

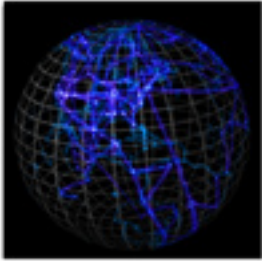


## Reaching the “Tipping Point” in Parcel Shipping

Understanding when the Time Is Right for Global, Scalable, Multi-Carrier Systems



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## Reaching the “Tipping Point” in Parcel Shipping

Today’s supply chain and logistics environment is more dynamic and challenging than ever before. SCDigest speaks with dozens of companies each year from multiple industries, and it’s clear that logistics managers are facing huge challenges to meet expectations for cost and customer service.

While these pressures and challenges are affecting every area of the supply chain, transportation management in general and parcel shipping in particular are undergoing significant changes. There are a number of factors leading to increased challenges for small parcel shipping, the most important of which we describe below:

**E-commerce:** The growth in ecommerce continues to be strong, averaging more than 25 percent annually since the late 1990s. While there are some signs that the rate of total ecommerce sales growth is slowing, this is a problem many other markets would like to have, with predictions for double digit annual increases for years to come.

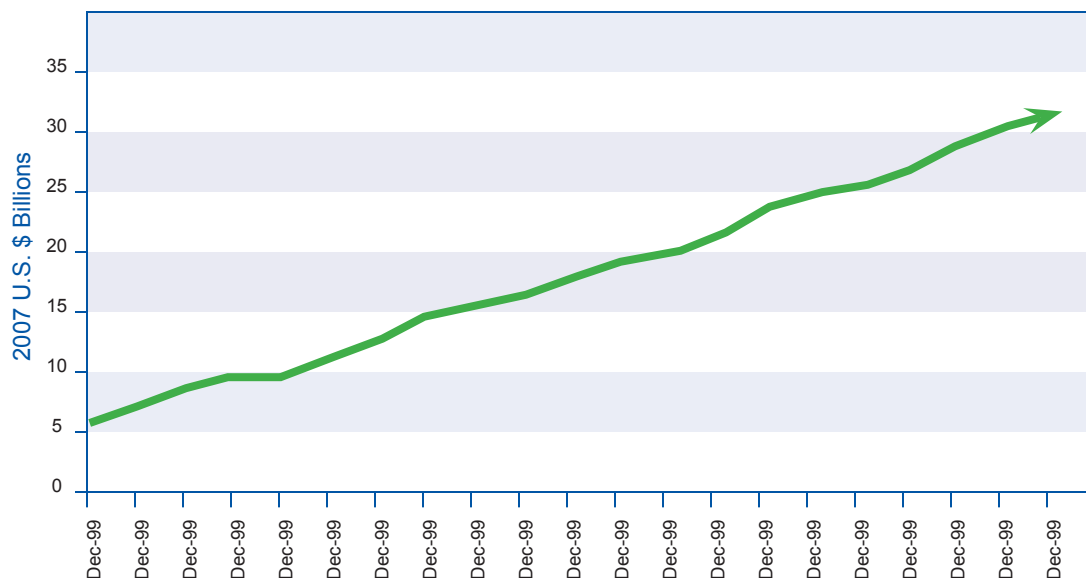
The predictions in some quarters for slowing

ecommerce growth may also be a bit premature. In the 2007 Holiday season, for example, the value of goods sold via the Internet was up 83% on the so-called “Black Friday” shopping day, and 80% on “Cyber Monday,” versus 2006 levels.

What is just as interesting as the growth in total ecommerce sales is the substantial increase in the number of companies that are using web channels. The idea that in the Internet age that “every company is a retailer” is becoming ever closer to reality, as customers look to be able to buy products direct from the manufacturer or wholesaler. These companies are often finding it profitable to augment existing channels with customer direct models, in part as strong resistance to the move from their existing channels fades.

*Since the vast majority of web-based sales move through parcel carriers, the stakes in getting parcel cost and service right continue to rise with the growing levels of ecommerce most companies are experiencing.*

### The Remarkable Growth of ecommerce Sales



Source: US Census Bureau

**Globalization:** Clearly related to the growth of ecommerce is the equally staggering growth in world trade, which continues to increase at roughly three times overall world economic growth.

