

Supply Chain Digest Thought Leadership Series

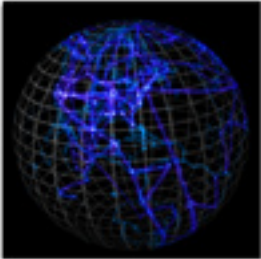


Leading Edge Logistics

The State of 3PL and Shipper Technology Enablement



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Leading Edge Logistics

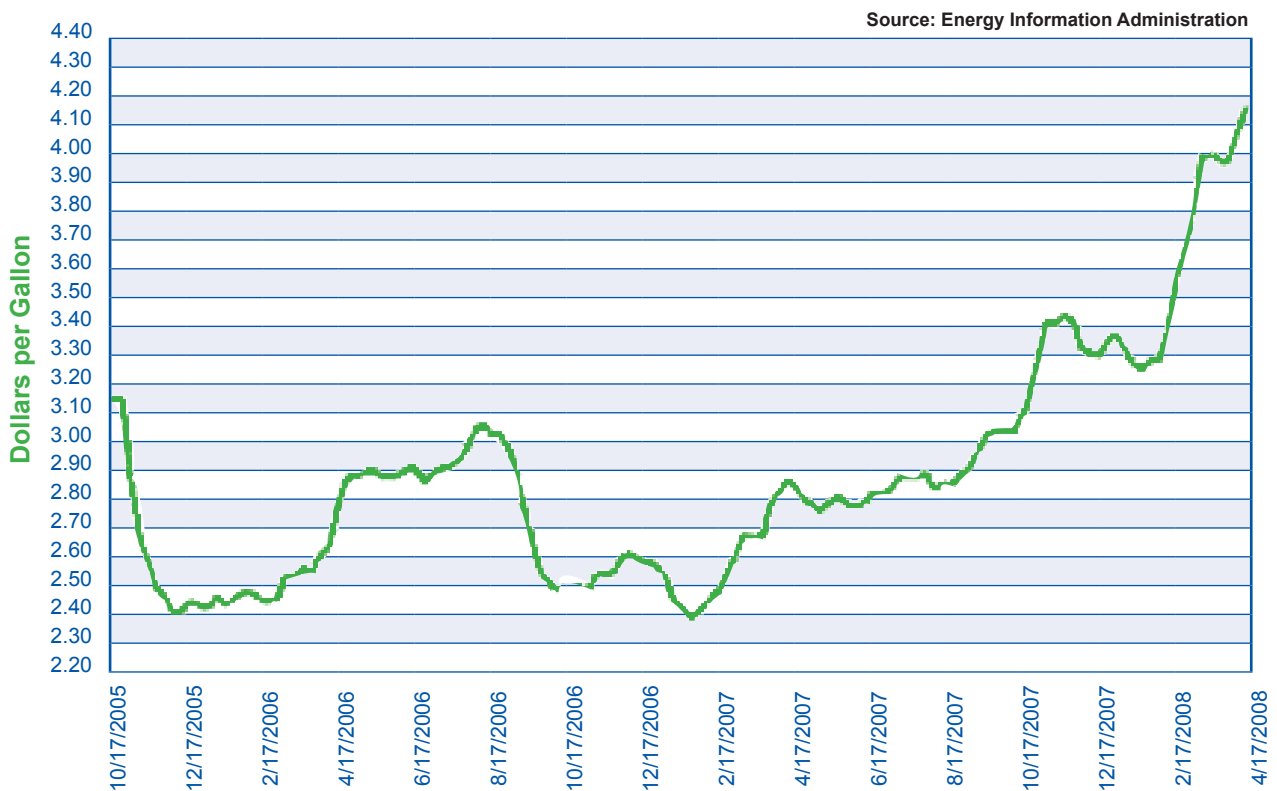
The State of 3PL and Shipper Technology Enablement

That supply chain management and logistics are getting more complex and challenging goes without saying.

