'**

This Part 2 continues the article in the previous issue of this journal in which Milan Zeleny argued that a nation's store of knowledge is its principal asset and the greatest source of wealth. A practical definition of knowledge is introduced. Knowledge as a process and uses/users of knowledge are discussed. The author concludes the first part of his article analyzing division and reintegration of labor and knowledge, and processes of reintegration.

In Part 2 the author addresses the questions 'How is human business to be managed in an increasingly knowledge-intensive environment?', 'Can traditional labor- or capital-intensive management systems be 'reconstructed' under such fundamentally nontraditional condition of knowledge dominance?', and 'What are the basic characteristics, requirements and potentials of knowledge-oriented management systems?'

Broader socio-political implications of extending the principles of representative and direct democracy from political to business and social spheres are also discussed. The systems of absentee-ownership capitalism and etatistic socialism are contrasted with the emerging systems of social participation based on the employee-ownership of the means of production.

The notion of the customer-oriented 'Integrated Process Management' is introduced and ten major principles of it are spelled out.

The article ends with an Appendix of selected cases of knowledge based enterprises.

### **Gauci and Baumgartner's 'Inaccurate Financial Forecasts and Societal Complexity'**

Predicting, forecasting and crystal-ball gazing are increasingly subjected to a more careful scrutiny. Recently, Belongia studied the accuracy of financial forecasts of the economists, professional traders and so called 'naive' forecasts which simply extrapolate 'status quo.' In terms of the mean absolute error, the mean error and the square root mean error – all three types of forecasts were found very similar and equally inaccurate.

So called economists do therefore no better than the professional traders and neither group performs better than the naive forecaster, while they all do equally poorly. This is why so many world-class companies are now abandoning increasingly costly and wildly inaccurate forecasts *in favor of strategic flexibility, technology platforms and just-in-time responsiveness.*

The authors of this paper investigate the role of adding judgmental considerations into purely extrapolative, mechanical 'forecasts.' They concentrate on the situation where the forecast itself influences the behavior of the agents or actors: the universe of future states is not 'objectively given.' The forecaster is not in the position of the classical scientist or the neoclassical economist and so called 'scientific' methods and tools are bound to fail when applied to social systems.

This self-evident insight reminds us of the recent practical thesis of George Soros (*The Alchemy of Finance*, Simon and Schuster, New York, 1987), who argued that markets are always pushed in one or another direction by the participants' biases and that the classical concepts of equilibrium are therefore faulty in theory and irrelevant in practice.

Financial markets are not separate and objective processes 'out there', to be studied, analyzed and exploited by detached observers, but interactive systems of decision makers acting not only upon the object of their intervention, but also upon themselves.

One should not therefore study the 'financial markets' *per se*, but the mutually affective interface between the 'markets' and its participants: investors, decision- and policy makers; i.e. the reflexive interrelationship of ideas (decisions) and behaviors (actions). The movement of market prices cannot be separated (or studied separately) from participants' decision making actions. Theory of finance without a theory of decision making is therefore a truncated proposition.

Gauci and Baumgartner stress that each actor represents the workings of the economy by applying his own individual model: there is not a single model of the economy, people do not use identical models, only the applicators of physical sciences to social sciences do. Irrationality and unscientific underpinnings of the 'mainstream' unique-model scenario underlie the poor forecasting performance.

Financial markets are about subjective interactions and negotiations of a multitude of 'correct' models, not about one correct model of anything 'objective.'

### **Campbell, Sorge and Warner's 'Microelectronics in Britain and Germany'**

Applications of microelectronics are analyzed in terms of product strategy, competence, and training in West Germany and Great Britain. This cross-national has been carried out by an equally cross-national team of researchers: Adrian Campbell of Aston University, Arndt Sorge of University of Maastricht, and Malcolm Warner of Cambridge University.

'Applications of microelectronics' essentially refer to introducing computers and computer components into manufactured products: technically very specific focus, even though it crosses several industrial sectors.

