

Where business process meets business practice

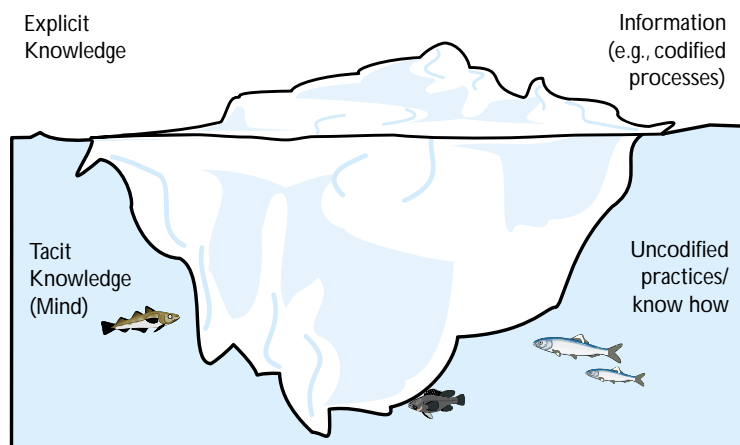
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One of the key benefits attributed to knowledge management is the ability to share best practices across large organisations. While there are some great success stories, there are far more stories about how elusive the benefits can be. Many different explanations have been offered for the lack of success, from the 'not invented here' syndrome to 'our business is different.' The reality is that unless you are operating under a franchised business model (such as McDonald's) then there will be real differences between the businesses. Even McDonald's has had to adapt its model to cater for different cultures in different countries.

The fundamental issue is the difference between a business process – something that is relatively describable and concrete – and a business practice – something that accrues over time and is much harder to pin down. Business processes gained significant attention during the Business Process Reengineering (BPR) era and is now experiencing resurgence under the label of Business Process Management^{[1][2]}. Etienne Wenger in his book *Communities of Practice*^[3] describes how, when analysing the medical claims process, he uncovered a host of

undocumented hints, improvisations and adaptations used by the claims processing clerks – their actual practice. John Seely Brown, the former Chief Scientist at Xerox PARC, has gone as far as to claim that the proportion of business practices that can be formally codified in process form is only the tip of the iceberg, and that the vast majority of 'knowledge' encompassed in a successful practice is uncoded and held tacitly in the minds of the staff performing the task^[4]. Many BPR initiatives failed because this was not recognised.

Explicit knowledge (such as codified processes) is only the tip of the iceberg; the vast majority of knowledge is uncoded and held tacitly in the minds of the staff performing the task.



The trick to sharing business knowledge appears to be the ability to judge whether a 'practice' is truly transportable across the different business environments; and this ability appears to be largely held in the collective judgment of expert practitioners who have a view across the different business domains. Hence the important role that Communities of Practice or Expert Networks play in facilitating the effective sharing of best practices.

The other key aspect of tacit business practices is that people adapt them to respond to unpredictable and changing environments. Indeed, the agility required to respond quickly to any business challenge lies within the organisation's business practices and human networks. People are very inventive when faced with a challenge, and many radical as well as incremental process innovations come about because human networks can quickly mobilise the tacit understanding of their business practices and adapt them to the challenge at hand.

RULES FOR CO-EXISTENCE	
Process	Practice
The way tasks are organised	The way tasks are done
Routine	Spontaneous
Orchestrated	Improvised
Assumes predictable environment	Responds to a changing unpredictable environment
Relies on explicit knowledge	Relies on tacit knowledge
Linear	Network or web-like

Process vs Practice (from *Balancing Act: How to Capture Knowledge Without Killing It*, *Harvard Business Review*, May-June 2000)