This is especially true in the area of logistics management. Practitioners are well familiar with the challenges, but some are worth repeating here:

- **Globalization:** Longer, more complex supply chains, involving multiple parties, time zones, languages and hand-offs.
- **Cost Reduction Imperative:** Corporations routinely expect continuous improvement in logistics cost today, and view the supply chain as the primary source of the cost savings necessary to drive profit growth.
- **Upward Cost Pressure:** At the same time corporate executives seek continuous savings from supply chain improvements, there has been significant upward pressure on logistics costs from the staggering rise in fuel prices and fuel surcharge costs.
- **Lean and Fragile Supply Chains:** While many companies have substantially reduced total pipeline inventories and cycle times in both their buy and sell side supply chains, for many this has meant additional pressure and cost when variability is encountered.

Weekly U.S. Retail On-Highway Diesel Prices Average All Types



The Incredible Rise of Diesel Costs

“I am awakened in the middle of the night with calls from my team 2-3 times per week when they are concerned about an inbound shipment. I don’t like it, but it’s better than a call from the plant manager a few hours later telling me we are shut down because a delivery was late.”

*Transportation Director
GM*

The sheer size of the challenge has three important implications:

1. Companies cannot expect to fight a logistics “war” on an expanded battlefield using weapons (strategies and technologies) left over from a previous era.
2. By either necessity or choice, companies will often need to outsource key elements of their supply chain and logistics processes. They may lack the bandwidth, expertise or focus to manage elements or large swaths of their supply chains, or seek to increase overall flexibility through outsourcing strategies.
3. To thrive and differentiate themselves, many Third Party Logistics Service Providers (3PLs) will need to increase the scope of the supply chain solutions they can offer to clients – and similarly adopt technology tools appropriate

for the changing supply chain and shipper landscape.

To better understand these dynamics, **Supply Chain Digest** recently completed a survey of both shippers and 3PLs to gain additional insight into these and related issues. Approximately 100 shippers responded, representing primarily large and mid-size corporations. Approximately 70 3PLs completed the web survey form as well.

Additionally, **SCDigest** conducted phone or email interviews with another 10 shippers to gain additional perspective and insight. The primary goal was to gain insight into shipper perspectives on the technology capabilities of 3PLs. In addition, we took the opportunity to also gain insight into the level of capability of shippers in terms of several key logistics processes.

Example Shipper Survey Respondents

Dell	Carter’s
Claire’s Stores	Boeing
R.J. Reynolds Tobacco	Alberto Culver
Unilever NA	Sony
Restoration Hardware	IBM
Flower Factory	Adtran
Texas Instruments	Cisco
Procter & Gamble	Nestle
Eaton Corp.	Honda NA
SABMiller	Johnson & Johnson
Payless Shoes	Chatsworth Products
Cooper Power Systems	Lexmark
Mattel	Alcoa
Ashley Furniture	Clorox

Example 3PL Survey Respondents

UPS Supply Chain Solutions	Schneider Logistics
Panalpina	Saddlecreek
Weber Distribution	Millard Refrigerated
Roadway	Iowa Cold Storage
Trinity Transport	Exel Logistics
Schenker	Menlo Worldwide
Ryder	Federation Logistics
UTi Worldwide	GENCO
Ozburn-Hessey Logistics	YRC Logistics
Penske Logistics	New Breed
Caterpillar Logistics	DSC Logistics
APL	Eagle Global Logistics
C. H. Robinson Worldwide	Maersk Logistics
Zimag Logistics	Network Global Logistics

