

## **Roughly West: Focusing and Managing the Enterprise's Technology Investments**

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## *Executive Summary*

In today's "show me the money" times, the pressures on supply chain executives to deliver new cost improvements year over year is intense. Delivering against these demands requires a well-managed program of continuous improvement. Further, the frequent change in the current business climate has driven companies to shorten their planning horizon and to incorporate greater flexibility into their strategic plans so that they can thrive, not just survive. Delivering in this climate requires that the development of a continuous improvement management program where the execution elements of the program be short with a contained and constrained scope that deliver results quickly.

During this period of resurgent economic growth, virtually all organizations are planning for extending their businesses or building their competitiveness. Commensurate with these plans is the evaluation of which investments will deliver the most business value and competitiveness most effectively. This is absolutely the right thing to do. The beginning of a bullish economy is an excellent time to add momentum to your business growth through investments in the right technology to deliver against the business plan. Now is the time for strength and vision. An enterprise that has a direction to follow that is flexible yet focused will always gain an edge over its hesitant competitors. Short-term investments should be made to rationalize and optimize your current warehousing and transportation operations. Medium term investments should be considered to prepare the enterprise for collaborative commerce with its trading partners. Collaborative commerce, and its enablement through the application of supply chain process management tools, is not just the next thing, it is the thing that will differentiate an enterprise from its competition over the next 3-5 years.

Unfortunately, many organizations that attempt continuous improvement programs fail in one of two ways, they lose track of the greater plan and deliver incremental solutions that don't stay focused on the "roughly west" direction of the larger picture or they embark on a multi-year "death march" implementation of the end-all solution that is inflexible and doesn't accommodate incremental adjustments in exactly which way the corporation sees as "roughly west". In this brief, we lay out a series of steps/methods that can be used to insure the on-going success of a continuous improvement program.

In this article we will investigate where these investments can be made, how they can be controlled, and what value each can deliver.

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## *Why Invest Now?*

Investing now is more a matter of "move quick at the beginning" than it is "waiting for confirmation that now is right." It is understandable that the resources an enterprise can devote to the investment opportunities were more limited during the economic slowdown the economy has already come out of than during a boom period, but that doesn't mean it is too late to get going. Some specific reasons to consider as to why investing is appropriate are as follows.

First, take advantage of the vendor's pain. Vendors of software and services have felt the downturn, they need to gain new deals to fund their own plans for moving ahead. Now is an excellent opportunity to negotiate mutually beneficial deals – less expensive for the enterprise and revenue generating for the vendor.

Second, get the jump on your competition. Right now your competition is fretting over the economy, wondering whether it has really recovered and they should invest in their own growth or should they continue to hunker down. Get your plans in order, initiate their execution and gain a competitive edge in both timing and differentiation from the competition.

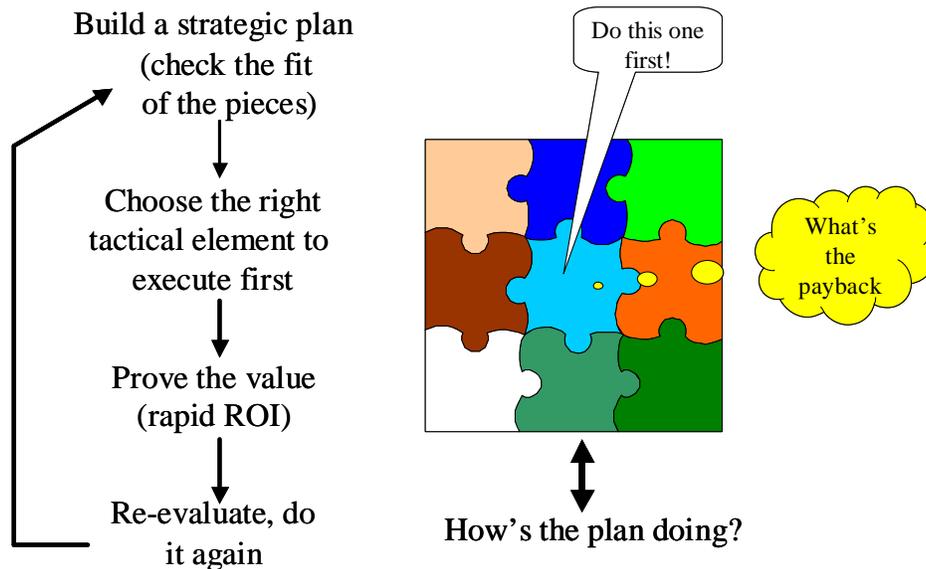
Many larger companies took advantage of the economic slowdown by maintaining or even increasing their investments in technology and process improvements. In fact, a Business Council survey of US Chief Executive Officers discovered only a third had reduced spending on IT projects. Also the study found that over 10% had actually boosted their investments in high technology (Source: Line56 Magazine, May 10, 2001). In a separate article in the same publication (Line 56), Sun Microsystems CEO, Scott McNealey, declined to forecast when the current technology slowdown would reverse, but he added that companies would be driven to reinvest in technology due to its compelling productivity and economic benefits. A March 2001 AMR study found that 87% of manufacturing, retail financial services, and energy companies will sustain or increase budget initiatives that focus on sales growth or customer management, 84% will sustain or increase investments for supplier management initiatives, and 94% will sustain or increase investments to support trading exchange and/or B2B marketplace activities. The problem is that these are quotations from the Fortune 500, not from mid-sized enterprises. The smaller companies re-trenched their efforts, sat back, and waited for things to develop. Things have now developed. If a mid-sized company wants to compete successfully against its own kind and play in the markets the "big gorillas" play in, they need to take advantage of the continued hesitancy of their peers and pursue investment strategies similar to the larger enterprises.