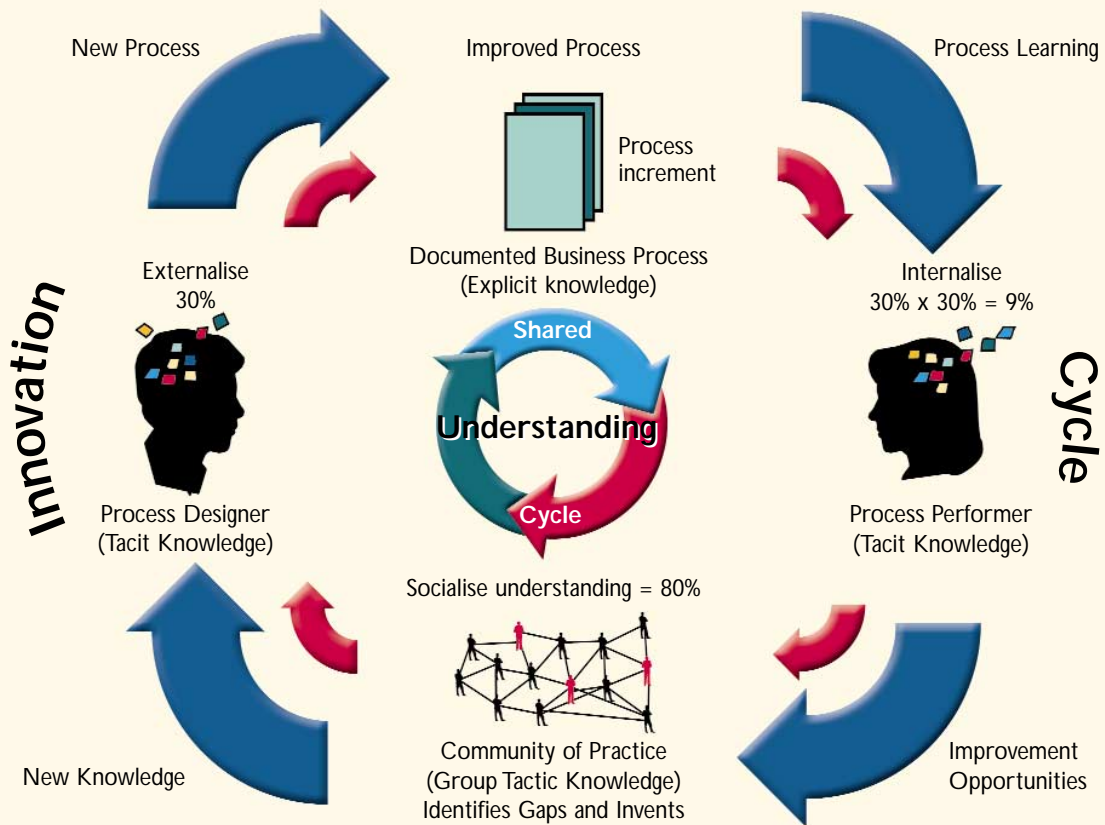
Good process and good practice are both essential for organisations to succeed. Businesses today need to clearly differentiate between processes to be automated i.e. 'business @ the automation

level' and the more collaborative activities which can be characterised as 'business @ the knowledge level'^[5]. Seely Brown and Duguid have written extensively about the delicate balance that must be achieved between practice and process, between effectiveness and efficiency, between doing the right thing and doing it right^{[6][7]}. Many in the business process management world claim that everything can be defined as a process, and hence accurately measured and managed. But process will never totally replace practice. There will always be critical business knowledge that cannot be made explicit, so we must invent ways to facilitate its use in its tacit form. This is particularly the case in fast-changing industries like biotechnology and information technology.

Most business processes within an organisation are documented in manuals of rules and procedures that are distributed with an expectation that they will be consistently understood and applied. For anything other than simple routine tasks, this is a dangerous assumption. First, it requires the business process designer to understand the business process intent accurately, and express that tacit understanding accurately in explicit written form. Second, it ignores the likelihood that when those who are to perform the process internalise the written description, their understanding may be different from what the designer intended.

Knowledge management processes can help develop a common understanding of the business process intent by connecting the designers and the performers of the business process. Common vehicles for these 'socialisation' processes within organisations are Communities of Practice – cross-organisational groups that form naturally around a common interest or cause. The socialisation process will eventually evolve into a common business practice around the business process.





This diagram illustrates two cycles of process/practice interaction. The inner cycle is the 'shared understanding' cycle. It starts with the process designer documenting the business process (tacit to explicit knowledge conversion). Experience shows that for a complex process, the document might represent less than 30 percent of what the designer actually understands about the process. The process performer is then expected to internalise this knowledge from the document (explicit to tacit conversion) – again, typically with an efficiency of only 30 percent. Therefore the degree of common understanding between process designer and process performer could be less than

10 percent. Socialisation (tacit to tacit knowledge transfer) processes such as communities of practice help improve the level of common understanding.

The outer cycle is the innovation cycle. The improvement cycle for business processes is triggered by a gap between current and desired performance. Gaps are typically identified by the 'process performers' through experiences in executing the process. Syndicating a perceived improvement opportunity and then soliciting ideas for improvements, testing ideas and agreeing on options for implementation are all typical activities of a community of practice.