As many companies realize when the first order comes in over the web from overseas, a strong ecommerce presence will generate demand for products not just domestically but across the globe.

But it's a lot more than just ecommerce. Both "Buy Side" (global sourcing) and "Sell Side" (expansion into global markets in both developed and developing economies) are requiring dramatic acceleration in the need for companies to be able to ship products globally. Parcel shipments are often a major part of this global logistics mix.

*Serving global markets requires new capabilities for shippers to ensure regulatory compliance, properly prepare the shipments, and find the most effective shipment routes.*

**Lean Inventories:** As many companies move to Lean inventory models, the impact on parcel shipping levels can be significant.

One area where this has a big impact, for example, is in spare parts management. Many companies have found it is more cost effective to bear higher express shipping costs from the manufacturer for replacement parts for equipment or machinery rather than to stock extra inventory just in case the parts are needed.

In another example, importers are increasingly determining that it is more cost effective to ship


products direct from "import warehouses" near North American ports to customers or retail stores, rather than first moving the goods to distribution centers. While these direct shipments can utilize any number of transportation modes, parcel shipping is certainly among the most widely used.

Finally, many companies are finding it profitable to increase the use of drop shipping by suppliers direct to customers. These drop shipments commonly use parcel shipping modes, with carrier and service decisions often controlled by the company receiving the original customer order.

*Lean strategies that shift where inventory is held in the supply chain and the timing of when products move are increasing parcel utilization for many companies, adding to the challenges and cost savings opportunities.*

**Rising Costs and Rate Complexity:** For shippers of all modes and volumes, transportation costs have continued to rise sharply. This stems, in part, from the overall trends described above that are increasing the levels of more expensive (per weight/cube) parcel shipments versus other modes.

For parcel specifically, there have been continued aggressive rate increases announced by major carriers (net increases by UPS and FedEx of approximately 5% for 2008, for example), and even stronger growth in various fuel surcharges and other accessories. Together these areas can combine to drive double digit increases in total parcel shipment costs. (See sidebar)



*Serving global markets requires new capabilities for shippers to ensure regulatory compliance, properly prepare the shipments, and find the most effective shipment routes.*



## UPS Published Accessorial Increases for 2008

- **Delivery Area Surcharges** for commercial and residential addresses will increase \$0.10.
- **A Remote Area Surcharge** will apply to UPS Ground, Air, and UPS Hundredweight services destined to certain ZIP Codes in Alaska and Hawaii. The Remote Area Surcharge will be \$15 for certain destination ZIP Codes in Alaska and \$6 for certain destination ZIP Codes in Hawaii.
- **Extended Area Surcharges** for packages to certain destinations outside the U.S. will increase \$2.00 per shipment and \$0.02 per pound\*.
- **Residential Surcharges** will increase \$0.10 to \$2.30 for UPS Air Services and \$0.10 to \$1.95 for UPS Ground Services. A Residential Surcharge of \$1.95 will apply to UPS Standard to Canada packages and shipments sent to residential addresses.
- **The Daily rate charge for Declared Value** will increase \$0.05 per \$100 of Declared Value with a minimum charge of \$1.80. The Retail rate charge for Declared Value will increase \$0.10 per \$100 of Declared Value with a minimum charge of \$1.80.
- **The Additional Handling charge** will increase \$.50 to \$6.50\*.
- **The Address Correction charge** for UPS Ground packages will increase \$1.00.
- **The charges for Delivery Confirmation, Delivery Confirmation – Signature Required\*, and Delivery Confirmation – Adult Signature Required\*** will increase \$0.25.
- **The Large Package Surcharge** will increase \$5.00 to \$45.00.\*



*The bottom line is that parcel shippers that don't aggressively manage cost and service through a combination of transportation strategy, carrier*

*negotiations, and technology support will see profits eroded due to higher than expected shipping expense.*

## Understanding Today's New Parcel Systems

Given these and other challenges, it's no surprise companies are widely investing in technology to support transportation management.