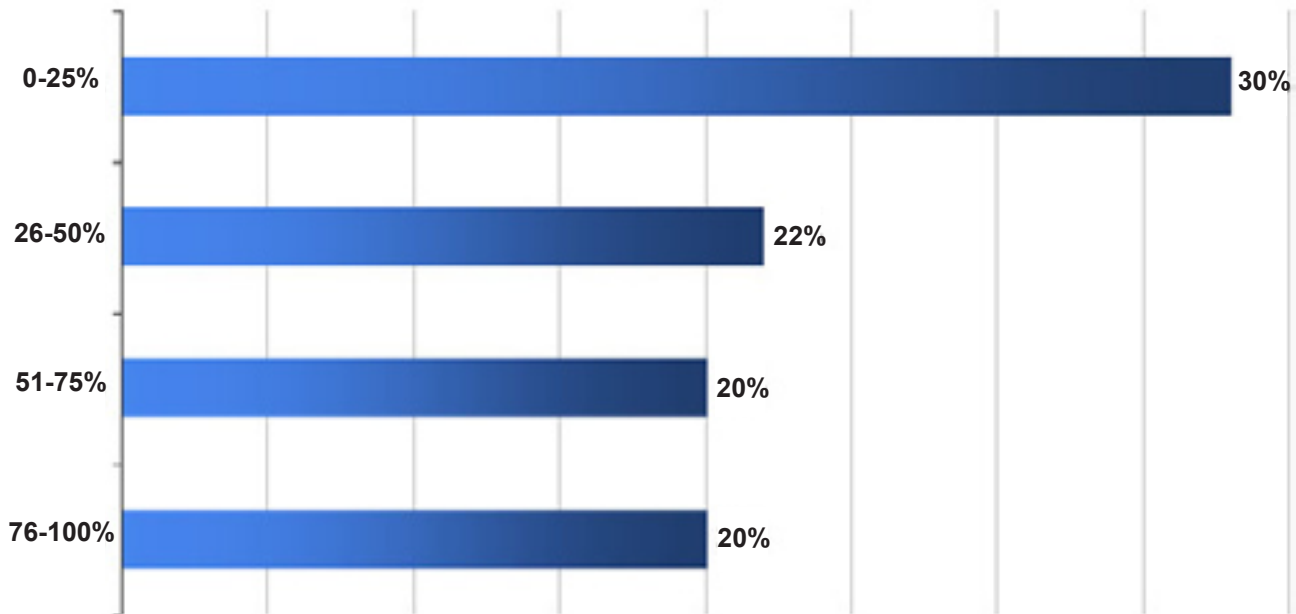
The respondents also represented a very even mix in terms of their reliance on 3PL services. As shown in the figure nearby, while 38% of respondents used 3PLs for less than 25% of their company's total logistics spend, about 20% of respondents have third-party expenditures in each of the other three quartiles (26-50%, 51-75%, or 76-100% of total logistics spend).

For many companies, how much of their logistics they outsource has a partial connection to the state of 3PL technology enablement.

One consumer hard goods company told us in an interview that perceived limitations in 3PL technology are a barrier to using its service providers for more work.

“We need to move very fast in many of our supply chain initiatives,” a director of logistics for the company told us. “We just don't feel like our partners bring to the table a set of tools that they can quickly bring to bear to solve a problem.”

Percent Logistics Spend with 3PLs



Current Scenario

In many ways, this research is an extension of the work done by Dr. John Langley of the Supply Chain and Logistics Institute at Georgia Tech with the annual 3rd Party Logistics Study, released each year at the Conference of Supply Chain Management Professionals (CSCMP) annual conference.

That report has consistently found that shippers overall are disappointed in the level of technology enablement and sophistication brought to market by 3PLs.

As shown in the figure on page 6, that study's survey results show that shippers have a very poor

Satisfaction with 3PL Technology Capabilities

Source: 2007 CSCMP 3PL Study



level of satisfaction with the technology capabilities of their 3PLs, with the level of satisfaction ranging from 35-42% over the past four years.

This is actually an incredibly low level of satisfaction, and is very consistent with the results of the *SCDigest* survey. With technology enablement being such an important pillar of supply chain and logistics excellence, consistent customer satisfaction levels of about 40% should serve as a wake-up call to many in the industry.

For this report, *SCDigest* wanted to expand on this baseline research to get a better feel for the perceptions of shippers (and 3PLs) about specific technology capabilities and components, ranging from traditional technologies (e.g., WMS, TMS) to newer solution areas (e.g., supply chain analytics, collaborative transportation forecasting). We asked shippers to rate on a scale of 1-10 their perceptions of how strong, on average, they believed 3PL providers were in each of a dozen supply chain software application categories (1 being the lowest and 10 the highest). The 12 areas were:

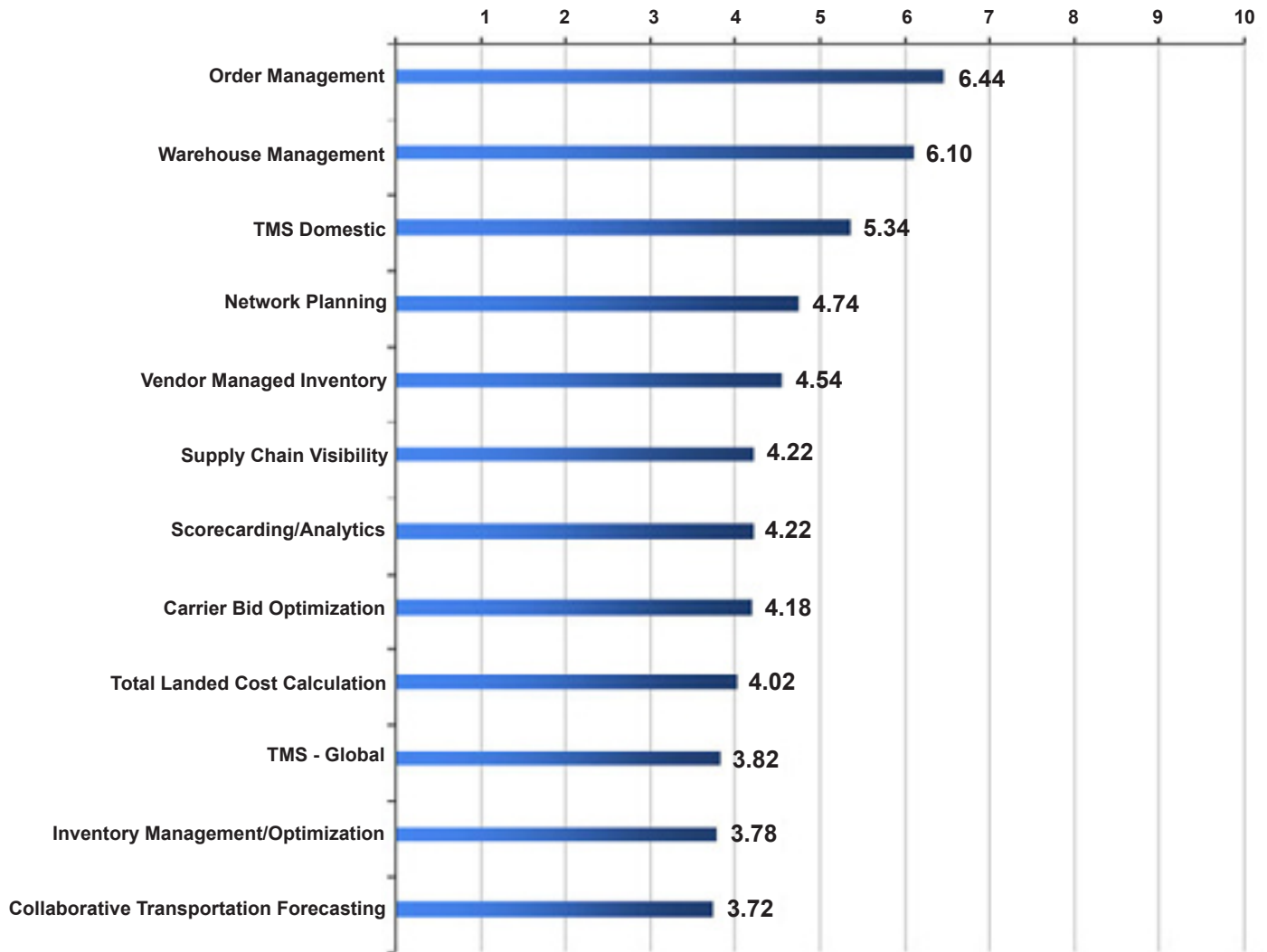
- Order Management
- Warehouse Management
- TMS Domestic
- Supply Chain Visibility
- TMS - Global
- Carrier Bid Optimization
- Total Landed Cost Calculation
- Scorecarding/Analytics
- Collaborative Transportation Forecasting
- Vendor Managed Inventory
- Network Planning
- Inventory Management/Optimization

The results are shown in the figure on page 7.

As can be seen from that chart, shippers perceived 3PLs were strongest in areas such as Order Management, Warehouse Management, and domestic Transportation Management.

The application areas with the lowest shipper perceptions included inventory management/optimization, global TMS, and collaborative transportation forecasting.

Shipper Rating of 3PL Technology Capabilities



From this data, as well as the more in-depth interviews we conducted with shippers, a few conclusions can be drawn.