BP2 Macro Framework

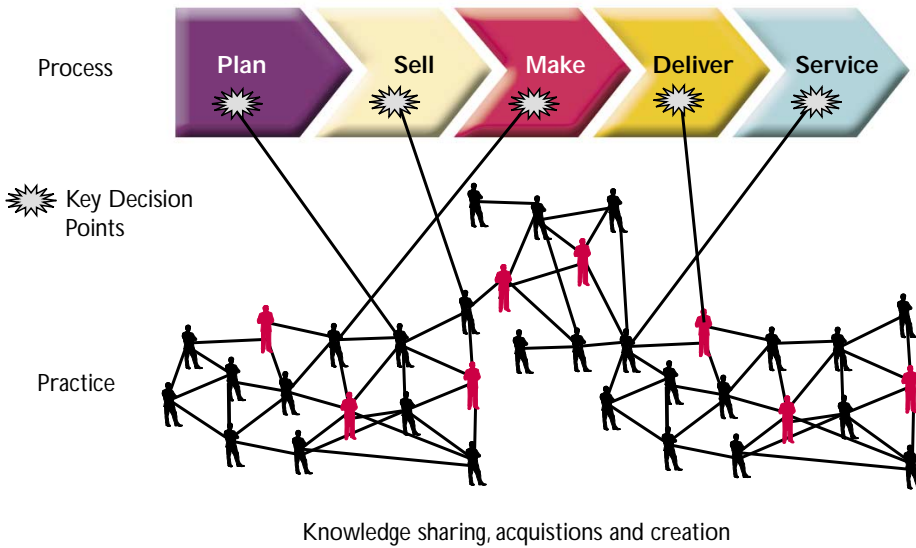
CSC has created the Business Process/ Business Practice framework (BP2) to help organisations maximise the benefits from both good processes and good practice. The underlying premise for the framework is that process definitions are good for quickly identifying what the 'make or break' decisions are for the business.

Processes are explicitly defined before execution, and key business-critical decision points can be identified within each process as part of the process design. The key decision points are those that have the biggest impact on the

business; and decisions are where knowledge is turned to action. Therefore, once identified, these key decision points can be exploited by bringing knowledge management best practices to bear. This will often mean not only making tacit knowledge explicit, but also identifying and exploiting the communities of practice or expert networks (social networks) – which are often the keepers of best practice – for the benefit of the business.

The BP2 Macro Framework is intended to be used at the business planning level. By looking across the business as a value chain, business planners can

The BP2 Macro Framework

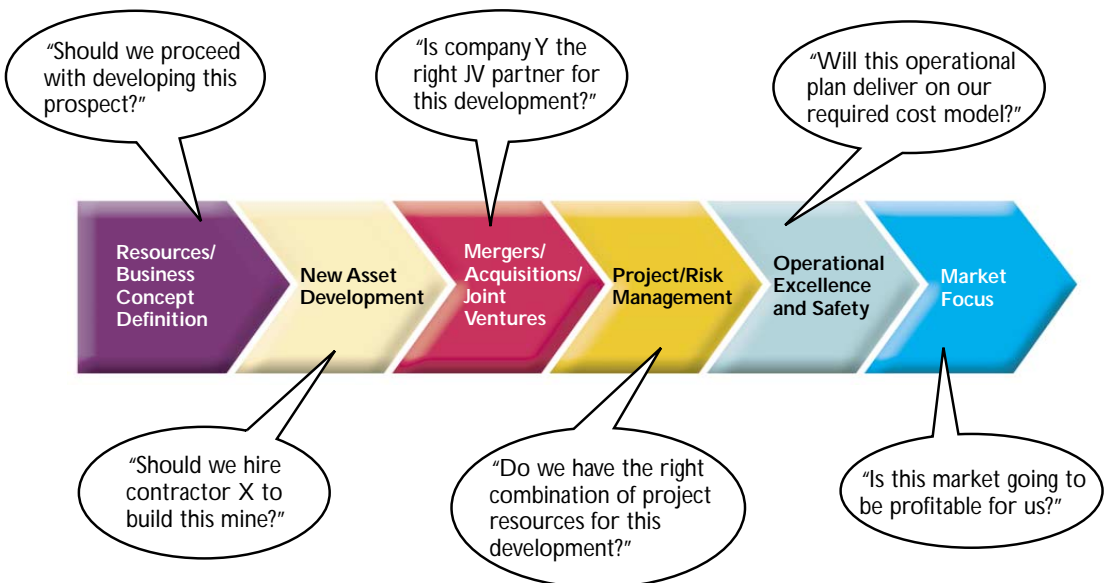


determine what the key make-or-break decisions (or 'moments of truth') are, as part of their business planning process.