## *Managing the Investments in a Continuous Improvement Program*

It is a fact of life for most companies that during an economic slowdown, funds that can be spared for improvements and investments are significantly reduced. This makes it even more imperative to have good controls in place to manage those funds and investments that are available and to have metrics in place to insure that the desired benefits are being realized. This ability to measure progress based on initial benchmarks of current conditions is key to proving that the incremental improvements demanded year over year

are in fact delivered. We advocate a repeatable cycle, the Continuous Improvement Management Model, which focuses on having a strategic direction that is executed in small chunks with metrics to measure effectiveness as the plan is executed and adapted to changing conditions (see Figure 1).

**Figure 1: The Continuous Improvement Management Model**



Source: TKR Consulting Associates, August 2005

### Execution Steps for the Model

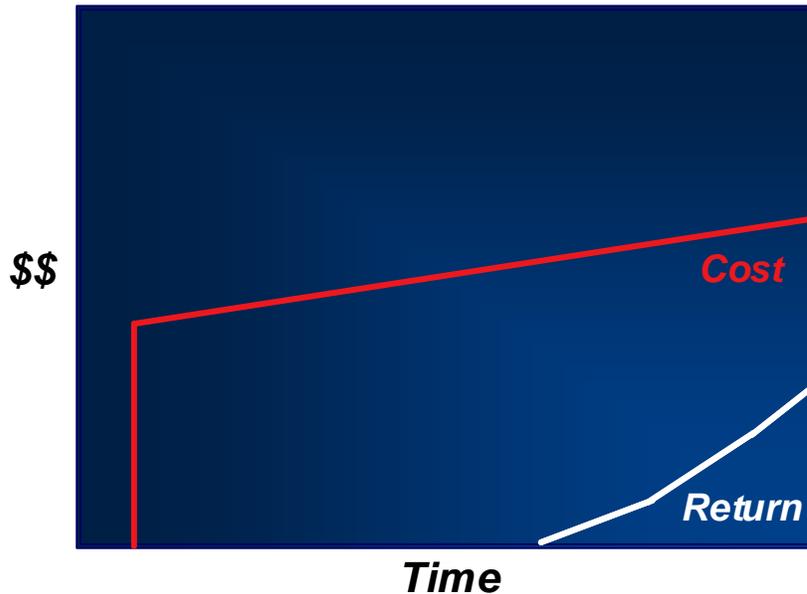
1. First, have a "roughly west" plan that establishes the general direction that the enterprise is going to pursue as well as the role each area will play in moving the enterprise in that general direction. Remember, "roughly west" is somewhere between northwest and southwest; but it is certainly not east. Add detail to the plan by evaluating where the greatest gain or largest pain is – select that project (incremental piece of the overall continuous improvement program) and then execute it. Control the scope of the project to allow it to be executed within 90 days. Such a short duration allows more immediate feedback and it is easier to get organizational commitment and focus.
2. Next, measure those results. Communicate to the enterprise that this specific project of the entire continuous improvement program attained its goals, the plan works, and we are on the right course. Build confidence and commitment.
3. Next, re-evaluate the "roughly west" plan. Maybe what you thought would be the fourth phase should now be the second phase. Keep each phase to 90 days and execute each in turn.
4. Finally, remember that no one can predict all the implications of any one strategy over a 2-3 year period but that should be the time period of the strategic plan. An additional value of the 90-day phases coupled with plan re-evaluation is that you

don't need to nail down all the details or have a highly polished crystal ball. You can avoid paralyzing exercises in contingency planning and get on with leading the company "roughly west".

