

Are You Data Rich and Information Poor?
That DRIP may be leaking profits!
John Bell

“We’re drowning in information and starving for knowledge” Rutherford D. Rogers

Too frequently, companies diligently collect and store data with little or no thought as to the end use or the end user. Many times it is “just in case.” *Just in case* something goes wrong. *Just in case* we have a product return. *Just in case* somebody asks the right question. In the meantime, no one makes use of what is there. It just sits until an event triggers some activity. The proliferation of computers and low cost memory has enabled this behavior by fostering the illusion that storage is “free.”

Even when all of this data is organized in a database, it is of little or no use as it sits. Peter Drucker said, “A ‘database,’ no matter how copious, is not information. It is *information ore* (my emphasis). For raw material to become information, it must be organized for a task, directed toward specific performance, applied to a decision.” The term data mining is an apt metaphor in this context. It describes the act of digging and sifting through the database to extract the useful nuggets. These nuggets must then be refined and forged into a useful alloy: information. That alloy then becomes truly valuable then converted into a tool: knowledge. The value of the tool is never fully realized, however, until it is put to work: action. Your data is truly valuable when it is converted into information, synthesized into knowledge, and drives some action.

Gigabytes of data and no one knows what is going on

Data that is stored and never examined is just taking up space, virtual or physical. Data that is examined only retrospectively is only marginally more useful. At a manufacturing company I recently worked with, process owners were quite adept at explaining process deviations weeks to months after the fact. In the meantime, productivity was not what it should have been, and neither was profitability. Data was flowing into the database in real time, but there was no real time analysis. Questions that were left unanswered included: “what is the trend,” “is the process performing as it should and if not, why.” Real time analysis would have triggered real time response, thus saving weeks of sub-par performance.

Another experience occurred during a presentation of the results of a process study. The results were presented as a large table of input and output values. In the analogy of raw data being the ore, this is like looking at a pile of dirt. There may be copper, gold, or diamonds inside, but no one has sifted it yet. Far more useful would have been an analysis of relationships between inputs and outputs, interactions between variables, or sensitivities to changes. This is information. Instead, it was left as an exercise for the reviewer to mentally synthesize what he or she could, which resulted in as many half-baked conclusions as there were people in the room.

Data collection and storage is not free. Even in digital form, it takes time to record, disk capacity to hold, personnel to maintain, power for the computers and air conditioning, etc. If records are in paper form, the cost can be considerable. Looking through large amounts of historical data on an ad hoc basis also takes a significant

amount of time and energy. Regular analysis takes relatively little time, and deviations (positive and negative) are readily spotted. The tools are not complex. A simple trend chart conveys a relatively large amount of information. (e.g. Are we trending positively or negatively? Are there cyclical patterns?) Add a target or goal line and progress can be measured. Thus, the ore has been converted into a useful alloy. The real value, however, comes from the next level of questions that invariably come up.

Knowledge: Understanding relationships

When the first level of understanding has been developed, invariably there are follow-up questions that become immediately apparent. The most common question is “why?” The second most common question is “what is the relationship to other variables?” Understanding the underlying causes and relationships is where information begins to be transformed into knowledge.

By delving into the second or third level of analysis, an enterprise can begin to understand the cause and effect relationships of their performance metrics. If a process yield has reached a plateau, an understanding of the composition of the scrap, or non-useful output, allows the organization to focus efforts on the elimination of one or more contributing factors, and raise the level of performance. A real time understanding of the underlying contributing factors also permits rapid response when a process deviates from normal. An unfavorable deviation can be brought back to standard quickly. A favorable deviation, on the other hand, can be quickly analyzed for what is going *right*, and the causes codified to *raise performance*.

Understanding relationships between different parts of the business allow the opportunity to optimize the performance of the entire enterprise. Knowing how a downstream product responds to upstream processes or materials allows appropriate controls to be established in an optimum manner. For example, knowing which dimensions are critical on a purchased component allows process controls or inspections to be applied to that dimension without wasting time with other tolerances that have minimal effect. From a business perspective, knowing the incremental cash generation capability of different product lines can focus investment on capacity, cost and sales generation in the proper directions to maximize the cash generation potential of the enterprise.

Action: Tap into knowledge for newfound profitability

Just as a tool has minimal value by virtue of sitting in a toolbox, developing an understanding of what drives the business contributes no value until some action is taken. When a real time knowledge stream is created, it provides the energy to continually raise the performance bar of any business. Decisions become based on fact rather than opinion and intuition. Investments are targeted for maximum effect. In general, the enterprise has the ability to develop its unique strengths and capabilities into a competitive weapon. Working without this knowledge stream is the equivalent of flying blind.

Applying the process in reverse yields an interesting dynamic. “What needs to be done” drives “what kind of tool is needed.” This, in turn, suggests “what information is needed” that then suggests “what data is needed, and from where it should be obtained.” Data collection and database design are significantly more effective when the outcome is

the starting point. The enterprise leader can design the tools and indicators that are most appropriate for the task at hand.

Tap your knowledge stream and reap newfound profitability

The legendary leader of GE, Jack Welch, said: “An organization’s ability to learn, and translate that learning into action rapidly, is the ultimate competitive advantage.” Turning your data into information and translating that information into action is a potent vehicle for honing one’s competitive advantage, be it cost, speed, technology, or service. Forge that “ore” into your own custom tool, stop the DRIP, and channel those profits to the company bottom line!

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