Once the key decision points have been determined, the organisation can focus on the practice/process balance around each of them. The objective is to institute a more formal process by which key decisions are supported by both process and practice.

Most organisations address the business processes first, asking questions such as:

- What are our formal processes for vetting new prospects?
- How do we vet new prospects now? Who are our experts? Are our experts networked? Are they externally connected? To what extent?
- What are our operational cost modelling processes?
- How do we choose joint venture partners?
- Can we formalise our contractor selection processes?



The BP2 Macro Framework used to identify key decision points in a mining company

Often the business practice side is seen as too 'soft' to manage and therefore it receives much less attention. This is where evolving knowledge sharing techniques can be put to best use. Some examples of these techniques have been published in *Knowledge Management: A Framework for succeeding in the knowledge era*^[8]. One is to categorise knowledge processes into:

Sharing knowledge:

- Sharing tacit knowledge
- Sharing explicit knowledge
- Facilitating learning

Acquiring knowledge:

- Monitoring the external environment
- Importing required knowledge

Creating new knowledge:

- Nurturing communities of practice
- Learning from experience
- Innovation.

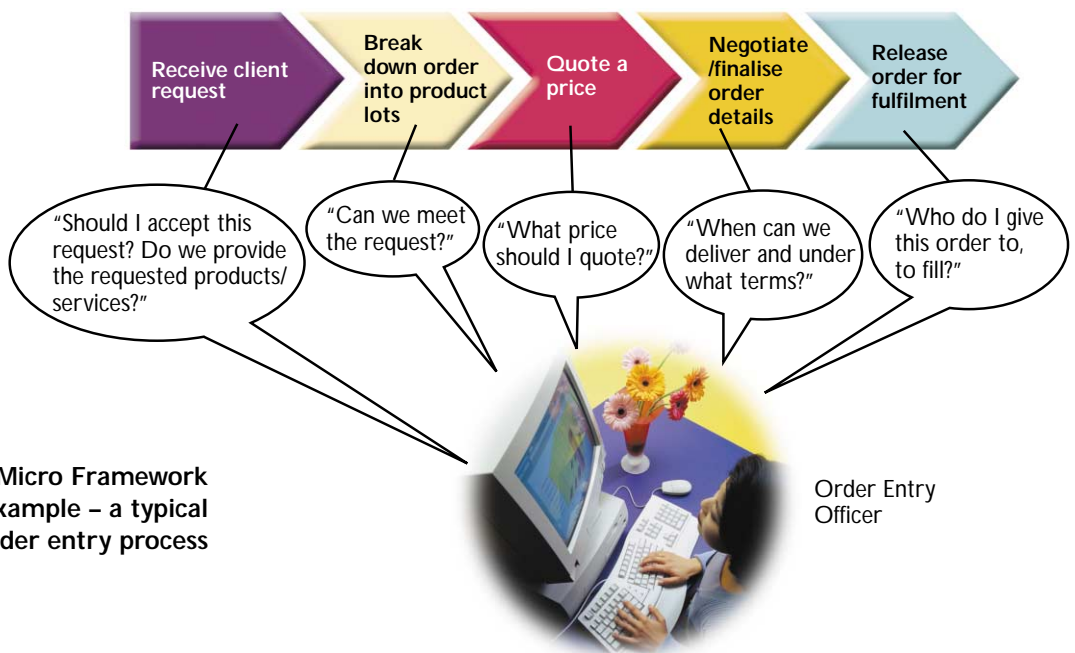
Other techniques for supporting business practices include peer-to-peer sharing, mentoring and coaching, (explicit) knowledge mapping, social network analysis, e-learning, story telling,

competitive intelligence, nurturing communities, and prototyping.

BP2 Micro Framework

While the BP2 Macro Framework provides a view at the business planning level, many practitioners work at lower levels, focusing on only a single business area or function. The BP2 Micro Framework drills down into more detail about how to manage the practice/process balance at the application level.

