Alternative Technologies

Enterprise Integrity: The Art of Mimicry II

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In my last column I asserted that, despite many efforts and advances in IT, the persistent failure to align IT with business is strong evidence that something is wrong with the software industry. Beyond that bald assertion, I would like to add that the approaches taken by our schools have gone equally awry. For the greater part, vendors, teachers, and practitioners seldom go much beyond mimicking business vocabulary while lauding IT as essential for business. Our industry should blame itself for the popularity of attacks on its high cost and ineffectiveness by critics (e.g., Nicholas G. Carr, "IT Doesn't Matter"). We've a chance to get it right with SOA but, frankly, I despair of the likelihood. Part of the problem is that IT does not understand the drive toward service-orientation in business, and so cannot mimic it with appropriate technologies.

The transition from a manufacturing to a service economy is not an accident, nor should it be blamed on an inability to compete. Without going into the full theory and history, as an economy becomes successful on the supply-side, consumer focus naturally moves from the means (i.e., products and specific resources) of achieving mandatory goals to the selection of discretionary goals (i.e., result-oriented services). Businesses learn that it is misleading to measure performance in terms of units produced, and transition to measures of the perceived value of services provided. This is equally true for manufacturers and pure service providers. To reiterate a key conclusion from the first part of this series, *a product is the manifestation of and the delivery vehicle for services*. A product must not be understood as an end-in-itself, but merely a component in a bundle that helps consumers achieve a goal.

This perspective certainly underlies the pursuit of customer satisfaction in an economy where supply frequently outstrips demand. However, the market dynamics also drive the competitive vortex, with differentiation and innovation being attempts to control the apparent chaos of fickle consumer demand. Ultimately, this chaos can only be addressed if the management of every business process, every conception of success, every measure of performance, and every business deliverable is agile. The relationship with the consumer is no longer driven by acquisition of some relatively fixed set of either assets or consumables (the necessaries), but by what the consumer wishes (or perhaps is required) to achieve in the moment. Producers sell tunes, not music players; information and entertainment, not televisions; communication, not telephones; and transport, not automobiles. (Can it be long before a car is free with your gasoline purchase?). The consumer is increasingly less concerned with the resource, and more

with a satisfactory result.

The catalytic effects of instantaneous communication (got cell?), globally available information (got Web?), ready supply, and rapid change push businesses toward service oriented organization and promote the disintegration of functional organization with its stove-pipe chains of command, predefined processes, and historically defined notions of performance. The inflexibility of functional organization is anathema to the service oriented organization.

Understanding the potential of the service oriented organization is best seen through an analogy. The industrial revolution taught us how to assemble standard objects into more complex objects using highly controlled sequences of steps. Like the clockwork universe of the 1700s, we assumed that enough control would make any manufacturing effort optimal. This assumption is simply false. The approach does not scale and is not robust. Random, unpredictable, and natural variances of the real world intrude and combine in ways for which astute workers must constantly compensate in order to maintain quality. The complexities of scheduling interdependent tasks and responding to errors mitigate against the concept of the ideal zero-latency process: Creative control is ever more crucial as time frames are compressed and complexities increase, and latency is then essential for its application.

Object assembly requires detailed pre-specification of interfaces to determine how parts fit together. The functionality of the aggregate is predetermined and largely immutable. By contrast, services provide a means of combining goals and the interface only enables that integration. Exactly how services are combined, including their temporal ordering, persistence, efficiency, and interaction, determines how goals aggregate and the final result. The service oriented business makes the goal of each business activity paramount, rather than some presumed means to achieve that goal. This gives the business extreme flexibility in delivery and resource management. In doing so, the loop between provider and consumer becomes an ecosystem capable of maintaining the *integrity* of their joint *enterprise*.