- Shipper Satisfaction with 3PL Technology Capabilities is Very Low:** Consistent with the CSCMP study findings, shippers simply perceive 3PL technology enablement is, on average, simply not very good. The highest rated application area, Order Management, received a score of just 6.44. In only three of the twelve application areas were shipper ratings at an average score of 5 or above, and the bottom three areas all achieved scores of under 4.
- Ratings are Higher for More Mature Areas:** It's probably not a surprise that the three most

highly rated areas were for Order Management, Warehouse Management and domestic Transportation Management. Each of these solution areas has been around for many years, and represent “bread and butter” applications for basic 3PL functions. Conversely, newer application areas (e.g., supply chain visibility, total landed cost management) are much newer both to the overall market and 3PL adoption.

- 3PL Rate their Own Capabilities Higher than Shippers Do:** In 11 of the 12 areas, 3PLs rated the industry's overall capabilities higher than shippers did – in some cases significantly so. The only category in which shippers rated 3PL capabilities higher than 3PLs themselves did was in the area of Order Management, and that just

barely. Our theory there is that shippers are modestly satisfied with the ability of 3PLs to accept an order, whereas 3PLs know they could add a lot more order processing capabilities.

As shown in the table below, the largest gaps were in the areas of supply chain visibility, supply chain analytics, and global Transportation Management.

In our discussions with shippers, some interesting insights were revealed.

For example, one logistics manager with responsibility for his industrial company’s outsourcing relationships told us that he just didn’t think most 3PLs really understand supply chain analytics.

“3PLs may have scorecards that can track some of their own performance, but usually they don’t have the technology nor the expertise to really understand what’s driving performance or the root cause of performance issues,” she said.

Another logistics manager had these comments: “It’s an issue of both breadth and depth. Most 3PLs simply don’t have a strong enough portfolio of tools. Others have what appears like a nice set of capabilities, but it really falls short when you dig into the details. You have to make sure they really can use them. We’ve learned the hard way, you need to ‘Trust but Verify.’”

Application Area	Shipper Score	3PL Score	Perception Gap
Supply Chain Visibility	4.22	5.98	1.76
Scorecarding/Analytics	4.22	5.98	1.76
TMS - Global	3.82	5.25	1.43
Inventory Management/Optimization	3.78	5.09	1.31
Collaborative Transportation Forecasting	3.72	4.86	1.14
TMS Domestic	5.34	6.32	0.98
Carrier Bid Optimization	4.18	5.16	0.98
Total Landed Cost Calculation	4.02	4.98	0.96
Vendor Managed Inventory	4.54	5.23	0.69
Network Planning	4.74	5.08	0.34
Warehouse Management	6.1	6.32	0.22
Order Management	6.44	6.08	-0.36

“It’s an issue of both breadth and depth. Most 3PLs simply don’t have a strong enough portfolio of tools. Others have what appears like a nice set of capabilities, but it really falls short when you dig into the details. You have to make sure they really can use them. We’ve learned the hard way, you need to ‘Trust but Verify.’”





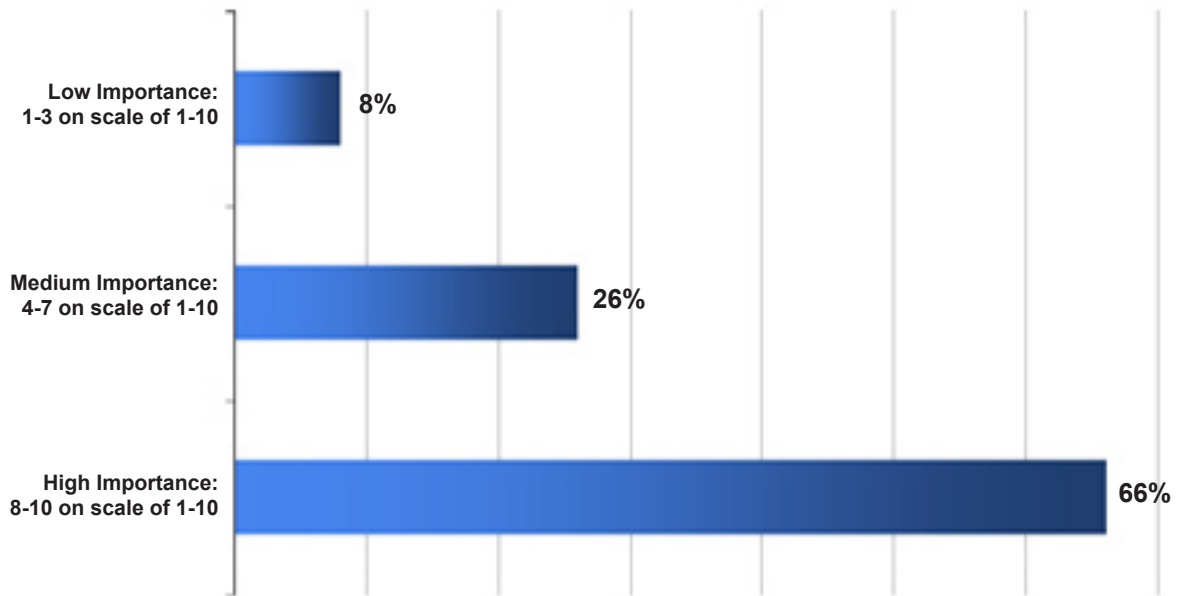
*SCDigest research shows that shippers place **significant value** on a 3PL's technology capabilities both in making the outsourcing selection and the ultimate level of the relationship.*

