

In this Issue

Albin et al.'s 'Worker perceptions of job complexity'

This is certainly one of the more collective efforts published in *HSM*: Charles Bahn, Stergios L. Mourgos, Farokh Hormozi and Arthur Weinberg join Peter S. Albin and all are supported by further comments from M. Gettler, J.R. Hackman, S. Melman and T. Stoekert.

The issue is job complexity and its measurement. How do we classify work in the new settings of *human systems* (man-machine) interfaces? The aborted Saturn Project was supposed to reduce the number of job categories at the rate of 100:1, except that some of the top GM 'executives' finally gave up the project *because of the perceived short-term profits suddenly 'available' to them*. How does one prevent 'top executives' from continually damaging U.S. economy and business well into the year 2000? We do not know.

Albin and others are studying the perception of work complexity *by workers* (polyglot, multiracial and broad in age range; the representative plant was actually located in a *recycled ex-military facility in a major urban ghetto*). What is to be observed in such an 'installation'? No worker-to-worker interaction, supervisor-worker contacts only occasional, and workers 'as fresh at the end of the shift as when they started'. The authors were actually impressed by a distinct 'feeling of economy of motion and athleticism'.

The whole notion of 'athleticism' in work is new in management theory: it is understood here as 'voluntary participation and deep involvement in physical movements'.

The authors conclude: 'the firm opted for a capital-saving [not labor-saving] strategy. 'That is, 'a really bright worker would get bored sick on certain jobs and quit...' This type of environment was then used to judge and gauge worker perception of complexity and led to the proposed 'job complexity coding'.

The lower level operators considered speed to be of essential quality, while agility 'played a small part'. Higher level operators extolled the virtues of 'athleticism': physical coordination, dexterity and timing. Perceptual judgments were perceived as recurrent and demanding and contributing to job satisfaction. Intellectual demands (problem-solving demands) were identified as *trivial*: workers found it difficult to 'intellectualize' the problem-solving they were involved in. Authors conclude: 'the shop lexicon breaks down at exactly this point - a lack of vocabulary for explaining more sophisticated decision-making processes'.

The *Bat'a-system* of the 30s did emphasize the 'quality of life' as opposed to simply a 'quality of work life'. Current authors believe that 'future research should be directed towards understanding the causal interactions among quality of work life, quality of life away from work, and attributes of training and perception.'

Their main conclusions are:

- (1) Cultivate 'natural learning sequence';
- (2) Link job programs with technologies;
- (3) Compare manual-control technology with automated technology;
- (4) Consider rotation, trouble-shooting and maintenance responsibility as 'satisfying enrichments'.

All of the above are natural and at the same time minimal requirements of *any* competitive work force which is to exhibit minimal signs of pride, self-respect, satisfaction, autonomy, process quality and profitability.

Future research should take these as given and concentrate on how to expand them, amplify them and make them more accessible to all workers in other parts of the 'business ecology'.

Zeleny's 'Bat'a-system of management'

This paper was twice rejected for publication in *Harvard Business Review*. Bernard Avishai and

Theodore Levitt argued that they understand clearly what American businessmen need and want and learning about Bat'a-system is not it.

Yet, Bat'a-system is perhaps the most successful management system ever designed by man and Tomáš Bat'a certainly the most talented original manager and entrepreneur.

Bat'a-system integrated decentralized organization, departmental autonomy, self-management, direct and immediate profit-sharing, and full individual responsibility for quality; fully flexible production layouts; employees' full co-ownership of the Enterprise based on long-term employment contracts and earnings re-investment programs; customer satisfaction as the dominant strategic principle of business; and total quality of employee life (not just of 'working life'), among other features.

This highly practical system is today practiced for example by Lincoln Electric Co., ironically described in one of the Harvard business cases. The world's largest manufacturer of welding machines and electrodes is also the highest-paying factory in the world, characterized by the highest quality and the lowest prices at the same time. It appears to be fully resistant to Japanese competition. These are features of no interest to U.S. business today, according to *HBR* gospel.

Another company which relies on Bat'a principles, gleaned from the Lincoln Electric case, is Au Bon Pain Co. This was established and brought to success by two Harvard men: Ron Shaich (Harvard MBA) and Len Schlesinger (Harvard Professor).