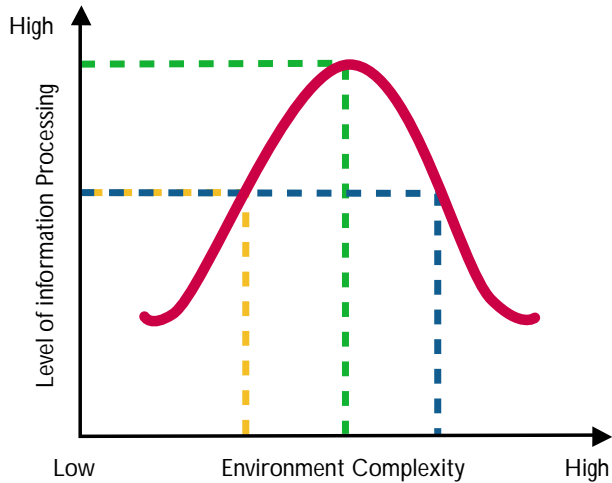
When we look closely at a defined business process, we will see many instances where human intervention is required. Some of these interventions can be replaced by an automated response, although in other instances that may not be cost effective or even possible. In any case, we need to respect the different roles that people take in the overall business process. We can draw guidance here from the Human Factors discipline^[9], which has invented 'task analysis' techniques for designing effective interfaces between knowledge-based human tasks and programmed process tasks. While these techniques are perhaps too involved for the casual user, it makes sense to follow the principles for carefully managing the interface.



As an example, let's take a look at a typical order entry process.

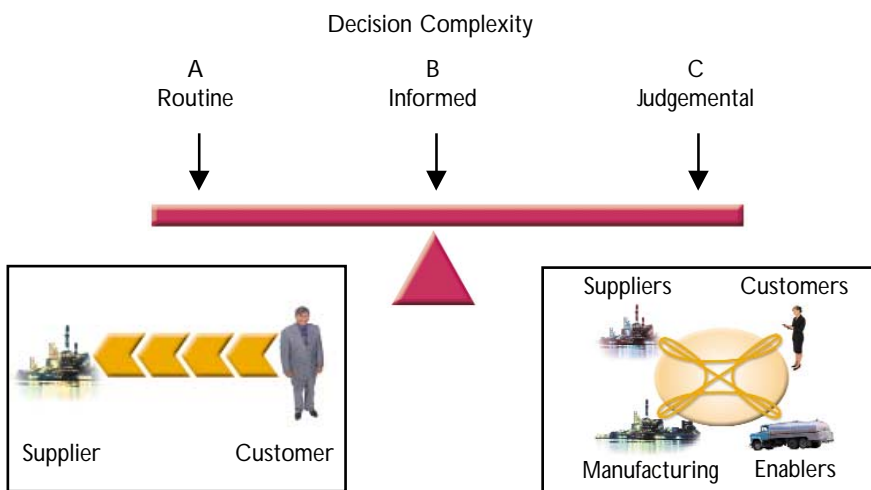
The illustration on page 50 shows how the business process might be mapped, and the key decisions identified in each of the process stages. Depending on the industry you are in, the level of human intervention will vary from virtually none to intimately involved in the whole process. The order entry officer could be performing clerical tasks that might easily be automated, or negotiating each order individually. Amazon.com has demonstrated that the order entry process can be almost totally automated for commodities like books, while companies that create a unique product with every job (such as construction companies) will view the order entry process and staff as critical to the business.

Businesses that can reduce the level of human intervention can make major cost savings, so many organisations try to standardise their offerings with defined pricing models and delivery mechanisms. But at the same time, customers are becoming more demanding and want more personalised attention, for which they are often willing to pay a premium. To decide on your best course, you need to understand the nature of the decisions that your order entry officers have to take.



Decision complexity (from *An Experimental Evaluation of the Relationship of Uncertainty in the Environment to Information Used by Decision Makers*, Decision Sciences, July 1975)

Experiments by Schroeder and Benbasat^[10] with decision makers across environments of varying complexity demonstrated that, when the environment is complex, there exists a point where further information is of diminishing value in supporting a decision. For example, if your company is in the business of making aircraft and a request comes in to build the first space shuttle to fly to Mars, the decision to accept the order or not will be largely judgemental. We therefore need a framework for assessing the complexity of the decision at hand to determine the appropriate mix of business process and business practice response. Our approach is summarised in the table overleaf.



