WHY REENGINEERING FAILS

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If Total Quality Management was the management "answer" of the late 1980's, Reengineering has taken its place in the first half of the 90's. *Fortune*, in its August 23, 1993 issue, proclaimed reengineering "the hot new managing tool," this despite citing an alarming failure rate of reengineering projects, and noting that even when reengineering succeeds it is "almost always accompanied by pain—or at least some unpleasant side effects, such as causing executives' hair to fall out." According to *Fortune*, management consulting firms large and small are flocking to reengineering as the new weapon of choice in the competitive wars. Despite the consulting firm's claim to have quintupled their business in five years of reengineering consulting, a 1991 survey by Index found that one quarter of nearly 300 North American companies involved in reengineering reported that they were not meeting their goals. In an article in *Insights Quarterly,* Michael Hammer, literally the author of the book on reengineering (along with CSC Index CEO James Champy), stated his belief that the failure rate of reengineering is much higher — **"on the order of 70%."** Hammer and others attribute this failure rate to resistance to change, lack of understanding of what was really involved or failure of nerve on the part of client companies. Such explanations are suspect, preserving as the do the validity of the model while placing the blame for the failures on the clients.

Another possible factor to consider is the unquestioned axiom that "more is better" in organizational interventions. Large consulting organizations dealing with total quality and re-engineering interventions often mount an almost military assault on a company they are consulting. First, they send in legions of consultants to study the system, without regard for the very real possibility that, by their selection of <u>what</u> to study and <u>how</u> to study it, they are already changing the system. Then, when their studies are complete, they design and implement interventions that are organization-wide, massive change efforts that are designed to impose new order in a system assumed to be linear and predictable.

It is possible that something far less familiar and more important at work here. Consider the view that organizations (and, indeed, the people who make them up) are chaotic systems. Chaotic systems are non-linear, non-mechanical systems, and therefore must be approached through significantly different models of thinking and a different logic system than are appropriate for the linear systems we are more used to dealing with. Chaotic systems are far more complex than linear systems, and the work that has been done over the past 20 or so years in mathematics and physics on chaotic systems provides some insight into how these systems function. Viewing organization as chaotic systems raises some interesting possibilities with regard to large-scale organizational interventions such as reengineering.

One of the most striking aspects of chaotic systems is the frequency with which, in these systems, a very small disturbance or input can cause disproportionately large effects (chaos theorists call this phenomenon SDIC for Sensitive Dependence on Initial Conditions). Along with SDIC comes the phenomenon called "Cause at a Distance" which suggests that these effect may show up at locations far removed from the original disturbance. Further, the exact nature of this effect will be, to a degree, unpredictable, and will never be known for sure at the time of the intervention, although intelligent probability estimates are possible.

All of this must give those of us who are engaged in organizational change efforts pause. Given that organizations seem to have more in common with chaotic systems than the linear systems we have traditionally seen them to be, SDIC and Cause at a Distance call into question the wisdom of large-scale systems interventions and major reorganization efforts. Serious consideration of these two phenomena suggests that the effects of any intervention will be, to a degree, unpredictable, and may show up in the organization at a significant remove from the point of intervention. Further, since chaotic systems do not lend themselves to simple linear predictability, results of all interventions will be probabilistic rather than predictable. That is, even the best-planned and best-executed intervention will carry a significant probability of negative and/or unforeseen effects. Given SDIC and Cause at a Distance, the possibility of these negative effects multiplying to a significant level and showing up at one or more unplanned points in the system cannot be ignored. Further, the broader the intervention, the greater the probability of negative effects.

I suggest we need a new principle for organizational intervention: *minimalism*. First, we must seek the smallest possible intervention that will make the difference, and second we must recognize that even with a minimal intervention the possibility of unpredictable negative results exists, and that possibility expands exponentially as the magnitude of the intervention increases.

Given this, the consultant and client must decide whether the task at hand calls for a maximizing of false positives (apparent results when none are there) in order not to miss any positive effects, or the more conservative path of maximizing false negatives (mistaking positive results for negative) in order to ensure that we make no mistakes. Finally, the intervention must be designed for the early detection of unexpected outcomes, both positive and negative in order to tune the intervention at appropriate intervals, and these "distant early warning" devices must be placed throughout the system, not only where the intervention is taking place.

All of this is difficult to deal with from the linear view that organizations are resistant to change, and that change must be imposed. The view that organizations are chaotic systems brings with it the possibility that new orders can emerge rather than be imposed. Chaotic systems are not amenable to imposed order. In fact, as we have discussed above, the greater the change attempted, the greater is the probability of an unintended negative result. This may account for the high failure rate for re-engineering efforts, which are typically large scale. The emergence of new order, as opposed to the imposition of a new order requires that organizations and their people be willing to come to grips with designing processes that allow for unpredictable change — processes that take into account that the better any system works the sooner it brings into existence results it was not designed to deal with. These processes that allow for emergence are, by design, change-amenable.

Intelligence and caution demand that the rules to be followed in organizational intervention must begin with the prime rule of Medicine, *primum non nocere* (first of all, do no harm) and second the rule of minimalism — do as little as possible.