### *Continuous Improvement Management Model Adds Its Own Business Value*

The typical approach to managing any one project as a part of an overall program is to treat it as its own island and ignore or minimize the interaction or interdependencies with other projects in the overall program. This approach is especially true in the large project implementation scenario. This approach requires a significant capital investment up front, implementation of major pieces of the project with an eye on a "big bang" deliverable release which delays, in turn, the realization of business value (see figure 2).

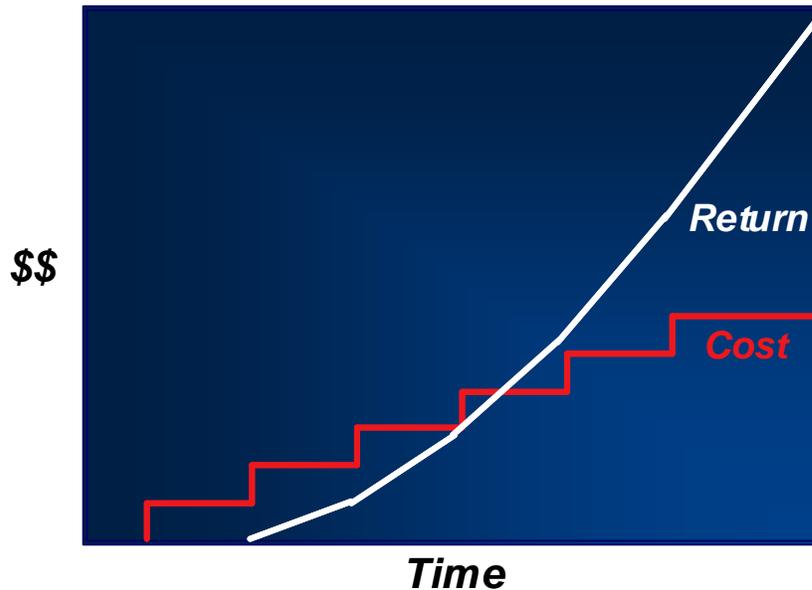
**Figure 2: Incremental Payback**



Source: TKR Consulting Associates, August 2005

Contrast the "Big Bang" approach with one that segments the project or program into a series of deliverables, each capable of delivering incremental value (see figure 3). The result is that capital expenditures are deferred over time and controlled based on the results of the previous phases. Concurrently, anticipated benefits are received sooner, albeit in smaller amounts. The net impact of both of these behaviors is a significant increase in the total value delivered by the project.

**Figure 3: Typical "Big Bang" Payback**



Source: TKR Consulting Associates, August 2005

### *What to Invest In?*

Strategic plans need to start with re-assessing the company direction. Think big – what do you want to be when the dust settles? This current slowdown is not going to drive each company into an alteration of their business model, although some companies will clearly need to be that radical. Next, determine if your operation is ready to execute the plan -- are staffs, plans, procedures and the technology infrastructure ready to support the overall business plan? This is where the business strategy is translated into executable projects. Finally, collaboration is the future. Enabling the enterprise to collaborate, both technologically and organizationally, as well as building the collaboration-based relationships with its trading partners is what is differentiating today. Most organizations are paying this area lip service but few are actually making it happen.

### *How To Get Started*

The first step in developing a program of continuous improvement projects is to develop the strategic plan. Understand in some detail where the corporation wants to be 2-3 years from now. Don't be paralyzed by an analysis to develop precise details. Instead, focus on a "roughly west" plan that covers the future direction in broad, yet meaningful, strokes.

Next, assess where the organization currently is. Examine the solutions portfolio and measure your performance against the possibilities as discussed in the article – The Fulfillment Solutions Framework: Charting a Path to Success. Use the Solutions Framework to find those areas that will impact your enterprise's move to deliver against the "roughly west" plan the most.