Balancing process and practice

Balancing process and practice around decisions

DECISION COMPLEXITY	QUALIFICATION	RECOMMENDED ACTIONS
Routine	<ul style="list-style-type: none"> ➤ Is the decision (or can it easily be) proceduralised? ➤ Can unskilled staff easily be taught how to take this decision? 	<ul style="list-style-type: none"> ➤ Ensure decision procedure is fully codified in the business process definition (make tacit knowledge explicit). ➤ Excellent candidate for the use of BPM. ➤ Automate, if cost effective.
Informed	<ul style="list-style-type: none"> ➤ Given the same information, would a competent officer always make the same decision? ➤ If so, is the provision of this level of information economic? 	<p>Yes:</p> <ul style="list-style-type: none"> ➤ Undertake information analysis to define how the required information can be provided as a part of the defined business process. Refer to explicit knowledge sharing techniques^[8]. ➤ Consider the use of expert system tools to assist with ensuring consistency of decision making^[11]. ➤ Consider applying BPM techniques. <p>No:</p> <ul style="list-style-type: none"> ➤ Provide an economic level of information and look to support staff with knowledge process mechanisms. Refer to tacit knowledge sharing and knowledge acquisition techniques^{[12][8]}. ➤ Consider the use of decision analytic techniques to support the decision^[13].
Judgemental	<p>Is the quality of the decision principally reliant on the experience and expertise of the staff member?</p> <p>Is there a major variation in decision quality between expert staff members and average staff members?</p> <p>Is there no current basis for what a good decision is?</p>	<ul style="list-style-type: none"> ➤ Use knowledge acquisition techniques to explore outside your normal environment^{[12][8]}. ➤ Explore knowledge creation techniques to create a basis for how these decisions should be made^[8]. ➤ Consult expert networks.

This approach implies a requirement to explicitly identify and categorise decisions that need to be made. It also implies a more systematic and disciplined approach to decision-making, something that does not come naturally. The need for more systematic decision support processes is strongly supported by the findings of Kahneman and Tversky in their studies on bias in human decision-making^[14]. Their studies clearly demonstrate how decisions based

on 'gut feel' can be unintentionally misguided by human bias.

The additional investment in time required to characterise decisions as routine, informational or judgemental, and supporting them appropriately, will be justified through time saved in not debating decisions that should be routine, and avoiding poor outcomes from more complex decisions as a result of not involving appropriately expert staff.



References

1. Business Process Management Initiative, see www.BPMI.org.
2. *The Emergence of Business Process Management*, CSC's Research Services Report, January 2002 on <http://www.cscresearchservices.com/process/bpmreport/>
3. Wenger, Etienne *Communities of Practice*, Cambridge University Press, 1999.
4. Seely Brown, John *Sharing Knowledge Across the Organisation: Knowledge Dynamics and Emerging Corporate Landscape for the Age*, CSC CIO Forum, August 2001
5. Ferrara, Lyn and Poirier, Charles *Business @ the knowledge level*, CSC Foundation Research Journal, March 2001.
6. Seely Brown, John and Duguid, Paul *Creativity Verses Structure: A Useful Tension*, MIT Sloan Management Review, Summer 2001.
7. Seely Brown, John and Duguid, Paul *Balancing Act: How to Capture Knowledge Without Killing It*, Harvard Business Review, May-June 2000.
8. HB 275-2001 *Knowledge Management: A Framework for succeeding in the knowledge era*, Standards Australia International Ltd, June 2001.
9. Diaper, D. *Task Analysis for Knowledge Descriptions (TAKD): the method and an example*, in *Task Analysis for Human-Computer Interaction*, Ellis Horwood, 1989 pp108-159.
10. Schroder R. and Benbasat I. *An Experimental Evaluation of the Relationship of Uncertainty in the Environment to Information Used by Decision Makers*, Decision Sciences, July 1975.
11. Hedberg, S. *New Knowledge Tools*, Byte, July 1993.
12. Hickman, F., Killin, L., Land et al. *Analysis for Knowledge Based Systems: A Practical Introduction to the KADS Methodology*, Ellis Horwood, Chichester, 1989.
13. Moore, P.G. and Thomas H. *The Anatomy of Decisions*, Penguin Books, 1976.
14. Kahneman D., Slovic P. and Tversky A. *Judgement Under Uncertainty: Heuristics and Biases*, Cambridge University Press, 1982.