Technology Key to 3PL Selection, Relationships

SCDigest research shows that shippers place significant value on a 3PL's technology capabilities both in making the outsourcing selection and the ultimate level of the relationship.

The chart below is taken from a question that asked respondents how important a 3PL's technology capabilities were as a selection criteria in choosing which provider to use.

Importance of Technology Enablement to 3PL Selection



“...only 2% thought the role of technology in choosing which outsourced providers to use will be less important in the next 2-3 years, versus 66% that believed it would be significantly more important. Thirty-two percent (32%) thought it would remain about the same in importance.”

Perhaps not surprisingly, a full two-thirds (66%) rated those capabilities as being very important selection criteria (8-10 on a scale of 1-10). Only 8% said a 3PLs technology capabilities were of low importance, with 26% of shippers rating those capabilities as being of medium importance.

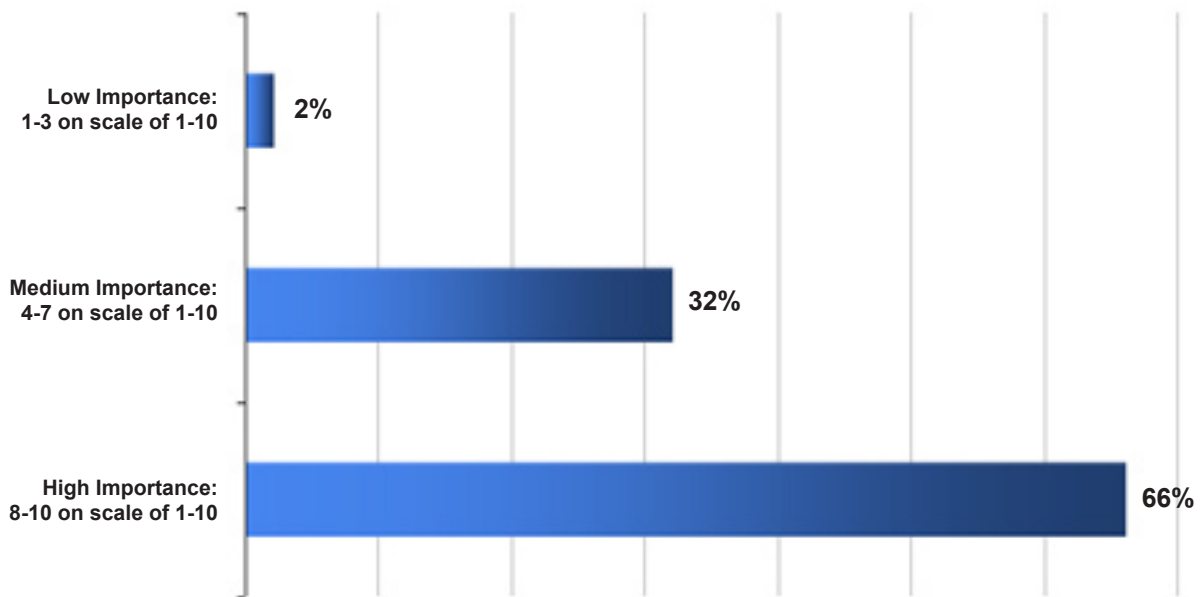
In the comments section of the survey, one respondent wrote “It’s people, process and technology, whether you’re a regular company or a 3PL. And it’s hard to separate the process from the technology base.”

