

Sure, you've sold it, but now you have to ship and deliver it: E-commerce comes to transportation and logistics

By Scott A. Eliff

The fundamental promise of e-commerce is to empower the customer. In transportation, logistics and other “behind the scenes” aspects of e-commerce, new services and capabilities are beginning to fulfill this promise, not just for Fortune 500 companies but for small and medium firms and for those with specialized requirements as well. This article outlines some of the latest developments in this fast-moving field, and provides some background and context to help companies better understand the alternatives available to them today.

Armed with just a mouse and a web browser, both businesses and consumers can now access an almost unlimited choice of products and services, compare prices and features on a real time basis, and execute transactions nearly instantaneously. In many industries, this increased competition has helped squeeze out inefficiencies, lowered prices, and in effect leveled the playing field for the “little guys” – medium and small businesses and individual consumers – who did not previously have the time or resources to manually access the full potential of the marketplace. Now they can use the Internet to more effectively “pick and choose” what best meets their needs.

Making purchases, whether clicking a book choice from Amazon or conducting an auction for supplying industrial widgets, has been the focus of e-commerce to date. What happens “behind the scenes” in processing orders, shipping products, storing and moving inventory, and related activities is a mystery to most of us – a mystery that comprises about \$1 trillion in today's economy, nearly 10% of Gross Domestic Product.

Sure, you've sold it, but now you have to ship and deliver it. What services and methodologies are available to help shippers meet these e-commerce challenges?

Fortune 500 corporations have long employed a variety of approaches to help them gain a competitive advantage in managing their supply chains and satisfying customer needs. But many of the “traditional” approaches are expensive and simply out of reach for most companies. What's new is that e-commerce is bringing transportation and logistics services and capabilities that are available to *everyone* -- big and small – and are thus helping to fulfill the real promise of e-commerce.

From “e-gistics” auctions and marketplaces, through software and support tools available over the Internet, and including a whole new category of Internet Logistics Operators, this article profiles some of these exciting new approaches and helps you identify which approaches might provide the greatest value for you.

The Situation

There are few better candidates for e-commerce than the arcane and traditional industries of transportation and logistics services. Not only are they a significant component of the economy, they are especially ripe for new ways of doing business.

Transportation. Despite all the advertising and the everyday visibility of overnight package delivery services, over 80% of America's freight is shipped by truck. At \$500 billion, truck transportation is the largest single component of overall logistics costs – and has all the characteristics that you'd want if you were seeking to build a better mousetrap:

- The customer base is large and diverse, with over two million businesses that ship products. While Fortune 500 companies are the biggest shippers, of course, small and medium sized companies that may typically spend say \$1-10 million in transportation are a substantial share of the overall market. For these shippers, e-commerce should help with the often difficult task of finding trucking companies that can provide both superior rates and consistently high quality.
- The supply market is extremely fragmented, with nearly 200,000 separate trucking companies today, 95% of which have fewer than 25 trucks in their fleet and serve limited areas of the country or specialized market segments. Using e-commerce techniques should help both buyers and sellers better find each other and set prices on a more competitive basis.
- By some accounts, nearly 30% of the miles traveled by these trucks are empty, not loaded with product on board but still incurring costs for drivers, gas, and depreciation. Using e-commerce should allow better matching of supply and demand in a way that more efficiently fills available capacity and reduces total costs.
- As an industry that has a long history of regulation, transportation pricing still tends to very complicated, with a variety of tariffs and discounts that vary by distance, weight, type of product, level of priority, need for specialty services such as unpacking or set up at the destination, and related factors. For small companies shipping products in less-than-truckload amounts, for example, pricing has used a National Motor Freight Classification system that includes over 10,000 different product codes and classifications – and has spawned an entire industry devoted to auditing the compliance of shippers with the system. Surely e-commerce can develop a simpler approach to this whole process.