**Adrian Gonzalez**, a transportation analyst at advisory firm ARC, recently wrote that "The TMS market has grown faster than we've predicted the past two years." ARC is forecasting the TMS market to exceed \$1.5 billion by 2011, representing a compounded annual growth rate (CAGR) of 7.3 percent.

Companies that implemented an independent "parcel manifesting system" in the past, or looked at the technology but didn't take action, will be pleasantly surprised at the major advances many parcel shipping providers have made in the past 2-3 years.

**Multi-Carrier Capabilities:** What separates an independent parcel management system from the "give away" systems available from the carriers is the ability to support multiple express carriers and to do "rate shopping" to optimize the combination of cost and service. What has changed from earlier versions of these applications is the level of sophistication of these capabilities (see *Rules Engines* section below), the scope of carrier support, and the level of carrier systems integration.

For example, companies that are exporting products often have a whole new set of carriers and services to consider. Ditto for companies that want to have a standard parcel solution that can be deployed in countries in which they operate across the globe. While it is almost impossible for any one vendor to support all the options globally, the level of carrier support from leading providers continues to expand significantly.

Correspondingly, the integration and "certification" of these independent systems with the individual parcel systems continues to become more complex – a key reason why most Warehouse Management, ERP, and even many other types of TMS vendors have not made the effort to develop their own parcel capabilities. Leading parcel vendors spend substantial resources to maintain these rapidly changing certification and integration requirements.

*Some of these "enterprise class" solutions now have the ability to consistently achieve sub-second response time even when processing thousands of shipments per day, and have ceased to be a bottleneck even in the most demanding distribution environments.*

**Scalability:** A fair criticism of parcel systems as recently as the early 2000's was that they often did not scale well in terms of performance for very high volume applications.

For leading vendors, this scenario has changed dramatically, as major investments in underlying technology platforms have enabled parcel systems to meet even the most challenging volume levels. Some of these "enterprise class" solutions now have the ability to consistently achieve sub-second response time even when processing thousands of shipments per day, and have ceased to be a bottleneck even in the most demanding distribution environments.

Improved technology, such as support for "Service Oriented Architecture," also enables real-time integration between parcel management software and other software applications (e.g., automation systems, WMS, order management, etc.) to be achieved much more efficiently than in the past.



## drugstore.com – Multi-Carrier Shipping “On the Fly”

drugstore.com is a leading on-line provider of health, beauty, vision and pharmacy products. Since its inception in 1998, the company has enjoyed rapid growth, with quarterly revenue now exceeding \$100 million. It services over 2 million active customers. Almost all of that volume is shipped from a highly automated 355,000 square foot distribution center in Swedesboro, NJ.



Parcel shipping excellence isn't just important to the company, it's a fundamental competence that has a significant impact on attracting and retaining customers and supporting profitability. The company always offers free shipping for orders over a certain size (e.g., \$49.00) – a level that changes based on marketing and seasonal factors.

According to Reginald Davis, Manager of IT and Application Development for drugstore.com, the foundation of this excellence is a “shipping matrix” that includes customer locations and volumes, service requirements and constraints. Those factors are analyzed to optimize shipping strategies across multiple carriers to meet marketing requirements at lowest possible costs.

“We’re constantly working the trade-offs, and our goal is to reduce shipping costs as a percent of sales every year,” Davis told SCDigest.

To support both the strategy and dynamic execution, drugstore.com recently upgraded an older parcel system with a new, enterprise class

solution (Kewill Flagship) capable of supporting its demanding requirements. drugstore.com builds its shipping strategy, negotiates rates and contracts with the major parcel carriers against that strategy, and then builds the business rules within the parcel system.

“We are really rate shopping against our contracted rates and volumes,” Davis said.

As drugstore.com moved to automated parcel processing, the system had to be lightning fast. During picking, an Order ID bar code is placed on the carton. The bar code is read on one of 10 high speed conveyor lines, where a scale captures the weight. The parcel system receives the customer and weight information, and determines the optimal carrier and service for each shipment. The information is sent to an in-line print and apply machine, which prints a 4 x 6-inch carrier compliant label.

“We’re really doing multi-carrier shipping on the fly,” Davis said. “In our design, which is built for speed, the parcel system has about 1 second to process the information and return the carrier information.”