Also the Fletcher Jones Co. in Australia, described by Fletcher Jones in his book *Not by myself*, is fully rooted in real, not symbolic, employee ownership: all employee shares bring the same dividends and the same rights as any public stocks and are given to *all* employees. In the 70s, Jones family owns 30% and employees 70% of the company. FJ stocks are *limited to FJ family and employees only*, no absentee stockholders are present (or absent), stocks are not for sale on stock exchange and no outsider can buy them.

The most successful companies in the U.S. are run according to Bat'a principles: Richard E. Cavanagh and Donald K. Clifford of the McKinsey Institute wrote *The Winning Performance* in 1985.

Winning companies' average sales growth per annum is 18% (while the Fortune 500 is 7.8%, and

Peters-Waterman 'excellent companies' about 12%) and earnings for the period 1978–83 was 20% (the Fortune 500 were 6% and the 'excellent' group was 10%).

The 'Winning 100' companies are being run according to principles and practices which are in *almost exact opposite* to experts' conventional wisdom (like that of *HBR*). The implications for business education are staggering and humbling: there are no business schools in the U.S.A. today, which would teach the 'winning system; instead of the losing conventional wisdom.

It is therefore appropriate that this article on Bat'a-system is published in *Human Systems Management*: as a source of information and encouragement, but also as a commentary on the saddest and least comprehensible era in the history of U.S. management. Never was the need to learn, search and change more crucial, and never were our 'spokesmen' more resolved not to do so.

Shenkar's 'Japanese management theory'

This view of Japanese management, this time from Israel, is aiming at a systemic, comprehensive viewpoint, and not at this or that part of it which is so characteristic of American students of Japanese management. Many traditional and reductionist U.S. authors do not even use the 'management system' concept, or even 'system'.

Professor Oded Shenkar of Tel-Aviv has chosen three facets and seven practices which comprise the core of Japanese management system. They are (1) personnel management: life-time employment, seniority system, job rotation; (2) general management: consensus decision making, long-range planning; (3) manufacturing management: just-in-time, quality circles. The point here is not to be comprehensive and exhaustive in the listing of components, but sufficiently educated and explicit about their interrelationships within a system.

Shenkar analyzes each aspect separately and manages to trace each of them deeper into the cultural history of Japan. This is to be expected as natural because there could hardly exist voluntarily adopted organizational and management system which would somehow represent a break, denial or conflict with the past.

What is important to realize, is that a particular cultural circumstance is always compatible with a reasonable variety of management systems it can engender or support. The same cultural history of Japan was capable of supporting a period of shoddiness and dumping in the fifties and equally strong virtual obsession with quality and value in the eighties. So-called 'Japanese' system is not determined by Japanese cultural history at all: almost identical, equally successful and even more isolated case evolved in the 20s and 30s in Moravia under entirely different social, philosophical and religious circumstances and under even harsher conditions: the Bat'a-system of the famous Bat'a enterprises.

So what remains remarkable is not that we study and do not understand the Japanese, but that we refuse to study the Moravians and thus the European roots of 'Japanese-style' management. And it is just indicative of our continued and self-inflicted blindness, that it is both Japanese and Chinese who have started to study the Bat'a-principles vigorously, acknowledging the timelessness, transferability and parallelness of both good and bad principles of management. In the same way as Deming had to remain unrecognized in the U.S. even for 30 years, while being a hero in Japan, and as his principles are being perverted and vulgarized in the U.S. even today, there is very little effort and understanding afforded to the Bat'a-system, both then and even more so now. This is the real puzzle worthy of study: why this inability to learn and why sticking to the outdated practices even in the face of glaring failure?

Somehow Shenkar became unintended victim of the same trap: he assumed, a priori and without evidence, that Japanese management system is somehow unique, novel and unprecedented and can therefore be studied within the frame of Japan only.

There is truly a right way and a bad way of managing human beings. These ways are available and implementable under large variety of circumstances and cultures. The problem is that a bad way of managing human beings could sometimes and for a period of time lead to good or acceptable results in terms of quantity of production: we simply sacrifice the workers and their dignity. At other times, the good ways of managing break through and remind us of their existence and potential.

Bat'a-system did so in the 20s and 30s, Japanese-style system does it today: for all of us, in the whole world.