Logistics. As many consumer dot.coms learned last Christmas, and as many business-to-business shippers are learning every day, getting orders is only the beginning. Fulfilling them – quickly, completely, accurately, reliably, and efficiently – is the key to ongoing success. E-commerce has tremendous potential for this full range of logistics related

activities – warehousing, inventory management, picking and assembling orders, and so forth:

- In industry and after industry, studies have shown that there are significant levels of total inventory in the overall supply chain. While these “buffer stocks” help ensure that stores and factories and other customers have products when they need them, they also represent a cost that everyone pays. The overall cost of storing, financing, handling, and insuring inventory represents about \$400 billion today. E-commerce can no doubt play a role in increasing the efficient use of inventories and drive them down to lower levels.
- Warehouses and distribution centers comprise literally *billions* of square feet of space today. What’s more, it’s a growing industry: first, more and more products are being produced and held in anticipation of that happy day when the consumer or the business buyer clicks on the “Submit Order” button, and second the size of those orders and shipments is decreasing, leading to more and more total activity and resources needed to handle all those individual orders. As with transportation, e-commerce should especially be able to help small and medium sized businesses to develop relationships with the diverse set of warehouse providers that they need to handle their products for customers all across the country.

Categories of services and solutions

No wonder then that so many new “e-gistics” companies have entered the fray with offerings of different kinds to address the situations outlined above. Which ones best meet your needs, especially if you are smaller or have specialized needs smaller and medium sized companies, requires looking at two primary kinds of questions:

- **What type of solutions do they offer?** *Contractual* solutions that involve multi-year decisions and sometimes substantial capital, versus *transactional* approaches that provide value on a more “virtual” one-situation-at-a-time basis, with minimal investment.
- **What kinds of companies are providing the solutions?** Solutions offered by *intermediaries* and others that focus on process improvements and better transportation and logistics support, versus *direct* solutions offered by companies who actually take responsibility for transportation, warehousing, and order fulfillment.

The following table outlines these dimensions and the types of services offered in each category. The discussion that follows will address each of these categories and provide examples of traditional and/or “e-gistics” solution providers.

Different types of transportation and logistics solutions

Type of Solution Offered	Contractual	<ul style="list-style-type: none"> •Software / IT •Mgmt. Consulting •In house staffing 	<ul style="list-style-type: none"> •Core carrier programs •Distribution networks •Outsourcing
	Transactional	<ul style="list-style-type: none"> •Auctions •Marketplaces •Process improvement / Internet IT 	<ul style="list-style-type: none"> •Internet Logistics Operators (ILO)
		Intermediary / process improvement	Direct / transportation and logistics provider
Type of Company Offering Solution			

Contractual approaches

The problems noted above are not new ones for most companies, and Fortune 500 and other large companies in particular have devoted substantial effort to addressing them over the past several years, both through process improvements and through direct provider services.

The major process improvement techniques and resources that have been devoted to these transportation and logistics issues include:

- **Software and IT systems** to handle a wide range of key transportation and logistics decisions, covering everything from determining the most cost effective truck, air, rail or ocean routes to use, optimizing warehouse location networks and product flows across the country or around the world, and providing visibility and tracking of shipments while they are in-transit.
- **Management consulting services** to help companies apply “best practices” and better, often more streamlined, processes for handling inventory, shipping products, and fulfilling orders, including making best use of the software above, and
- **Internal staffing and infrastructure development**, upgrading the capabilities and expertise of their transportation and logistics departments, and giving them broader responsibility at an executive level.

What do these approaches have in common? They all require a substantial commitment of resources and a multiyear time period to implement – and most smaller and specialized companies have neither the money nor the time to utilize them effectively.