## Roughly West: Focusing the Enterprise's Technology Investments

Start small and focus on the "90-day approach". During this period of economic confusion, selecting minimal capital investment projects may be the most prudent for many enterprises. This doesn't mean that these projects deliver minimal return. Often these initiatives are simply good business but get set aside when the organization is busy. Here are examples from the Solutions Framework of areas where you can start:

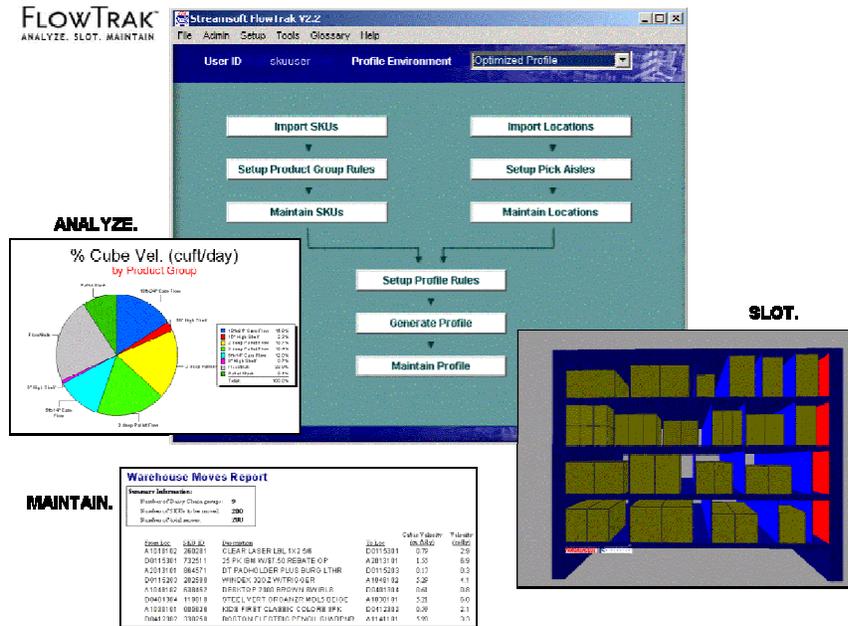
- Distribution Network Optimization
- Operational Assessment (focus on internal improvements)
- Benchmarking
- Labor Standards
- Slot Optimization
- Warehouse layout and efficient flow
- Automated Data Collection
- Integrated Parcel Manifesting/Tracking
- Transportation Management System Implementation or Improvement
- Warehouse Management System Implementation or Improvement
- Supply Chain Process Management (Visibility and Event Management)
- Enterprise Application Integration (one application at a time)

### *Detailed Examples*

Here are ten (10) examples of areas where you can start:

1. Slot Optimization – If you are a piece-pick focused operation, optimal slotting and pick strategy determination is critical for real productivity. Even if you have laid out pick faces to match your picking strategy in the past, normal evolution of the product mix will reduce the previous layouts ability to support efficient picking operations. You should consider a slot optimization project using one of the many commercial slotting applications available today.

**Figure 4: Slot Optimization**



Source: TKR Consulting Associates, August 2005

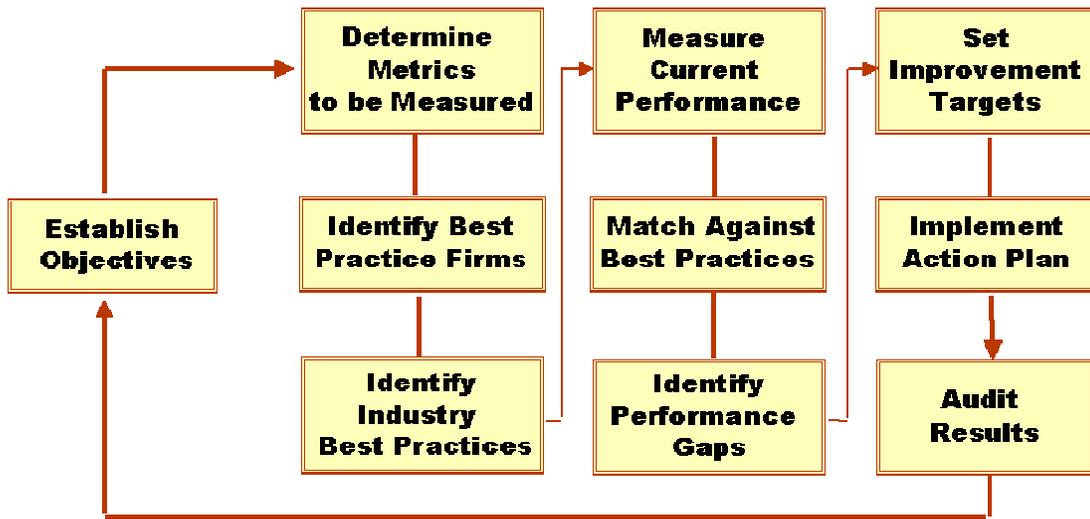
These products can be “rented” for the project duration or purchased if a company intends to use them for periodic re-slotting (recommended). The slotting packages can be used for upfront planning in new Greenfield facilities and/or re-slotting of existing operations. The slotting packages typically optimize SKU-to-location assignment for each, case and pallet pick areas, pick strategy determination (pick path, method, etc.) and allow for analysis against large amounts of data in “what-if” scenarios. In many cases the slotting packages can be fully integrated with packaged or legacy WMS solutions for download of SKU and location data and upload of “re-slot” moves.