“Flexibility is very important to us,” Davis said. “Our older system forced us to be very static. Now, we re-evaluate the shipping matrix a number of times per year, and re-adjust when we see opportunities for improvement. It’s allowed us to drive continuous improvement in transportation.”

**Sophisticated Rules Engines:** Companies looking at parcel systems today versus those of just a few years back may be surprised at the major advances leading vendors have made in the flexibility and power they provide to define

complex business rules (i.e., what types of shipments should go via what type of carrier and service).

In a sense, some of the pure “rate shopping” of the past – in which the parcel system compared rates

at shipment time and chose the lowest cost option that met service requirements, has been moved further upstream, and simply instantiated in the system configuration based on shipping strategies and carrier contracts. But the effect is still the same – achieving the lowest possible shipping charges, but now with even greater precision.

**Global Trade Management:** Reacting to the global logistics needs of their customers, some parcel management providers have also added “Global Trade Management” (GTM) capabilities to their solution sets.

This can include the ability to do compliance checks and scan for denied parties for which it is illegal to ship certain types of products depending on use and end user. It generally also includes the capability to print required export documentation. Combined with support for use of global carriers, including in some cases integration with freight forwarders, these GTM capabilities can make for a nearly seamless process flow in managing the export lifecycle.

**Support for Other Modes:** Over the past few years, leading parcel system providers have gradually increased their support for other transportation modes. This includes the ability to compare parcel versus LTL shipping options, perform LTL consolidations, and execute truckload shipments. For parcel shippers that also use other types of carriers and modes, the leading “parcel management” systems increasingly can provide a single solution to meet facility transportation management needs.

**Analytics:** One of the most important recent trends in transportation management has been how many companies are better leveraging information to drive continuous improvement. In the past, valuable information was often “trapped” inside the TMS, too difficult to access and analyze.

Leading parcel management vendors have made major improvements in the analytic and reporting capabilities of their systems. This can include a variety of “scorecards” that track cost and performance of a company’s own

operations as well as carrier performance; reports needed to improve the carrier freight bill auditing processes; and the ability to easily spot changes in cost or performance that indicate a potential problem or emerging issue.

**Extended Supply Chain:** In the past, parcel management systems have been managed as tactical departmental solutions focused on producing carrier compliant labels and manifests. The improved integration capabilities of parcel systems combined with the availability of additional components, such as track and trace modules, are enabling shippers to leverage these capabilities across the extended supply chain.

For example, at order entry time, customers want to know the cost of shipping, and this often impacts their buy decision. By extending the integration to include visibility to inbound shipments, businesses can more confidently take an order and provide a promise date for goods that are in transit, as opposed to losing or delaying the purchase. Companies can also leverage their inbound parcel volumes and provide dynamic routing instructions to suppliers for goods that they purchase. Finally, many manufacturers and retailers have their suppliers drop ship goods directly to the customer. While this provides logistics efficiencies and cost savings, the expectations for visibility and service levels are not reduced.