Chen and Stafford's 'Organizational aspects of high technology'

Kan Chen and Frank P. Stafford from the University of Michigan prepared a case study of computer 'vision' as an example of organizational impacts and employment effects of *high technology*. The employment in the machine 'vision', i.e., computer pattern recognition and artificial intelligence area, has grown considerably while economies are shifting from blue-collar to knowledge workers.

The 'machine vision' industry is fast growing and hardware/software oriented. Concerns about all-important 'brainware' and 'technology support network' are virtually non-existent: 9 out of 10 applications are struggling to make the 'vision' work in the factory environment. Yet, the area is burgeoning, with about 125 'vision' firms in the U.S. alone.

As in robotics, the machine 'vision' industry will face less problems in the hardware/software area and more in the area of appropriate reorganization of requisite production processes and required management systems. Simply plugging robots into existing production lines will prove even more self-defeating if these robots will be capable of 'vision'. Even more, the key is to identify organization patterns which are appropriate and fitting for 'seeing' robots. At this point, nobody is doing that because it is 'nobody's job'.

Chen and Stafford take first steps by discussing employment composition (young, flexible, newly created), job satisfaction (exciting, but stressful), job matching (precise), education ('half-life' not more than 3-5 years) and production-line (low direct labor, pilot products) aspects of this industry.

Main users of 'vision' systems are so far in the automotive and electronics industries. But the needs in food processing (especially meat packing), defense, aerospace and pharmaceuticals are much more pressing and competitively mandatory, even though at this point still mostly ignored. Most applications occur in 'mimicking' human faculties

rather than in extending them or opening new areas of application. Such artificial 'mimicking' orientation, almost a classical impediment to implementation of robotics and AI, now affects 'vision' as well.

The United States still enjoys a dominant position in the hardware/software aspects of the vision field. It is also falling behind in its management, implementation and effective and competitive usage. Basic concepts of high technology *management* are not being learned in the U.S.A., neither by engineers nor by managers. While developing high-potential hardware and software, Americans are more and more dependent on imported management and organizational systems in order to use them competitively or at all. 'Invented and tested here, used somewhere else or by somebody else' is coming back in the form of merciless competitive pressure which will ultimately shift even more Americans into the services.

The authors sense that: 'Just as there can be external benefits from non-patented R & D, so too can there be external benefits from successful *organizational forms and strategies* in the high technology sector.'

It is the second aspect where the Japanese, Koreans and now even Chinese are 'beating' American management systems 'hands down'. *Human Systems Management* has been a journal which tried to help to remedy this sorry situation in U.S. business management practices. Much more than a single journal is needed.

Tropea and Sterniczuk's 'Rule regimes and their backstage'

Bureaucratic forms of domination have now spread to most areas of social life, including supposedly 'free market' business organizations. Formal and official rules of bureaucracies, no matter how rigid or stifling, are not the operational rules of 'the backstage'. Ruling bureaucracy has its own rules, 'informal' and unwritten rules of domination, rules and procedures which are often infinitely more rigid and stifling than the formal rules. That's what makes bureaucracy dangerous and difficult to change – in any system and in any area of human endeavor.

Professors Tropea and Sterniczuk have qualifications and experience to explore the 'backstage'

processes of ruling bureaucracies. Their cases are paradigms and mirror images of competently ruthless and self-serving 'backstaging', manifesting itself only as gross and tragic incompetence to any non-members of the ruling bureaucracy: *Polish industry and American criminal justice*.

Such bureaucracies are characterized and defined by bounded rationality, insufficient exclusivity, contradictory rules, and the dynamic of partially negotiated orders. For example, rules for university tenure are not 'deadly' in their publicly rigid insistence on 'publications-teaching-service', but in their 'backstage' and private insistence on 'one-of-the-boys' criterion. This is why publications can become 'too many', teaching 'too good and unconvincingly popular', and service 'too extensive and self-serving'. Bureaucracies are more rigid and ossified in following their informal and spontaneous rules than in adhering to their rigid and ossified rules of public conduct. Even the most rigid bureaucracies have their always flexible and dynamic ways of developing survival-assuring alternative rules 'backstage'.

Process of murky redefinition, negotiation, and coalition suggest core processes in moderating rule-produced dilemmas. The authors present four cases from Polish industry and four cases from U.S. criminal justice. The parallelism is striking as it would be for all and any bureaucracy rule-making and ruling. They include '*political financing*', '*negotiating evidence*', '*patriotic production*', '*situated law*', '*vodka time*', '*reciprocated surveillance*', '*industrial bartering*' and '*negotiated justice*'.

