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## **Global Logistics Synchronization - The Advantage in Global Manufacturing**

Have you heard the President's challenge to our nation to put a man on Mars? Can you imagine the engineers designing a Mars space mission **precisely** calculating the physics of the perfect terminal velocity for the rocket to exit the earth's atmosphere, but the mission fails because the rocket is **inaccurately** aimed at the wrong planet? That's not unlike what many manufacturers are doing with their manufacturing strategy and execution.

When global manufacturers don't fully consider the power of synchronized transportation in their manufacturing strategy and execution they achieve cost precision but suffer supply chain inaccuracy. We routinely observe **precise** calculations of quick returns using low manufacturing costs (often in a far off land) without **accurately** understanding the full supply chain hazards resulting from long lead times. The resulting business risks range from missing a few promise dates to a customer to complete loss of manufacturing and customer service intellectual capital.

### **Scenario Company A and B Backgrounds**

Company A and B illustrate the rich sources of competitive advantages that can be derived from synchronized logistics in global manufacturing. Both companies design products domestically and then fulfill using outsource manufacturing in Asia. Both companies also use 3<sup>rd</sup> parties to distribute and transport raw materials and finished goods.

Company A designs a hi-tech product for manufacturing in China and has it fully packaged and shrink-wrapped in China then transported through a 3<sup>rd</sup> party freight forwarder to U.S. and European customers. Company A keeps 100,000 items in finished goods at \$10 each for a total of \$1M of total working capital. This inventory works to cover the 6 week lead-time and demand variability of customers. Company A has also has a senior management team chasing isolated cost savings.

Company B designs the same product, but understands the logistics constraints of maximizing air and sea freight containers –the coordination of key components and the advantage of tailoring the product to individual customer desires. Through engineering of the bill of material to consider logistics Company B keeps the 10 top level components in inventory rather than a finished good. Company B has a coordinated view of the total working capital required to run the business and on the landed cost to customers.

### **A Comparison of Results:**

#### **The benefits to Company B**

- Is only required to keep 60 percent (or less) of the working capital (\$600K) to meet needs vs. the \$1M working capital requirement for company A.
- Company B can actually fulfill a much wider variation of demand and preference of the customer through use of postponed domestic configuration and assembly.

- B maintains much more involvement, control of the intellectual property of how to manufacture and continually include new innovations in global transportation lead time management into profitable choices they can provide their customers.
- Company B's knowledge creates a renewable almost unlimited strategic weapon in sale by providing customer choice that is profitable for Company B
- Company B's knowledge of the transport options allows them to actually have lower transportation costs by designing the product to maximize cube of air and sea freight containers and lower transport tenders for like service.
- When a new unplanned order occurs! Company B can check real-time inventory and transport options and commit a feasible date and quantity to the customer. Company B therefore fills more unplanned orders profitably.
- And, what might be the richest area of competitive advantage, Company B's ability to intelligently select transportation options that will leverage the freight forwarding knowledge to assist company B in meeting lead times and synchronized manufacturing. Company B by arming itself with knowledge has truly learned an important variation on the logistics commercial –What can YOU do for YOU ”

### **The risks to Company A**

It is quite possible Company A's lack of considering transport lead times in global manufacturing is more damaging to its employees and shareholders than a failed mission to Mars.

- Company A begins to lose knowledge of how to manufacture since product arrives in the US or Europe shrink-wrapped vs. ready to be configured. Over time this “dumbs down” operational jobs and the ability to meet changing customer needs is eroded.
- Company A must, because of extremely long lead times, sell customers the same or largely the same product. This sales approach begins to lose market share or at best must push product on customers creating a more adversarial customer relationship
- Or what may be worse - Company A's sales force struggles to differentiate themselves and now begins to promise whatever to get orders without consideration of logistics feasibility and profitability. An acceleration lose / lose game of missed lead times, expectations and losing a dollar on every transaction and then trying to make it up on volume. ”
- Company A must make bigger and more frequent bets (forecasts) and guesses of what customers want in the form of inventory. It only takes one miss to sink a quarter, sink a product line or sink a company?
- Competitors (domestic or foreign) now have an entrée to position themselves in this new market and to exploit when company A stumbles. If you don't believe this to be the case do a survey of where the high value products you see at BestBuy and Wal-Mart are manufactured and for what companies.

### **Lessons learned to use global logistics synchronization to create advantage**

It is possible to improve customer service while minimizing total company inventory and allow the US manufacturer to maintain and strengthen its manufacturing intellectual capital.

- Use information technology to ensure that you, your employees and your partners are being accurate before you are precise. It is possible to use logistics information much more like how people Google on a personal basis: searching for accuracy and communicate before burying information into a spreadsheet to be precise.