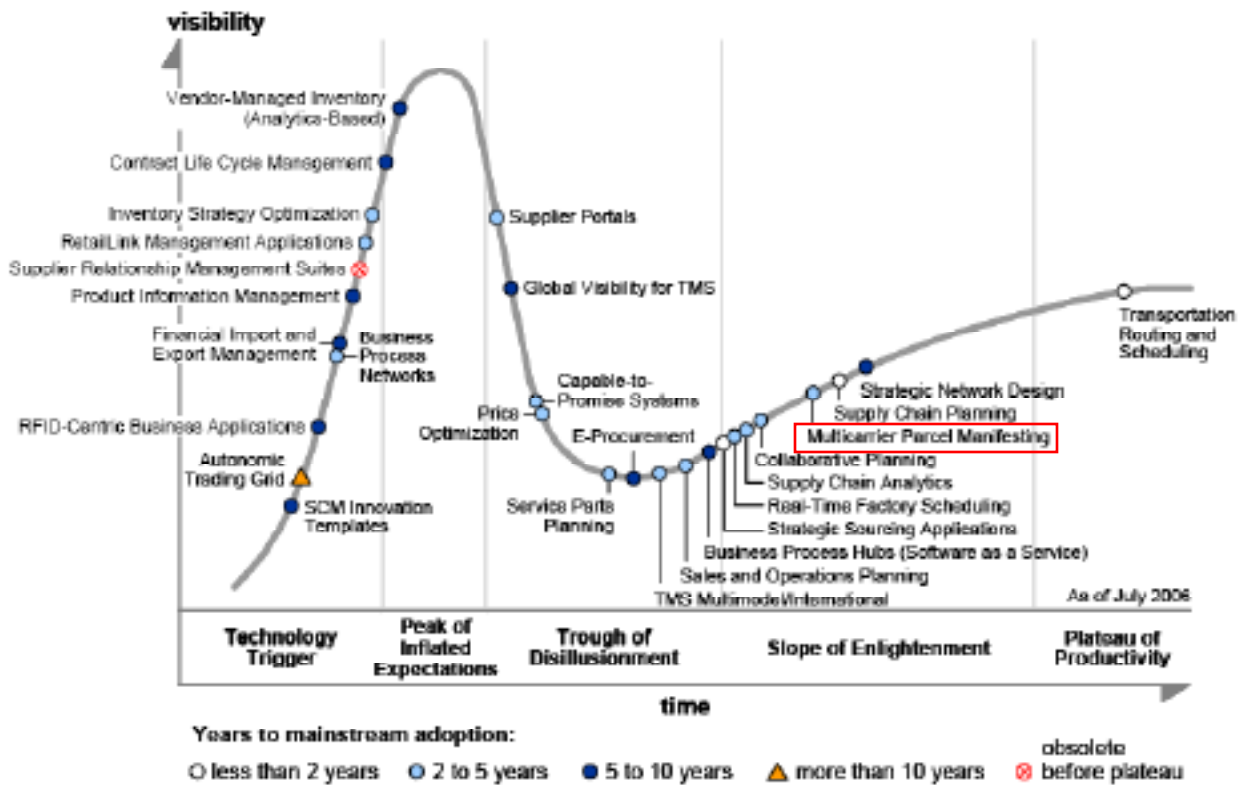


In summary, over the past few years, parcel management systems have moved from being very back end, relatively unintegrated sub-systems that didn't scale all that well for high-end shippers to powerful, enterprise class systems that manage an increasing array of domestic and international logistics processes.

cycle” analysis of various supply chain software applications. As can be seen from the illustration nearby, “Multi-Carrier Parcel Manifesting Systems” are among the most favorably placed supply chain solutions, well entrenched in the “Slope of Enlightenment,” where real value is being delivered.

Others are noticing as well. Respected analyst firm Gartner periodically releases its “hype

**Figure 1. Hype Cycle for Business Processes in Supply Chain Management, 2006**



Source: Gartner

Gartner analyst **Dwight Klappich** recently told Supply Chain Digest he sees increasing client interest in multi-carrier systems: “Companies are migrating away from sole source parcel shipping contracts as they look to minimize their over all

shipping costs. Many organizations now want systems that will help them pick the best, least cost carrier based on the characteristics of a shipment, considering the differing rules and costs for a number of possible carriers. “

## The 10 Indicators You May Need a Multi-Carrier Shipping System

*While many companies believe they get better rates by awarding all volumes to a single parcel carrier, the experience of hundreds of companies, including nearly all of the largest shippers, strongly suggests otherwise.*

As always, there are options, and it's no different with parcel shipping. Especially enticing are the "free" systems offered by the carriers themselves. How do you know if you are at or near a "tipping point," which makes the move to one of these independent, multi-carrier, enterprise class systems a smart bet? We offer 10 parcel management system indicators below.

**1. Moderate or greater levels of parcel shipments:** Clearly, any company managing a moderate level or greater of parcel shipments has an opportunity to reduce costs and achieve solid return on investment from investment in a multi-carrier approach and supporting technology.

At what level of shipments does this opportunity really start to make sense? It will vary somewhat based on specifics of a company's shipment profile, but as a rule of thumb, average daily volumes above 150-200 packages per day generally provides solid opportunity. Those much above those levels can drive substantial savings.