Among other things, these cases show that the rules of bureaucratic ruling transcend geographical, political and cultural boundaries and make the differences between systems negligible to career bureaucrats. They also show that in contradictory or unanticipated situations, uncritical compliance to official rules might exacerbate organizational problems.

The latter is a well-known 'Good Soldier Švejk' attitude: a novel character who brought down Austro-Hungarian Army command by simply following the rules and by refusing to offer any human intelligence towards their reinterpretation. This is why dissidents and activists (e.g., à la Charter 77) are so useful to ruling bureaucracies and are readily incorporated into their backstage rule-making (also 'Sakharov syndrome'), while the

mindless rule-following ‘Švejks’ are declared saboteurs and systems enemies and rapidly put away.

Official regimes produce dilemmas and conflicts and still do not allow subordinate actors to restructure their own rules. Instead, they negotiate ‘backstage’ procedures and rules for action. The action logic of socialist and capitalist bureaucracies (business or governmental) is like ‘customary law’ among non-modern peoples, which does not entail principles or goal rationalities. Indeed, ‘primitive’ logics seem to uphold the state’s rational domination.

Pamnani’s ‘Human resource development’

This short note provides a view of technological development and its impacts on management from the vantage point of a developing country. The increasing meaninglessness of work, due to excessive specialization, division of labor and disaggregation of knowledge, is noted.

The author analyzes the job of building cleaning and maintenance. The sweeper is the least paid, least motivated, constantly struggling, unable to conceive of his work as even remotely fulfilling.

Challenge to management is clear: how to design a system in which building cleaning would become a satisfying and motivating job which would consequently be better and more reliably performed?

Although Karl Marx did write about ‘return of man to himself as a social being’, he apparently had no idea as how it might be accomplished. His ‘solution’ slipped repeatedly into degrading communism. Yet, some 70 years of large-scale and broad experimentation with that system, workers’ job alienation has become extreme, motivation disappeared even from normally ‘self-motivating’ work (research, management) and larger and larger portion of the labor force has become psychologically and mentally alienated ‘sweepers’.

We often hear that information and knowledge have become a new form of capital, more important and more powerful than land, machines and money. Terms ‘human resources’ or ‘human capital’ capture this new concern. But a new ‘Einstein’ of economics, who could quantify the relationship between knowledge, productivity and

other economic factors has not come forward.

It is quite unlikely that one can accomplish such a grand task by simply employing Einstein’s own formula, $E = mc^2$.

But, identifying what part of total productivity increase is due to land, machines, capital and knowledge and how their relative contributions continually change under different conditions is a problem whose solution is far from minor importance.

The author comes to self-management and suggests developing special cleaning ‘modules’ based on that principle. *Self-management* is rapidly becoming a slogan, yet it is still rarely practiced: it requires new manager, new system and new worker. Self-management, which was widely and successfully practiced by Bat’a companies in the twenties and thirties, is going to emerge in the most advanced and technologically sophisticated countries: self-management requires reintegration of labor and reaggregation of knowledge which is crucially dependent on today’s integrative technology: computers, robots, flexible systems.

High technology is evolving to enhance and amplify human knowledge, values and self-realization: without such understanding and conscious awareness one can only slide into the realm of slogans, gung-ho motivations and empty talk about ‘ethos’.

The same sweeper who does not clean the office building of sedentary bureaucrats can at the same time enjoy cleaning *his own* house and show pride in its maintenance. What motivates him?

Van Gigh et al.’s ‘View of a disaster’

The Challenger Disaster, which we already studied in *HSM* through the paper by Morgan, is being revisited from a metasystemic viewpoint by a graduate seminar at California State University.

It is quite self-evident that the Space Shuttle Challenger Disaster has been recognized as a potent paradigm of the many failures plaguing American society:

- ossified and stifling bureaucracy, incapable of decision making, judgment or vision;
- shoddiness and poor quality of products, thought and organization;
- governmental incompetence and amateurism

- combined with political thinking and reasoning in essentially scientific projects;
- preference for ‘sizzle’ rather than ‘steak’: advertisement, political ‘show’, misplaced patriotism, feminism, Thatcherism and any other -ism in the dictionary;
- inability and unwillingness to acknowledge incompetence and accept defeat: new vulgarism of misplaced stubbornness.