- Strongly consider that in an outsourced manufacturing and logistics environment your use of information technology is dramatically different than simply installing packaged ERP or APS software.
- Consider you no longer do but must manage attainment of what others do? There are dramatic differences and don't forget what Galileo said: *“that that does not get measured does not get managed ... and furthermore If you cannot measure it find a way to measure so you can manage.”* These are wise words for the outsourced supply chain.
- Model your working capital consumption using some basic inventory planning models before logistics synchronization and then after. The after should be grounded in feasible improvements but this establishes a feasible stretch goal for senior management to improve customer service and lower overall inventory working capital requirements.
- Build through all means available: an operating culture of managing inventory before it is built not after? Again, this is where information technology in an outsourced supply chain is dramatically simpler BUT different. Don't expect your ERP or advanced planning tools to help as they may actually be a hindrance to your success.
- Design a process to select transport partners strategically. Select transport freight forwarding partners that use their knowledge to accomplish your goals (e.g. like working capital reduction) not their goals maximizing their profitability. Remember a transport partner who is on-time 99 percent of the time is a completely different asset than the one that is on-time 80 percent of the time particularly in regards to managing inventory and working capital.
- Understand that a global freight forwarder is primarily a buy low and sell high broker. Even the best freight forwarder has barely scratched the surface in serving your working capital needs.
- Obtaining your margin and competitive advantage will likely be a product of your own innovation and ability to measure and manage results. The big transport commercials on TV are probably a note that there is huge opportunity but without first arming yourself with knowledge, the opportunity will probably go to the transport buyer who paid for the commercial.
- Your S&OP master plans must be re-designed, simplified, and made communication friendly to work in the outsourced supply chain. The plans should be constrained by partner feedback, rather than by black box operations research models.
- Don't let unseasoned IT staff talk you into waiting for IT standards before you undertake these initiatives. The information sharing is remarkably easy if the goal is well understood by both outsourcer and provider.
- There is no best practice. It's all about competitiveness and business advantage. Start now and your efforts will result in financial advantage and improved supplier and customer relationships.

In addition to great quantitative financial results, you can also stay strategically involved in the manufacturing process to retain and enhance the intellectual capital of how to manufacture. ” Maybe our policy makers in Washington could consider incenting manufacturers to innovate in this area. Such innovation leads to sustainable business models, profits, embraces the reality of global resources and economics and has the potential to create new sustainable jobs that assist US companies that are competing to win.

A space mission goal to Mars makes great political theater, and yes it would bring the rewards of scientific innovation. However, engineering the physics of the global manufacturing/logistics realities could provide real wealth and a catalyst for the practical innovation that has always built U.S. competitive advantage. Perhaps, we can do both. The logisticians will undoubtedly dream up innovative ways to conquer the many months of transport lead-time from Mars.

### **About the Author**

*Jon Kirkegaard is the President and founder of DCRA Inc. is a Dallas based consultancy and developer of software solutions to assist manufacturers and service providers in leveraging the outsourced supply chain for competitive advantage. Mr Kirkegaard's career spans over 23 years in industry operations including Conoco/Dupont, Booz-Allen & Hamilton as well as early founding and senior roles at leading supply chain software suppliers such as i2 Technologies, Viewlocity and Vizional. DCRA Inc. was founded to meet client's requests for a feasible balance of the rapid solution promise of software - with the trusted delivery of management consulting. You can contact Jon at [jonk@dcrasolutions.com](mailto:jonk@dcrasolutions.com) or [www.DCRASolutions.com](http://www.DCRASolutions.com)*

### **OPTIONAL SIDEBAR:**

"In less than 12 months the DCRA lead combination of process optimization and the DCRA supply chain solutions allowed for the internal and external partners processes and supporting systems to effectively collaborate. A key example was a more aggressive (weekly) planning of the manufacturing, material and logistics (using DCRA's S&OP solution) - which drove the following results -

- Improved inventory turns from 4 to 32.
- Reduced inventory holdings from net \$63,000,000 to \$8,000,000.
- Lowered transportation costs per unit by 61%.
- Improved operating cash flow from negative \$48,000,000 to positive \$10,000,000.
- Achieved operational profitability in July 2003.
- Improved DSO from 129 days to 47 days.
- Cut accounts receivables from net \$67,000,000 to net \$33,000,000.
- Reduced accounts receivables reserves from \$11,000,000 to \$2,000,000.
- Improved working capital from \$64,000,000 to negative \$20,000,000.

Furthermore, the success of the program resulted in the marketing of the supply chain advantage to the major Siemens customers with a view to add even more value to the business relationship". Herman Stiphout – EVP CFO Efficient Networks now Siemens Subscriber Services.