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Information and Knowledge (Mis)Management

The subjects of information and knowledge management are seldom discussed together. Perhaps they present a paradox in today's information-intensive business environment.

Search and re-search—This column is prompted by my recent experience of searching patent databases for two articles that appeared in *PE&T* earlier this year ("1995: The Patented Truth," Part 1, May/June; Part 2, July/August). For the articles, I commissioned a patent search in January, sponsored by *PE&T.* I spent many subsequent days sorting the almost 400 citations, of which about 70 percent were unrelated. During mid-year, I conducted a broader patent search, covering several years of service-station technology with a second search firm.

In comparing the two searches for 1995 patents, I discovered that my total number of citations had increased, but that each search missed a different 40 percent of the total. In addition, even after repeating the second search, I am still finding an occasional missed patent. The upcoming review of 1996 patents in a future article will include missed 1995 technology.

During the last few days I discussed my problem with personnel from both search organizations, and asked if there is a magic bullet which will ensure search accuracy and completeness. The only solution offered was to broaden the search and significantly increase the chaff.

For your information—What is the message? We are living in what is supposed to be the fourth great age of humankind: the information age. We all suffer a great anxiety, otherwise known as "information overload." Yet even the experts, as is evident from my recent experience, do not presently have the tools to provide us with the information we need.

While we are exposed to a continuous information overload, we are often faced with a real dichotomy when dealing with internal knowledge and/or expertise. Only a few corporations have a formal knowledge management process.

Having managed service-station related technology for over a decade and met many service providers and manufacturers, it has always amazed me how much information and knowledge is lost as a result of employee turnover. However, retaining expert knowledge may require the use of the same information technologies we have just deemed flawed.
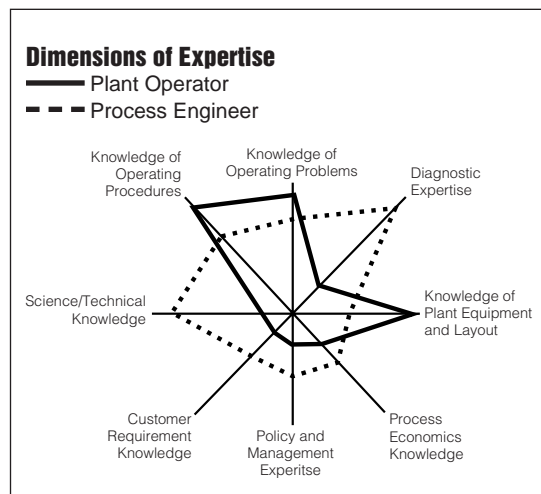
Employee knowledge bank—Employee knowledge is an asset to any business. However, to maintain that asset, it must be inventoried and preserved as some form of internal information. Today's information technologies—such as knowledge-based, or expert systems—offer opportunities to capture, structure, preserve and enhance personal knowledge of key employees. Who these people are is not necessarily obvious. An effort must be made to catalog knowledge needed for successful business operations, and the assessment of employee expertise is an integral part of this process.

The graphic to the left provides some guidance on how to structure such an assessment. Various knowledge requirements are plotted on an arbitrary scale around a common point. Employee expertise is then plotted on the knowledge diagram.

The example shows that a plant operator should score high in the operational and equipment areas, while an engineer should round out knowledge requirements in technical and diagnostic skills. Appropriate management and sales expertise should be added to balance the skill inventory requirements of the particular business.

Successes in information and knowledge management depend on a new skill set for today's managers. On the information side we may need the help of specialists to provide the material we truly need and shield us from overload, while on the knowledge side we must develop an expertise inventory to ensure efficient operations.

Dimensions of Expertise
— Plant Operator
- - - Process Engineer

Knowledge of Operating Procedures · Knowledge of Operating Problems · Diagnostic Expertise · Knowledge of Plant Equipment and Layout · Process Economics Knowledge · Policy and Management Experitse · Customer Requirement Knowledge · Science/Technical Knowledge