There have also been significant efforts to improve transportation and logistics directly through the trucking companies, warehouses, and other industry players who move and handle freight:

- **“Core carrier” contracts** that use volume leverage to obtain better pricing from a handful of selected transportation providers in return for a promise that they will get to move most of the company’s freight and achieve efficiencies that justify the discounted rates that are provided.
- **Distribution facilities and networks**, basically new construction, realignment and expansion or closure of warehouses to meet the changing needs of the shippers’ customer base in the most efficient way.
- **Outsourcing** transportation and logistics activities that are not “core competencies” to Third Party Logistics (3PL) companies who provide the full range of staffing, IT systems, transportation equipment and contracts, and distribution facilities, to meet a client’s needs.

Again, these approaches are most effective for the Fortune 500 companies who have the market clout to drive better pricing, and the money to attract the attention of warehousing, 3PL and other providers.

Rather than leveling the playing field, these expensive, long-term oriented contract-based solutions have typically widened the gap between the Fortune 500 companies and everyone else. Clearly, a new set of solutions is needed to fulfill the promise of e-commerce in transportation and logistics for medium and smaller companies operating in specific niche markets or geographies.

Transactional approaches

As in most other segments of the economy, in transportation and logistics numerous start-up companies have emerged to improve the process of bringing buyers and sellers together to execute individual transactions. Compared to the contractual solutions above, these involve no long-term commitments and are both low cost and widely available for companies of any shape and size to use.

While some of these marketplace services are owned or backed by transportation carriers, the expectation is that they do not actually transport any products themselves. Rather they are intermediaries and information sources that help improve the competitiveness of the market. Many also provide supporting services and software tools that help users

better manage their transportation and logistics activities -- as a substitute to some extent for the more comprehensive IT systems discussed earlier.

The transactional support available through “e-gistics” intermediaries falls into three primary types:

- **Freight exchanges and auctions.** Historically if you needed to ship product from your New Jersey location to a new customer in Oregon, you had to identify carriers that serve that market, contact them each by phone to outline your needs, wait for price and service quotations, check their references, and then select one of them to handle your shipment – a time consuming, often manual process. Many individual carriers have established their own websites, of course, but accessing them one at a time is a time consuming process and does nothing to increase the competitiveness of the overall marketplace. Using transportation.com, GoCargo.com or many others you can now enter your requirements on-line and then receive price quotations from a number of participating carriers simultaneously, make your selection, and issue the purchase order, all on a quick and easy electronic basis.
- **Transportation and logistics marketplaces and aggregators.** These approaches to e-commerce provide improvements in transportation and logistics by offering easy access, all in one place, for viewing and using pre-determined rates from a variety of carriers. Rather than using a real-time approach to decide which carrier will get which shipment and at which price, and all varying from day to day, services such as [National Transportation Exchange](http://NationalTransportationExchange) and freightquote.com facilitate comparison shopping and the ongoing selection and use of carriers at pre-set prices.
- **Process improvement technology providers.** In some cases, versions of the e-commerce information technology systems and tools traditionally used by Fortune 500 companies are being developed for use by smaller and more specialized companies. New entrants such as Arzoon and Celarix are building “virtual shipping departments” through the Internet, with “best practices” processes and capabilities made available right on the computer desktops of customers. These new offerings can help companies with a wide range of day-to-day “best practices” activities and decision-making to improve the transportation and logistics process, and in many cases include the auctions or marketplace functions outlined above.

Given the highly fragmented nature of the transportation marketplace, these “market making” and process improvement mechanisms offer significant potential for increasing efficiency and reducing costs. By accessing a wider range of carriers and involving a broader set of customers, and then establishing pricing on a more competitive basis – they may ultimately perhaps fulfill the e-commerce promise of empowering the customer.

In order to be successful, however, they will need to attract a high volume of carriers and shippers, so that they provide a competitive marketplace that really results in lower pricing and has broad geographic coverage. In addition, since these services do not handle the actual freight or take responsibility for the shipment, separate follow ups are needed with each carrier covering the myriad of issues associated with billing, insurance, damage, shipment status visibility, proof of delivery, and others. In addition, they do not handle the other services that a shipper may need to be fully successful – such as warehousing space and inventory management, and specialized order fulfillment activities.

