



ROI and Knowledge Management in the R & D Organization

Call me old-fashioned but I do believe in the discipline and structure of a carefully defined process for companies that invent, build and market products. A recent editorial piece by publisher Gary Beach appeared in CIO Magazine (April 1, 2002), entitled *ROI is DOA*. It stimulates me to deliver a different point-of-view, one that might work for stabilizing the incessant shifting of priorities for so many IT agendas in today's R & D organizations. This really gets to the core of why knowledge management matters.

The **process** of R & D is what drives technological advances. Whether it is a drug, chemical, metallurgy, materials science, ceramics, electronics, sonar or battery devices, to name a few product areas, starting with an idea and turning it into a tangible result that can be marketed, sold and used is a *process*. To those unfamiliar with the industrial business arena, it must be frustratingly puzzling that when some segment of society perceives a need, for example, a repellent that is 100% effective in stopping mosquitoes from biting, the solution in the form of a product does not soon become available. In fact, when a new product appears that seems to be long overdue, most of us are unaware of the length of the process to produce it, sometime decades.

First as a technical librarian then as a software entrepreneur, I observed the ways in which old ideas and old research frequently found a toehold in the present *high tech* evolution of a new product. Over many years of watching companies I worked for and with bring new products to market, it has become obvious how the sequence of R & D events influences much of what we see as new or even revolutionary. So much of R & D is "fits-and-starts" and serendipity; it is also the result of so many shifting priorities and the resulting politics. This will never change. Often there must be a technological breakthrough in a new area that enables an old research process, which was previously tabled, to move forward again to the development phase. Alternatively, it may take an earth-shattering event, or a compelling universal environmental awareness to force a renewal of effort to solve a dormant problem.

Having scientists and engineers, all working on different aspects of the same problem is what ultimately provides the synergy to bring about the new. When that happens to create a successful product, everyone is happy and the collective fortunes of the participants rise. In companies where that process and success plays out repeatedly over time, stability, confidence in methods, and security build. However, new management often means a bottom-line process of making each group justify its existence, as well they should. While these justification processes can cause varying amounts of grumbling and frustration, it does help employees understand the process of R & D and the end goal, ROI for the research conducted.

Does this mean that every employee should work only on research that brings results within the timeframe of the next annual forecast? I fear that now there may be a trend to only see the business in those terms when considering ROI. In decades past, especially



among those running corporations that they founded, there appeared to be a tacit understanding that research is a process of analysis, a process of idea testing and evaluation, and of trying. This results in eliminating non-productive steps, avenues, and yes, processes. ROI is the accumulation of positive steps, results, and processes that evolve over time to build the new, better, or best product for a use that has a market. The market demand is determined by yet another process of analysis, testing and evaluation.

The question is, how can knowledge management help resolve the tension between the need for ROI and building for a sustainable business future. In a news note by Jeffrey Barlett, *Certifying KM professionals* (Knowledge Management Magazine, Aug., 2001; p. 16), the following comment appeared about two programs for knowledge management practitioners to obtain certificates. The director, Joe Firestone, stated, "We believe that IT is the servant of the KM processes, not the other way around."

I believe that this sentiment applies to all contributors to the information resource or knowledge management process. It is their job to learn and understand the business on a macro level, to use every professional skill to insure that the knowledge produced by the engineer, scientist, market analyst, and technician is preserved and protected for future use. Knowledge preserved and recycled is cheap R & D. Knowledge lost gives no ROI, ever.

When the CKOs and CIOs set their agendas to retain the value of knowledge that may be temporarily underutilized, then the future of the organization can expect a steady stream of new products whose market value exceeds investment. **Over time** is when ROI counts. It is the collective effort of everyone understanding the final goal that will achieve profits. Most importantly, all service parts of the organization must understand that they are there to service the processes of the inventors and makers of the products, not to just build infrastructure and expertise to glorify their own short-term returns-on-investment. When all these processes work together you have knowledge management and real ROI.
– Lynda W. Moulton