While many companies believe they get better rates by awarding all volumes to a single parcel carrier, the experience of hundreds of companies, including nearly all of the largest shippers, strongly suggests otherwise.

**2. Multiple parcel shipping points domestically and internationally:** The greater the total number of shipping points, the more a company tends to benefit from process standardization and leverage of a unified

technology platform to drive shipping decisions, provide track and trace capabilities across the enterprise, and use shipping data to improve carrier negotiations and shipping strategies.

There are also increased customer service benefits, as customer service agents and/or ecommerce sites can integrate with a single system and "view of the truth," rather than being reliant on processes and technology at many different locations.

**3. Complex product mix including varying sizes, weights, dimensions, hazardous, regulated items:** The more complex a company's SKU base is in terms of attributes like those listed above, the more challenging it is to find the optimal carrier and service, including accessories, across a large number of shipments. Stated frankly, shippers that do not use intelligent multi-carrier systems risk paying significantly higher rates for many of these non-standard shipping units.

**4. Rapidly growing ecommerce business:** The vast majority of web-based orders will be shipped parcel. Sometimes, companies think it is simpler to use a single parcel carrier in the grand scope of getting ecommerce strategies off the ground. Or, the ecommerce efforts start slowly, where a single carrier strategy makes sense, and that approach just continues through inertia even as volumes scale.

The reality is that the profitability of an ecommerce channel can be dramatically impacted by the overall shipping costs. In addition, shipping policies can be used as a competitive weapon, and dynamically changed depending on seasonal, promotional and other factors. What's clear, however, is that having the lowest possible shipping costs gives a company

the greatest flexibility to use aggressive shipping strategies with the minimal impact to profitability. It's why ecommerce companies such as Vermont Teddy Bear and drugstore.com have been multi-carrier virtually from day 1.

**5. Growing export business:** Increasing levels of global trade generally, and more recently the falling value of the US dollar, have led a surge in export volumes from the US to the rest of the globe. Whatever cost and logistics complexity are faced by domestic parcel shippers, those factors are increased several fold for international shipments.

While perhaps extreme, the annual Georgia Tech "Great Package Race" for global parcel shipments provides an appropriate illustration of this complexity. For example, the range of costs in the contest for a parcel shipped to Samoa from Atlanta ranged from \$94.45 from the low-cost carrier to \$188.93 – twice as much – for the most expensive.

In addition, compliance requirements continue to increase for excluding "denied parties" from receiving certain products and also for export documentation. Companies exporting even moderate volumes of parcel will have significant opportunities to decrease costs and increase

outbound operational efficiencies from an integrated multi-carrier system.

**6. Fragmented parcel processes and automation through multiple departmental solutions:** This scenario holds true for a large number of companies today – parcel shipping is managed in multiple places, from the mail room to the distribution

*The total savings opportunities from gaining visibility to these volumes across the enterprise and optimizing decisions about the best shipping method can be huge, and often much more than anyone in the company fully understands.*

center to the plant and more. Often, a wide array of technology support and systems is involved, from almost zero automation to the carrier-provided systems and often a hodge-podge of other local solutions.

The total savings opportunities from gaining visibility to these volumes across the enterprise and optimizing decisions about the best shipping method can be huge, and often much more than anyone in the company fully understands. Savings in the hundreds of thousands or even millions of dollars per year are not uncommon for large companies.

**7. Plans for a new ERP or Warehouse Management System:** While many companies understand the benefits of multi-carrier shipping strategies and enabling technology, sometimes the timing never seems quite right to make an operational change.

Clearly, the implementation of a new ERP system, which generally includes order management functionality, or a new WMS can provide the perfect opportunity to also upgrade parcel shipping strategies and support. But keep in mind, it is usually up to the shipper to drive this strategy – the ERP or WMS provider is unlikely to push the analysis itself.



**8. Plans for distribution automation:** Similar to number 7, the potential for automating the parcel processing process can also provide the right tipping point for looking at multi-carrier solutions – and indeed may require advanced processing capabilities to meet desired throughput levels.

