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# Are Yesterday's Solutions Conflicting with Today's Challenges?

## Managing Change as a Strategic Advantage in Global Outsourcing

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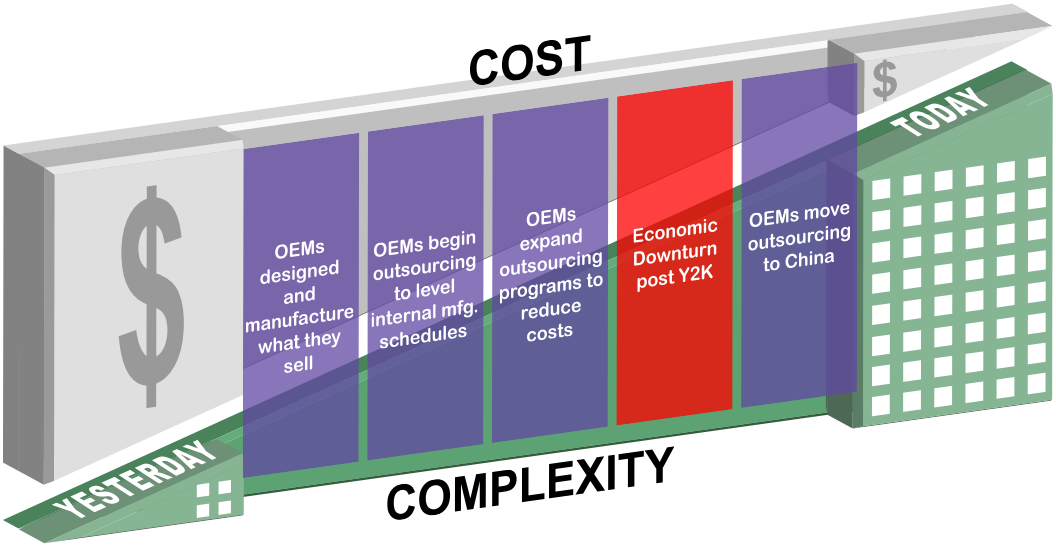
In the beginning, OEMs designed, developed, and manufactured most of what went into their products – hence the name Original Equipment Manufacturer.

Then as technology evolved and became more pre-packaged and ubiquitous product differentiation shifted from a matter of functionality to price-verses-performance. This resulted in a high degree of product churn as life-cycles began to shrink.

As a consequence, sales forecasts became increasingly unreliable due to demand fluidity brought about by rapidly altering user preference, which made the utilization rates of the OEM's internal factories difficult to predict and control.




In response OEMs sought methods to shift fixed-costs to a variable basis and the outsourcing industry gained broader acceptance. A strategic shift in approach that encouraged EMS companies to expand their value propositions and OEMs to shrink their investment in internal capabilities. In many cases resulting in OEMs fully dismantling their internal operations and/or launching large scale divestiture programs as a consequence.

These actions coupled with the impact of globalization, and an unprecedented economic downturn post Y2K, created a supply-demand imbalance in the EMS industry (favoring the OEM) and prices for manufacturing services dropped precipitously.

This advantage was embraced by OEMs who leveraged the windfall to help off-set eroding margins. So when EMS pricing reached the bottom of the curve, OEMs had little choice but to shift away from a local supply-strategy and transfer outsourcing requirements to more regionally remote, lower-cost solutions such as China.

All of which has resulted in a complex manufacturing scheme that now plagues many OEMs, who struggle with a cascading set of customer expectations that are difficult and expensive to fulfill.

## POTENTIAL SOLUTIONS

While adding inventory to the supply chain may look like a quick-fix to the challenges created by remote supply solutions, it is not. In practice, it tends to make companies less responsive to market dynamics—not more.

Yes, you read that correctly, adding inventory reduces a company's ability to respond to the marketplace. And it does not matter which way the market moves. How can this be?

- When an up-tick in demand occurs, even if you have every line-item on hand to build the product, it's probable that you will be limited by the availability of short term manufacturing capacity.
- When a down-tick occurs, inventory (in spite of its classification on the Balance Sheet as an asset) becomes a major liability to the enterprise. This is true for three reasons:
    i. Inventory uses up a company's liquidity,
    ii. Inventory consumes administrative and physical resources, and
    iii. Inventory is perishable and decreases in value the longer it sits.
- When the market goes quiescent, like all complex systems, it begins to evolve. Current products get updated, new products are released, and old products get eliminated. None of which bodes well for inventory sitting on the self.

So if increasing inventory levels isn't the answer, what other options exist? Two possibilities come to mind:

1 Reduce the complexity of the supply solution by dramatically shortening supply lines and re-integrating manufacturing into the core of the enterprise. An option that is unlikely as it would significantly increase costs for most OEMs without automatically assuring an improvement in flexibility and responsiveness.

