



Community Voice

The Anatomy of Supply Chain Technology

By Leon Turetsky

Today, there is much talk about global supply chains and the need to source overseas to remain competitive in the marketplace. With the transition to manufacturing around the world, companies have had to become import and export experts, explore preferential trade agreements, calculate landed costs, rely upon instruments such as letters of credit and drawbacks, and comply with ever more complicated security regulations that guard against individuals and countries with links to terrorism gaining access to information and products that could jeopardize the security of the US. Goods must be classified, screens against denied party lists must be performed, and the need for an export license must be determined and so on. Supply chain technology has emerged as an automated means to comply with regulations, generate all the documentation they demand and give companies global product visibility so they know exactly where their goods are at every point along their journey to the marketplace.

To many the term supply chain technology is a foreign concept. How is it different from other applications on the market? What is it designed to do? Is it just another form of enterprise resource planning (ERP) software? What should be looked for in the solutions being considered by the executive who must purchase supply chain technology for the firm? The questions can be endless and overwhelming.

This article dissects supply chain technology into its primary elements and explicates their purposes. In this way, executives charged with exploring the wealth of supply chain technology available on the market today can institute an informed technology search, armed with required basic insights. The discussion presents the essential features that

comprise the minimal acceptable functionality a firm needs and stratifies them by purpose. It also offers some additional considerations executives need to contemplate when seeking to enhance their firm's operations by automating import and export functions with global trade management technology.

Supply Chain Constituents

The global supply chain can be roughly divided into two constituent elements: compliance and execution. This division is intellectual at best, as interdependencies between the two are undeniable and far ranging. Yet distinctions do exist, prompting technology developers to implement separate functionality for each element within their products. This principle of technology design acknowledges that firms operating in today's global marketplace must achieve "good" grades along both continua in order to be successful. Otherwise, excessive charges and delays, which add yet another layer of financial cost and erode the profit that overseas manufacturing sought to assure, will accrue to enterprises.

Compliance

Interestingly, compliance is often viewed as the lesser portion of the supply chain. However, it can account for a disproportionate number of unexpected or unanticipated problems. These difficulties arise from ever-changing rules and regulations instituted by government and financial entities, not to mention standards imposed by trade organizations and specific industries. Simply stated, the

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multi-national nature of global manufacturing and distribution exacerbates a company's efforts to be compliant.

Three problems dominate the issue of supply chain compliance (SCC): volume, complexity and instability. Given their overriding influence, it truly is impossible to manage SCC without a computerized solution. Some may argue that supply chain participants (SCPs) can be held responsible for proper implementation and execution of their portion of SCC. But, as is the case with too many independent generals, there must be a single point of command or confusion will predominate.

Fortunately, the point of ultimate responsibility is easily identifiable: importers or exporters (depending on the direction of trade). Why? They alone hold the burden of legal proof, and they alone hold the obligation to pay the financial price of missteps. Therefore, importers and exporters must analyze, manage, control and troubleshoot their global supply chains end-to-end. To do so effectively they need appropriate tools, content and a knowledge base. It is here that an automated Global Trade Management (GTM) system can provide the invaluable competitive advantage that can lead to their company's success.

One Size Doesn't Fit All

Not all GTMs fit all SCPs. Many factors affect the suitability of a particular GTM system for a specific SCP. Nevertheless, several features approach the realm of "must haves":

1. A centralized database. The database serves as a data warehouse for all information provided by and

distributed to SCPs. To establish efficient and reliable compliance procedures importers and exporters must possess the ability to pre-classify products, pre-screen SCPs, determine supporting documentation requirements, store documents in house and use built-in analytical capabilities.

2. Control over information. Security, integrity and availability are critical when it comes to supply chain information. Provisions must be made to prevent redundant data, and trading partners should only be able to access information relevant to their specific activities. The Internet provides a perfect vehicle for SCPs to enter information remotely while affording companies the ability to limit their access to the full range of warehoused data.

3. Complete automation. Companies deal with massive quantities of data; quantity can originate from both the number of transactions and the size of individual transactions. To handle volumes of data, there must be seamless connections between functional modules and integration with ERP systems. Perhaps most important of all, the GTM system must allow the importer or exporter to manage trade by exception; that is, a user action should only be required when an item falls outside the parameters they set within the system. GTM systems must be able to reconcile commercial invoices against purchase orders in terms of prices and quantities; automatically create letters of credit (LCs) and associated amendments; automatically verify LC or Open Account conditions and ensure regulation compliance before releasing payment or accepting goods; automatically screen against denied party lists;

and verify license determinations, among other basic capabilities.

4. Approved links to government and regulatory agencies. Only a certified automated broker interface (ABI), which links the system electronically to US Customs, or similar mechanism, guarantees the input of reliable, up-to-date compliance content within the GTM system.

5. Rich compliance content. To perform complex compliance verifications, identify preferential treatment programs, and prepare and submit required documentation in a timely manner, the GTM must possess the full range of timely compliance material.

Execution

The execution portion of the global supply chain is notoriously prone to mishaps. Coordinating multiple SCPs across diverse cultures and distant locales adds to the unpredictability and difficulty level. Key factors that contribute to execution problems are incompatible or outdated systems and the extent to which SCPs are allowed to control their own business processes.

One Point of Control

The more centralization importers and exporters can achieve, the more control they can exercise. The best way to achieve centralization is via a functionally integrated supply chain-wide system with the following essential features:

1. Diverse, integrated modules with rich functionality. Ideally, the GTM system should possess a separate module to perform each different function across the supply chain continuum from start to finish. These dif-

ferent modules should allow importers and exporters to not only source products and issue purchase orders but also manufacture, export, transport, import and distribute goods. At a minimum, financial, procurement, logistics, inventory, global visibility, exporting and importing modules are necessary.

2. Predefined integration points. Given the heterogeneous interfaces a GTM system must accommodate, flexibility is paramount. The system must possess multiple, predefined integration points in and out of the system to accommodate the many integration formats inherent in EDI/EDIFACT/XML and a host of other proprietary solutions.

3. Automated links. Links enable electronic communication among SCPs as well as between SCPs and government agencies (such as Customs and the Census Bureau), brokers, carriers, banks, freight forwarders and so on. Automated links facilitate communication and allow validation of all business processes.

4. Shared information. Sharing product databases, participant profiles and templates, augmented by simpli-

fied data entry and collection procedures, reduces data redundancy and increases integrity of the information.

5. Global visibility module. This tool is the most important of all, giving users the ability to predict supply chain bottlenecks and solve them before unwanted delays occur, which often translate into increased costs.

The Overall Solution

An automated solution brings together not only compliance and execution but also helps the importer or exporter tighten all other supply chain links. At the same time, the visibility of the Web adds clarity in today's increasingly fast-paced trade environment.

An automated solution's method of delivery is less important. However, owning the GTM system offers better integration and automation capabilities. It also is less costly over the long run, especially when the volume of transactions a company performs is great. On the other hand, ASP and SaaS solutions offer lower start-up costs and eliminate everyday system support issues such as backup and

server hardware maintenance. These offerings can be a source of concern should the vendor go out of business, however, as the question of what your company will do without access to a system that's become a core component of your company, not to mention the repository of all your data, becomes primary.

There is no substitute for a quality GTM system. It alone has the power to provide importers and exporters the competitive advantage they need in today's global marketplace, if the anatomy is right.

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