The authors of this article concentrate on hierarchical control: controllers who are controlled by metacontrollers, who in turn are controlled by meta-meta controllers, who in turn ... Such seemingly unbounded metasystem of control is the problem of hierarchical organizations: there is no self-control, no self-organization, no self-management – how else would we be able to employ thousands and thousands of well paid and narrowly specialized metacontrollers and thus avoid systems malfunctionalisms which might make this ‘metacontrol army’ irrelevant?

Just about everything failed in that prototypical and proverbial project. There were people with no authority and no logic making crucial decisions: recall workers trying to pry the door open, not having tools and racing back to the base for a piece of pipe to pry it open – all on national television, hours before launching. There were people with the logic but no authority and others with full authority but no logic whatsoever. There were failures of structure and regulation, failures of technology (that is, human failures because ‘stuff’ does not ‘fail’), failures of decision processes, failures of behavior and failures of evolution.

The real disaster of the Challenger disaster is not the disaster itself but what has been done about it since. The notion that this vast failure of western bureaucracy was somehow caused by ‘O-ring discrepancies’ would be too incredible to contemplate barring pre-historic or medieval institutions. The fact that personal re-shuffling and a new set of gung-ho slogans were accepted as ‘solutions’ by American people is a testament to historical loss of will and demise of space exploration in that country. Only some of the long gone empires had responded with such ignorance of the gravity of their own societal happenings.

One thing is certain: the desired system will continue in its dysfunctioning mode and generate

further disasters by definition. Or, more likely, it will intuitively recognize its now in-built propensity for disaster and will take steps to avoid any meaningful action whatsoever. This bureaucracy will reach its safe equilibrium: existing for its own sake, living from its past glories, subsisting on gung-ho slogans ... managing for failure.

Zeleny’s ‘Integrated process management’

American management is at the crossroads. The old management paradigm of the Harvard Business School is on its way out and the number of alternative contenders is getting out of hand: The Deming approach, The Juran approach, The Ishikawa approach, Japanese-style management, Bat’a-system, and so on.

What is their common denominator? Why don’t we attempt their synthesis and postulate a new management paradigm emerging through them? This should be done competently and soon before the assorted gurus of high-tech, hi-touch management bring their vulgarization of U.S. management to its bitter end. Here we attempt such synthesis and present it to our readers for the first (and perhaps the last) time: *Integrated process management*.

This new management paradigm (IPM for short) now forms the base for the MBA program at Fordham University’s Graduate School of Business at Lincoln Center in New York. Its extended and full version was presented to the American Assembly in the Fall of 1987. The IPM materials have now been translated into Japanese, Chinese, Italian, German and other languages and especially its Bat’a-system subset is making global consulting circle at a maddening pace.

The key to IPM is contained in the following quotations: ‘Our *customer*—our master’ (T. Bat’a) ‘The product in the hands of the customer is *still a part* of the production cycle’ (M. Tribus); ‘To increase productivity aim to increase quality of the *process*’ (M. Tribus).

The customer is the purpose and driving force of the enterprise; he must therefore be integrated into the process of production or service delivery. Improving the quality of such customer-integrated process then becomes a tool by which customer’s satisfaction is achieved and thus his role as a driving force both amplified and maintained.

In conventional approach, customer remains an object, separated 'out there', in the environment. The product is allowed to leave the production system and 'in the hands' of the customer it is more or less 'gone'. Very important 'real' linkage has been lost and a 'symbolic' *information loop* of data gathering, market and consumer research, forecasting and information processing had to be created. This loop is an information feedback loop: it further separates the 'real' from the 'symbolic'; it does not involve the customer in the real process but in the symbolic loop only.

Integrated Process Management incorporates customer into the system in real terms; it makes

him an integral part of the process: the product (any output) in customer's hands remains part of the 'production cycle'. Planning is viewed as purposeful perturbation to the enterprise interflow. Such perturbations create loop 'indentations' (informations) to be propagated throughout the enterprise. The process becomes self-managing and self-maintaining, subject to managerial and environmental influences.

Instead of computing the environment 'out there' (long-range planning of centralized hierarchies), the IPM emphasis is on the continuous buildup of the internal and autonomous *response flexibility*.