The researchers argue that a mixture of multidisciplinary methodologies must be applied in order to do full justice to complex subject matters. They belong to the emerging group of modern researchers who are quite aware of the accelerating process of integration, requiring linking so called 'macro' and 'micro' studies or perspectives, integrating so called

'quantitative' and 'qualitative' research methods, and combining economic and sociological approaches. The reality is not as neatly ordered into boxes as our tools, methods and departments are.

Among the findings we discover that German companies operate at higher levels of vertical integration, they internalize their electronic activities more comprehensively. Similarly, German companies were trying to integrate rather than separate management, technical and marketing responsibilities and their electronics worker-apprenticeship, which provides the basis for work in different functions, stronger. German companies also achieve a higher rate of forward-integration into electronics development and production.

The authors speculate that the introduction of microelectronics into products help to aggravate differences between North and South, 'high tech' and 'traditional' sectors, graduates and blue-collar workers, and hardware and software.

They conclude that in Germany there is a greater amount of sectoral, technical and occupational change being internalized in existing firms and sectors. That put Germany into the category of 'neo-industrial' societies while in Britain the discrepancies between sectors, firms and occupations continue to be aggravated, specialization intensifies together with deindustrialization and so Britain remains a kind of services-intensive 'post-industrial' society, at least in comparison with Germany.

All important questions remain unanswered: how, when and if a post-industrial society can extricate itself from stagnation and standard-of-living 'megaslides' and put itself on the path of neo-industrialization? Can developing societies choose between German (and Japanese) neo-industrialism and British (and American) post-industrialism, or are these paths already set and preordained in currently existing social structures? Extending this research to global comparisons should provide some answers.

### **Burton's 'Japan vs. USA'**

Professor Gene E. Burton has prepared a short communication contributing to the debate on differences and similarities of Japanese and Ameri-

can management theories and practice. His focus is on the differences, perceived or actual, and the paper is motivated by Honda's Takeo Fujisawa's statement that '*Japanese and American management is 95 percent the same and differs in all important respects.*'

He has divided his comments into two categories: (1) corporate environments and (2) corporate characteristics. In the first category Burton reviews questions of culture, government, inflation, R&D support, protectionism, industry targeting, antitrust, unions, banking and so forth. In the second category the issues of employees, technology, specialization, loyalty, employment, recruitment, promotion, careers, delegation, control, decision making, communication, and quality are treated and compared.

Burton's essential conclusion is that the degree of dissimilarity appears to be much broader and much deeper than Takeo Fujisawa's contention. He proposes to stop discussing similarities and start analyzing the dissimilarities for the purpose of identifying how certain Japanese practices could be adopted for use in selected U.S. situations.

What is not explored is why should Fujisawa make such a statement when there are so many essential differences in almost all dimensions. Japanese emphasis on knowledge (human capital), integration, just-in-time, long-term perspective, process, quality, self-management, and teamwork

is fundamentally different and even antithetical to emphasis on labor, specialization, just-in-case, short-term perspective, product, quantity, hierarchical command and unions.

Yet, the so called 'Japanese emphasis' is so self-evident and so common-sensical as a good management, that the issue is not so much whether or not there are dissimilarities but why are there not more similarities? Good management, especially in the increasingly global and integrated business ecology, should be simply good management – anywhere.

In the isolated national markets of the past there was a possibility for fundamentally different management systems evolving in parallel. Not anymore: inferior management system does not stand a chance in the international competition. All aspiring world-class companies must practice good management as a matter of survival. Good management, good common sense, cannot exist without being oriented on customer, quality, knowledge, process, integration, just-in-time, self-management, teamwork, long-term perspective, profit and ownership co-sharing, autonomy, cooperation, and so on.

It is therefore a misnomer to refer to good management as 'Japanese' management and that's what Fujisawa meant: good management is a good management is a good management – if practiced. Or in the case of USA: if practiced again, as we used to, long time ago.