Shippers also expect that importance of technology to become ever higher over the next 2-3 years.

As seen in the chart below, only 2% thought the role of technology in choosing which outsourced providers to use will be less important in the next 2-3 years, versus a 66% that believed it would be significantly more important. Thirty-two percent (32%) thought it would remain about the same in importance.

The CSCMP annual 3PL study also consistently finds that both shippers and 3PLs would, in general, like their relationships to become more strategic and collaborative in nature – but that both sides have a challenge getting there.

Change in Importance of Technology to 3PL Selection Next 2-3 Years



While issues of people and trust are probably greater barriers, *SCDigest* believes technology limitations also play a role – a perspective supported by our research.

As can be seen from the chart above, a full 72% of shippers in our survey believe that the technology capabilities of a 3PL are highly important in the level of the relationship with a shipper and how strategic that relationship can be. Amazingly, none of the almost 100 respondents believed technology played a very minor role in the potential level of the relationship, while 28% characterized 3PL IT capabilities as being of medium importance.

“We are very sophisticated in our approach to supply chain technology, and certainly put 3PLs that have something approaching that level of understanding and capability in a different bucket than most providers,” one director of supply chain services for a high tech company told us in an interview. “We see a big gap in the desire of many 3PLs in terms of technology and what they can actually deliver.”

In a comment on the survey form, one 3PL executive noted that “Service expansion over time is key to our growth strategy. Service expansion equals IT capability expansion.”

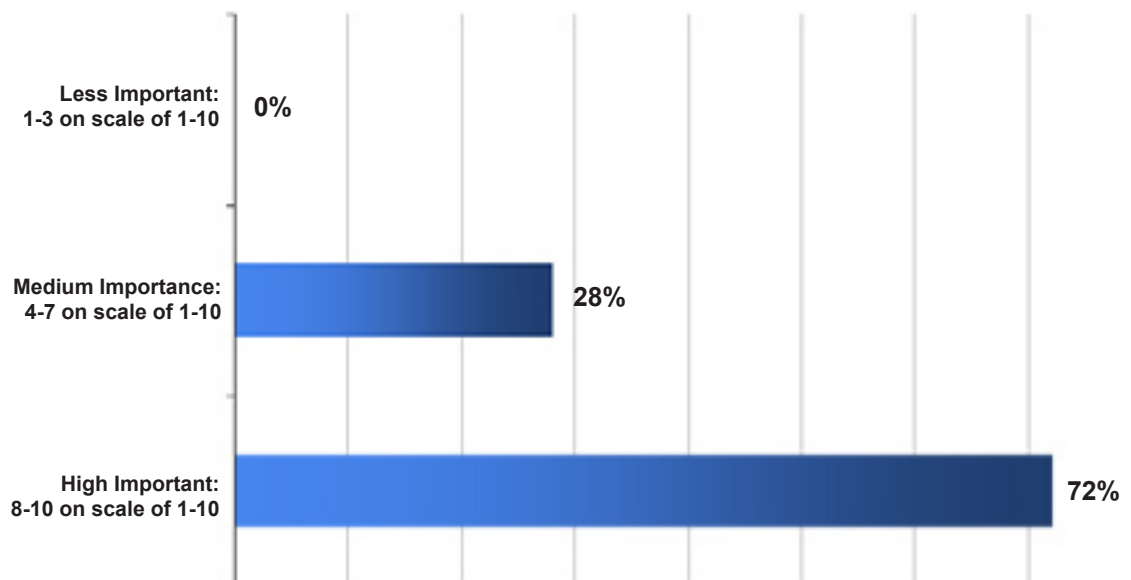
The 2007 CSCMP study provided a “maturity model” across people, process and technology for what the authors believe the requirements are for an effective collaborative relationship between 3PLs and shippers.