The slotting optimization can typically be executed within 2-6 weeks dependent on multiple variables: number of SKUs, locations, data availability and physical layout.

Bottom Line: Expect 10-15% improvement in picking productivity.

2. Benchmarking – How goal focused are your operations teams? Do you have clear metrics for performance? Benchmarking your current operations and defining collective goals for performance is a proven tool for increased productivity. Benchmarking is a personal expression of what is important to a company.

**Figure 5: Benchmarking Process**



Source: TKR Consulting Associates, August 2005

From a wide variety of potential benchmarks specific metrics must be defined, adopted and communicated. Some examples are; fill rates for customer orders, picking accuracy, time to receive and Putaway a PO, pick lines per hour, inventory accuracy, and individual worker productivity targets (refer figure 6).

**Figure 6: Typical Benchmarks**

MEASURE	CALCULATION	TODAY	FUTURE	VALUE
Orders per Hour	$\frac{\text{Orders Picked/Packed}}{\text{Total Whse Labor Hrs}}$	Ord/Hr	Ord/Hr	\$
Lines per Hour	$\frac{\text{Lines Picked/Packed}}{\text{Total Whse Labor Hrs}}$	Lines/Hr	Lines/Hr	\$
Items per Hour	$\frac{\text{Items Picked/Packed}}{\text{Total Whse Labor Hrs}}$	Items/Hr	Items/Hr	\$
Cost per Order	$\frac{\text{Total Warehouse Cost}}{\text{Total Orders Shipped}}$	\$/Order	\$/Order	\$
Cost as % of Sales	$\frac{\text{Total Warehouse Cost}}{\text{Total Orders Shipped}}$	%	%	\$

Source: TKR Consulting Associates, August 2005

A benchmarking project requires 4-6 weeks to execute. You will need existing performance data for analysis. If not available, the project may require 2-3 additional weeks.

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Bottom Line: The simple act of conducting the study, defining the standards, and communicating the game plan can produce as much as a 10% improvement. Enforcing the standards via measurement and constructive feedback will reinforce and increase the improvements.

3. Labor Standards – Historically, labor standards was the realm of the grocery industry. In a lower margin “high touch” business the control and management of the labor component was critical. Today we see the useful application of standards outside of the food industry. Today's standard may be used for traditional labor management, as the basis for incentive based compensation and in some cases as a tool for task optimization. Retailers and others with high each or case pick requirements are good candidates for labor standards. Standards take many forms; benchmarking is a “low-level” form of standards expressed at the company or department level. More advanced labor management initiatives based on minimums, averages, pseudo discrete or real-time discrete standards require more upfront work but will yield greater results. A labor standards project typically consists of three (3) components: standards engineering, an application to capture/record performance and a feedback or reporting mechanism.

Bottom Line: Based on the extent of standards applied and usage 5-10% productivity gains can be expected.

4. Best Practices – When we evaluate the processes used within the warehouse we beg the discussion of best practices. Rather than a nirvana view of doing business, best practices are real and can be applied within limits in most operations. Best practices are often just the application of common sense.
  - Minimize steps in a process
  - Reduce the touch points in handling material
  - Collect and share data in an optimal fashion

Optimal application of best practices may involve or require execution systems ala; WMS, TMS, ADC, etc. While generally conducive for deployment of best practices they are not required.

