

An Unpublished Blog:

Supply Chain Dynamics; Key trends through 2025

Recently I have participated in several conference sessions which were taking a very long-term look at Supply Chain Operations and risks out 15, 20, maybe 25 years. Taking that long-term look, there are three words which will increasingly become standard in the Supply Chain Lexicon: collaboration, transparency, and green.

What is the evidence for each of these?

Collaboration—is used everywhere today, whether the meaning is understood or not, whether the attitude is internalized or not. It started with retailers, led by Wal*Mart, sharing its item sales and inventory information with the vendor who supplied that item. It then moved to CPFR— Collaborative Planning, Forecasting, and Replenishment; this turned out to be 95% process with some software facilitation, but now, 15 years later, does seem to be taking hold in major accounts.

Transparency—this has been a creeping phenomenon, accelerated by the Sarbanes-Oxley Act here in the US, but a truly global movement nevertheless. The former command economies have had some difficulty understanding its value, but so have many capitalist system participants, to whom any kind of transparency can become a competitive leak.

Green—the 2007 Nobel Peace Prize sums the impact quite nicely.

To these could be added a fourth term—Flow—but it will be not so much a description of processes, as it will be a radical transformation of the way economic value and performance is measured.

The three trends:

1. **Inventory measurements will increasingly be in terms of “Flow,” in motion, versus the current practice of measuring inventory as a “Stock” or a pile at rest.**
 - a. This will change the math on many of the currently used forecasting techniques, as well as management measurement techniques
 - i. The change will move the math into the world of calculus and dynamic analysis techniques, and stretch it from the current arithmetic linear regression world
 - ii. Measurements will be “rate per time period,” rather than “X” quantity on-hand at a moment in time.
 - b. The language will change dramatically—perhaps the field of Fluid Dynamics or some other discipline will lead this change
2. **Real-time cargo location and condition information will become increasingly important,** as will the business decisions which are based on the use of this information
 - a. This type of information is one step beyond RFID; RFID is driving using the rear-view mirror—which is often far better information than otherwise available, but its dependence on a massive reader infrastructure is an obstacle
 - b. Systems such as the GlobalTrak System from SPC [my responsibilities] provide the real-time data about location and condition—proper temperature and other environmental factors
 - c. The decision support systems that would utilize this information have not yet been created, or the currently extant systems have not yet been stretched to utilize this real-time information

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- d. Current systems which are EDI-based, such as the Des Cartes System, were huge advances when they were created, but can now be stretched into the real-time operating world
- 3. **There is beginning to be a movement towards a world of “Data Pooling,”** which will become increasingly important to the world of Global Commerce
 - a. One example of this type of collaborative structure is Global Data Synchronization, which is built on a set of “data pools” in which various companies store the basic item set-up information about their products, and which publish this information to properly credentialed trading partners which require this information.
 - b. RFID is another example of this, since the biggest advantage of RFID is in the cross-enterprise use of absolutely the same electronic representation of the physical product, which is the RFID data
 - c. The forthcoming example is the industry buzz around the creation of data pools for objects in motion—containers, rail cars, truck trailers, barges, etc—such information being supplied by the various entities that handle some portion or some aspect of the journey for said object—such as the manifest information, the shipping schedule, the stow plan on board a ship, and many more—and the information then being accessed by appropriately credentialed entities that have some need for particular data elements.
 - i. The Dept of Homeland Security proposal voiced by Asst. Secretary Michael Jackson for a Global Trade Exchange (GTX) is one of these proposals
 - ii. The International Container Security Organization, in collaboration with System Planning Corporation, is running some very preliminary testing of data exchange messaging, based on the type of data pool interoperability which is at the heart of global data synchronization.

Dear Reader: Your insights, your perspectives, are welcome.

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