Internet Logistics Operators (ILOs) – a new category of services

In contrast to the intermediaries that facilitate improvements in transportation and logistics processes, a new category is emerging that *directly* offers a broad range of services transportation and logistics services. These Internet Logistics Operators (ILOs), as they are beginning to be called, provide one-stop shopping for customers who want the promise of e-commerce -- in a simple and comprehensive way and dealing directly with a single provider that takes responsibility for meeting their shipping, warehousing and fulfillment needs.

Internet Logistics Operators provide a unique combination: a physical network of appropriate carriers and distribution centers to move and handle shipments, personnel and expertise to optimize the process and achieve high service levels and efficient operations, and the software and other tools to handle the real-time flow of information on the status of orders and shipments – all behind the scenes and transparent to the user.

- **Less-Than-truckLoad (LTL) shipments for smaller and medium sized shippers:** These shippers face dual challenges of finding ways to reduce their transportation costs in order to stay competitive, and finding providers of warehousing, order fulfillment and other activities on an as-needed basis for particular situations that they may face. To meet these needs, freightPro.com has recently been launched, offering an innovative, flexible, and low-cost solution. By creating a network of carriers to move shipments across the country and a set of local providers to handle pick-up, delivery and warehousing services in each metropolitan area, freightPro.com has created a *virtual* “core carrier” program – available on a transaction-by-transaction basis, with no assets or long-term contracting requirements.

By using software tools and industry expertise to consolidate shipments from different customers and move them efficiently from origin to destination, freightPro.com can typically obtain savings of 15-20% for its customers, while taking full responsibility at every stage in the process. When warehousing or other services are needed – for seasonal or one-time promotional situations for example – freightPro.com can use its network to seamlessly provide these added services as well.

- **Time-critical fulfillment and specialized services:** Increasingly, companies need to respond faster and faster to changes in their own operations, developments at their customers, and changes in the overall supply chain. When spare parts are needed to prevent a manufacturing plant from shutting down, for example, overnight air and other “regular” services simply are not adequate. To meet these needs, Sameday.com has recently been launched, offering a unique set of high value, high-speed fulfillment, and related services. Using a network of distribution centers carefully positioned to deal with the traffic congestion in metropolitan areas today, and backed by sophisticated software to monitor and manage the flow of information and inventory between suppliers and their customers, Sameday.com is providing significant value in fulfillment, inventory management, returns and repairs processing, and related functions.

Companies in high tech industries such as computers, electronics, aerospace, and telecommunications, as well as major brick-and-mortar retailers of consumer products and related merchandise, stand to benefit especially from these services. With flexible warehouse configurations, high service standards, and a strong backbone of information technology, Sameday.com can address the requirements for the fast-moving, high value, or fragile component of transportation and logistics that just about every shipper faces today.

In both of these situations, the “e-gistics” companies themselves are the providers that take direct responsibility for shipping product and managing inventory, rather than acting simply as intermediaries. In addition to offering their services to Fortune 500 and other large companies, they are bringing to smaller shippers and special situations the pricing and capabilities previously available only to the big boys – and doing it in a way that is flexible and low cost for the customer.

More than any other model, these Internet Logistics Operators may offer the best means yet of fulfilling the promise of e-commerce in transportation and logistics: empowering the customer and leveling the playing field.

The Last Word

There is a wide range of new “e-gistics” players emerging to address today’s transportation and logistics challenges, and different solutions will be appropriate for different kinds of situations. *Sure, you’ve sold it, but now you have to ship and deliver it.* The new “e-gistics” services that best fulfill the promise of e-commerce will be those that both directly provide transportation and logistics services – and responsibility – and do it in a low cost, flexible, “virtual” way matched to the individual transactions that you face every day.

Websites for companies mentioned in this article:

www.arzoon.com

www.celarix.com

www.freightPro.com

www.freightquote.com

www.GoCargo.com

www.nte.com

www.sameday.com

www.transportation.com

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