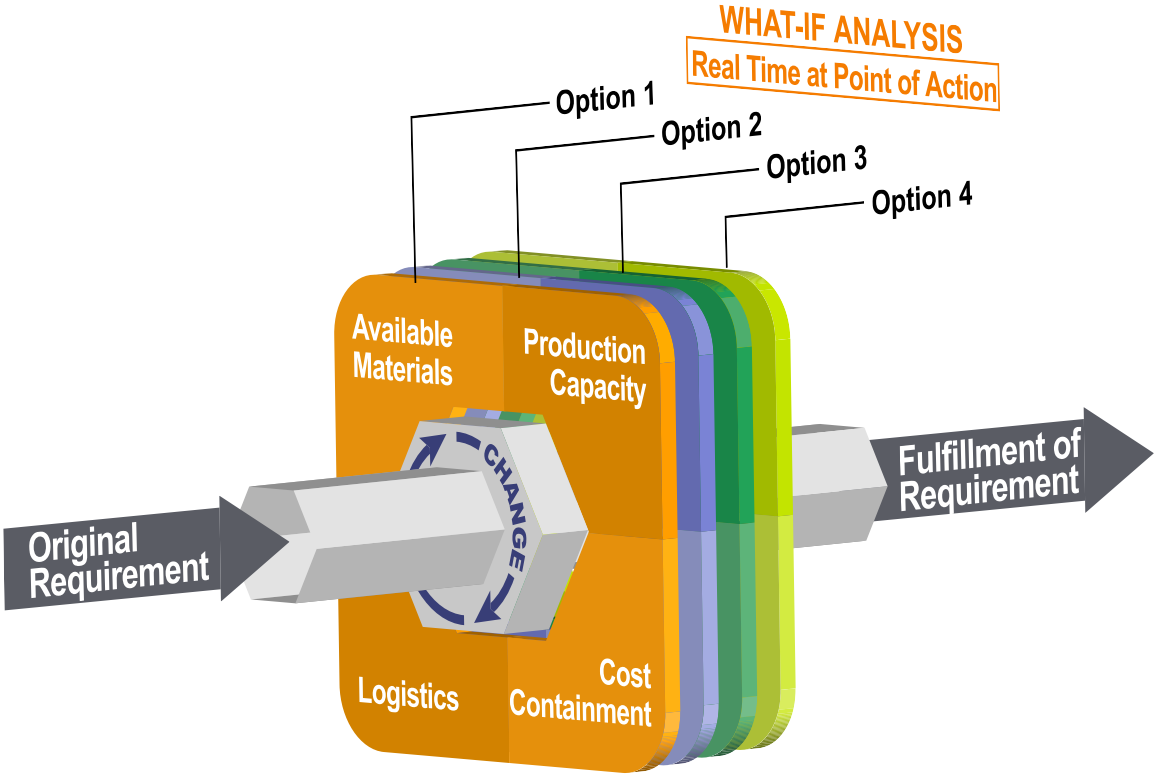
2 Change the way change is managed. Change in customer demands and global supply conditions need to become the focus-of-opportunity for the enterprise not the issue that de-focuses it. And as traditional solutions fall hopelessly short of accomplishing this goal, what is needed is a methodology centered on the critical inflection point of manufacturing execution. So that change works to the competitive advantage of an organization rather that against it.

One such approach in use today is called Response Management, a what-if modeling technique allowing OEMs, and their EMS supplier, to quickly weigh resources and map alternatives to shifts in product demand or supply availability.

## RESPONSE MANGEMENT

In the simplest terms, Response Management provides organizations the ability to rapidly test and score options for responding to change by identifying what's possible today with today's resources. An issue too often handled by non-collaborative, difficult to replicate, ad hoc solutions that erode margins and compromise corporate objectives.

In other words, Response Management facilitates companies switching tactics from firefighting when a change-based opportunity occurs, to evaluating and crafting solutions that facilitates the rapid deployment of resources to the appropriate point-of-action in the manufacturing process.




## HOW RESPONSE MANAGEMENT WORKS

Response Management is generally executed with commercially available software tools employing fast algorithms that extract, format, and display the data needed by a broad cross-section of OEM and EMS personnel to assess alternatives, craft solutions, and launch point-of-action decisions in less time and at less cost than is possible with batch-based, demand driven planning systems.

Most often these products accomplish this by incorporating user friendly, simple to operate interfaces, like Web browsers, spreadsheets, and scorecards that update and cross-couple (where necessary) with live data feeds from multiple sites, thus facilitating real-time analysis of supply, demand, and manufacturing capacity—even in the most complex of outsourcing models.

Response Management is also one of the few tools available that cost-effectively addresses several of the challenges distinctive to outsourcing, as it allows OEMs and their EMS supplier to collaborate on:

- Ensuring adequate material coverage throughout the supply chain through access to data from multiple legacy systems
- Managing inventory liability via tracking of demand changes and lead times throughout the production process
- Enhancing cut-in timing of lower-priced material by monitoring and modeling live EMS inventory data and production plans
- Optimizing execution of product introductions or end-of-life, engineering changes, and sales promotions through evaluation and scoring of multiple what-if alternatives

Additionally, most Response Management software tools are upgradeable with applications that enhance the basic tool-set to meet special requirements. For activities like:

- Identifying component shortages where a substitution opportunity exists
- Enabling demand/capacity balancing by simulating options based on capacity requirements planning data (or CRP)
- Doing global analysis by providing real-time visibility into the production and supply constraints across the entire supply chain
- Simulating the impact of pending and released engineering changes
- Pooling of remote inventories while taking into account prior customer or contract-related commitments
- Tracking and controlling the configuration of every unit of production within an environment where customer orders are frequently reconfigured

## IN CLOSING

Business is an inherently risky proposition and today's maximum velocity business models based on complex, highly leveraged solutions make the situation even more perilous. Never the less, the trend is clear – OEMs continue to outsource more functions, more often, to more geographically remote locations than ever before. And while Response Management may not be the only solution to dealing with the issue of change, if you're using a complex, multi-site, global outsourcing solution—you might want to give it a look.

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