Bottom Line: Expect 10% or more labor productivity or the attainment of other benchmarks more consistently through the standardization and rollout of best practices.

5. Warehouse Layout – The best supply chain execution software packages and processes will not optimize a bad physical layout and poor material flow. Times of reduced throughput, like now, are the best times to analyze and re layout your material handling systems. The layout process may be manual and instinctive or combined with empirical tools like simulation and slotting to truly test and/or optimize layout.

Bottom Line: 5-15% higher throughput and better support for the slotting strategies (replenishment operations, storage location selection and Putaway, etc.) discussed above.

6. Automated Data Collection – For those companies not currently integrating barcode data collection and tracking in their operations an ADC project may be the answer.

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Many firms especially small to medium enterprises (SMEs) are seeing ways to build applications on top of legacy or off-the-shelf ERP solutions. ADC applications can take many forms with varying complexities.

- Product Identification – For SKU identification/labeling
- Product Receipt – For Inbound Load identification
- Stock Locator System – For SKU to location management
- Pick Management – For wave and pick control
- Cycle Counting – For inventory control
- Vendor Label Compliance – For outbound shipment labeling compliance

Bottom Line: ADC technologies help eliminate data entry errors, streamline user interaction with existing systems, and provide leverage to meet other customer imposed compliance requirements.

7. Integrated Parcel Manifesting/Tracking – Companies shipping predominantly by parcel should leverage new shipping systems. Designed for integration with legacy or standard ERP or WMS solutions, these software solutions provide lower cost, best way selection of carriers. An allied capability is package delivery confirmation. Capturing whether a parcel was actually delivered on time and within the delivery parameters.

Bottom Line: Parcel manifesting solutions help insure compliance with the small parcel carrier's requirements as well as providing documentation of actual shipping usage with each specific carrier. This usage information can be used to negotiate lower rates with the carriers, some times as much as 10%.

8. Transportation Management Systems (TMS) – Within the SCE space, TMS is one of fastest payback applications. Transportation, based on the type of shipping by a company, may be a major cost center. Pure TMS solutions are execution focused translating physical movement requirements into truck and route assignments. A similar body of application services is incorporated in the new generation transportation exchanges. The bid/offer process for transport services based on the Internet can provide high returns.

Bottom Line: Managing the freight movements to optimize the mode selection versus the delivery requirements can produce transportation budget savings of 10-40%.

9. Warehouse Management System (WMS) – The deployment of WMSs will generally exceed our 90-day rule. However, if we breakdown the WMS implementation into "bite size pieces", e.g. inbound stock locator, outbound, etc. and minimize or eliminate customizations to the WMS package, the WMS may be deployed in a useful fashion within 90-120 days.

Bottom Line: WMS provides stricter control, real-time visibility, and management of all operations within the four walls of the warehouse. For many companies, these are not ROI based projects, but are "business-essential" based projects. Despite their integral fit within the enterprises' requirements, WMS can provide inventory reductions, space utilization enhancement, labor/productivity gains, better control of value added services, and functions as the core controlling application for all fulfillment operations.

10. Supply Chain Process Management (Visibility and Event Management) – A key requirement in today's world of increased velocity of business is having visibility of the enterprises raw materials and finished goods, even when those items are not in the direct control of the enterprise itself. In addition to this visibility, it is equally important to be able to respond to upsets in the flow of those materials through the supply chain to insure that the chain functions smoothly, despite the upsets. Visibility and event management applications enable this capability.

Bottom Line: Inventory reductions, speed of response to changing market and supply chain conditions are only enabled with effective visibility and event management tools. Executing these functions without these tools is possible but inefficient and inadequate. Failure to cope with these requirements is to differentiate the enterprise negatively, i.e. give the competition the edge because they can and you can't.

## *Conclusion*

The combination of a "roughly west" plan with a continuous improvement program for managing sequenced phases of many projects produces the multiplication effect of deferred capital expenditures with more rapid recognition of project benefits. In short, it produces greater business value than traditional project execution models. In addition, this approach allows you to maintain greater control over the scope of each individual project and thus have greater control over project costs. This limited duration, phased approach allows the enterprise to be more flexible in changing its tactical execution plan to meet changes in the strategic requirements. You will stay focused on the greater goal of delivering measurable business value to the enterprise.