With growing parcel shipping volumes, many companies are finding downstream packing stations to be a bottleneck in fulfillment operations. Automation is one answer, in which an identifying bar code (and maybe soon an RFID tag) is read on a high-speed conveyor line. That triggers a look-up of the order, and a carrier and service decision for that package is made dynamically. After the optimal decision is made, the data is sent to an automatic print and apply machine on the conveyor, which prints the correct carrier compliant label and applies it automatically to the parcel.

Not only does this type of application again create an opportunity to rethink overall parcel shipping strategies, these systems require lightning-fast response from the parcel shipping engine, response times that are now available from some leading systems.

**9. Little or no “parcel planning”:** Many companies treat parcel shipping as an execution activity only, missing significant savings from doing a better job of looking at orders earlier in the process and optimizing shipment strategies.



For example, there may be opportunities to “bundle”

different packages going to the same destination. There can also be opportunities to evaluate trade-offs between LTL and parcel shipping. And companies with large parcel volumes can also often benefit from “zone skipping” strategies, in which full truckloads of parcel are shipped say to California, and the total cost of the TL freight, plus now lower parcel costs, offers significant savings.

Technology is required to enable this enhanced level of parcel planning, and the savings available from improved planning alone often can cost justify a new solution.

**10. Significant vendor inbound or drop shipments:** Many companies fail to fully understand or leverage the volumes they are generating from supplier inbound shipments or the increasing trend towards using supplier drop shipments for customer orders.

First, simply getting a handle on the scope of these volumes is important, as they frequently can and should be used as part of the potential business offered to parcel carriers in rate negotiations. But that leverage can only be achieved if the company also controls the final shipping decision, providing vendors for inbound or customer shipments with the routing instructions (carrier and service) as appropriate for the order details and internal or customer shipping requirements. At this point, all the benefits of an optimized, multi-carrier approach well understood on the traditional outbound side of the business also apply.

Many companies, of course, will recognize themselves as having one or more likely many of these indicators. The point is that this makes them excellent candidates to assess whether a move to multi-carrier strategies and supporting technology makes good business and financial sense.

## Summary

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Transportation management requirements and strategies have become highly dynamic. This is especially true in the area of parcel shipping, where a variety of forces are increasing the volumes of parcel shipments for many companies, as supply chain and marketing forces increase both the scale and scope of express deliveries.

Parcel shipping, however, is inherently an expensive mode. The combination of aggressive rate moves by leading parcel carriers and rising parcel volumes for some shippers provides a “double whammy” that can significantly impact the transportation spend of many companies.

Just how much savings can be realized by moving to multi-carrier strategies depends on a number of factors, such as current volumes, shipment profiles, effectiveness in contract negotiations, etc. The range can be as low as 3% savings to as much as 20% at the very high end. Even at the lower levels, however, significant dollar savings can reach the bottom line.

Companies can also reduce transportation costs by improving their abilities to do “parcel planning” further upstream, before shipment execution – but for most, that also requires a new level of technology support.

This range of savings is for core transportation spend. It does not include other “softer” savings that can be created, for example, by reducing the amount of effort distribution operators spend processing shipments on multiple carrier systems

or otherwise improving parcel processing workflow and efficiency.

Customer service gains should also be strongly considered when looking at the benefits. Many companies have the opportunity to drive consistency across order management processes and disparate channels and ship sites to improve the customer experience. Post-sale visibility to shipment status across carriers can be another important customer service element.

For most of those engaged in ecommerce or other customer direct channels (e.g., catalog sales), keeping parcel shipping costs to a minimum can have a significant impact on profitability. For those with a competitive advantage in cost and intelligence, it can also drive top line revenues by enabling marketers to aggressively offer improved shipping terms versus those with “middle of the pack” parcel shipping competence.

For all these reasons and more, SCDigest encourages companies that are still using single carrier solutions, or that are using multiple carriers with limited or dated technology support, to take a hard look at the benefits they can achieve from enterprise class multi-carrier systems.

## Research Sponsor

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scalable enterprise class shipping solutions with the broadest set of carrier compliance modules in the market. For more detailed information, please visit [www.kewill.com](http://www.kewill.com).



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