Under the “Leading” technology practices, the report suggests 3PLs need to be capable of the following:

- Holistic solutions supporting optimization across the extended supply chain
- 3PL Toolbox of applications (services) allowing fast customer implementations and requirements updates
- Open integration based on Service Oriented Architecture
- Event Management: real time visibility, forecasting and pro-active alerts.
- Global standards applied

It is clear from our research that most 3PLs need to rethink their IT strategies to match customer expectations and to enable new levels of service and relationships with clients.

Role of Technology in Level of 3PL Relationships (More Strategic)



Many Shippers Also Lagging in Technology Maturity

As part of the research, we also wanted to get a sense of where shippers stood in terms of several key logistics processes and related technology support.

The results were clear – relatively few companies have yet deployed the more advanced tools needed to drive world class logistics performance in many areas.

Transportation Sourcing

We first asked shippers to assess their capabilities in terms of Transportation Sourcing.

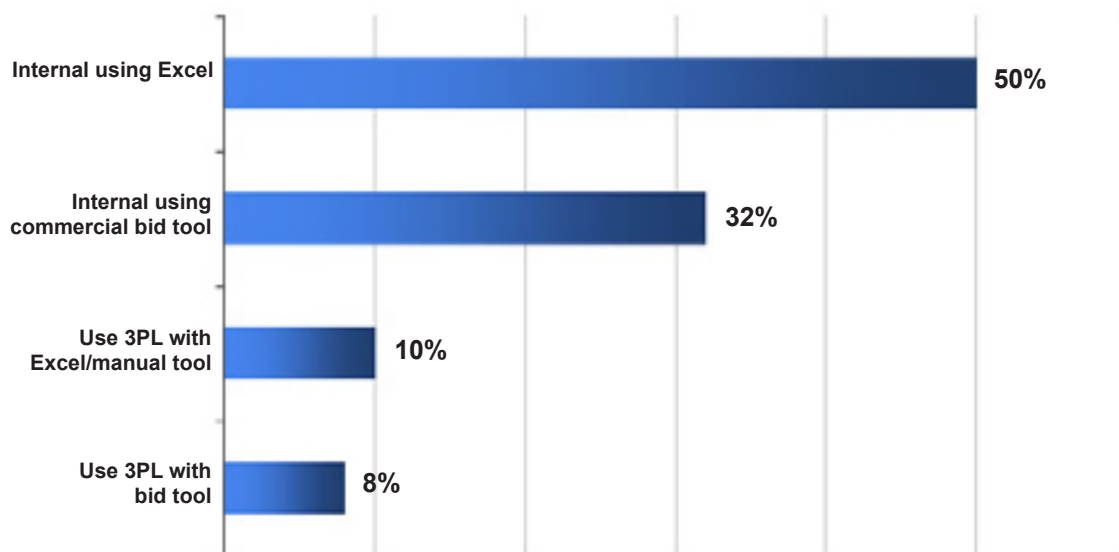
As shown in the chart below, 50% managed the process using Excel spreadsheets or similar tool. 32%, a somewhat higher number than we expected, were using a commercial bid optimization tool internally. 10% used a 3PL for sourcing with the 3PL using an Excel-type tool, and 8% used a 3PL that had bid optimization capabilities.

As many experts have noted, trying to manage complex carrier contracting processes using

manual/non-optimized methods generally leaves significant savings on the table.

A 2003 study by Chris Caplice and Yossi Sheffi of MIT, for example, found average savings from using an optimization tool to drive the carrier bidding process of 6% versus more manual methods, with many companies achieving savings above 10%. (See illustration on page 13).

Approach to Transportation Sourcing



Freight Spend Savings from Carrier Bid Optimization Tools

	Minimum	Average	Maximum
Number of Lanes	136	1,800	10,000-
Number of Annual Loads	-6,000	-200,000	1,500,000-
Number of Carriers Invited	15	120	500
Number of Carriers Assigned	8	64	300
Reduction in Size and Core Carrier Base	17%	52%	88%
Base Reduction in Transportation Costs (without considering service factors)	3%	13%	24%
Final Reduction in Transportation Costs (considering service factors)	0%	6%	17%
Duration of Procurement Events (months)	<1	3	6

Source: Caplice and Sheffi, Journal of Business Logistics, No. 2, 2003

Transportation Requirements Forecasting

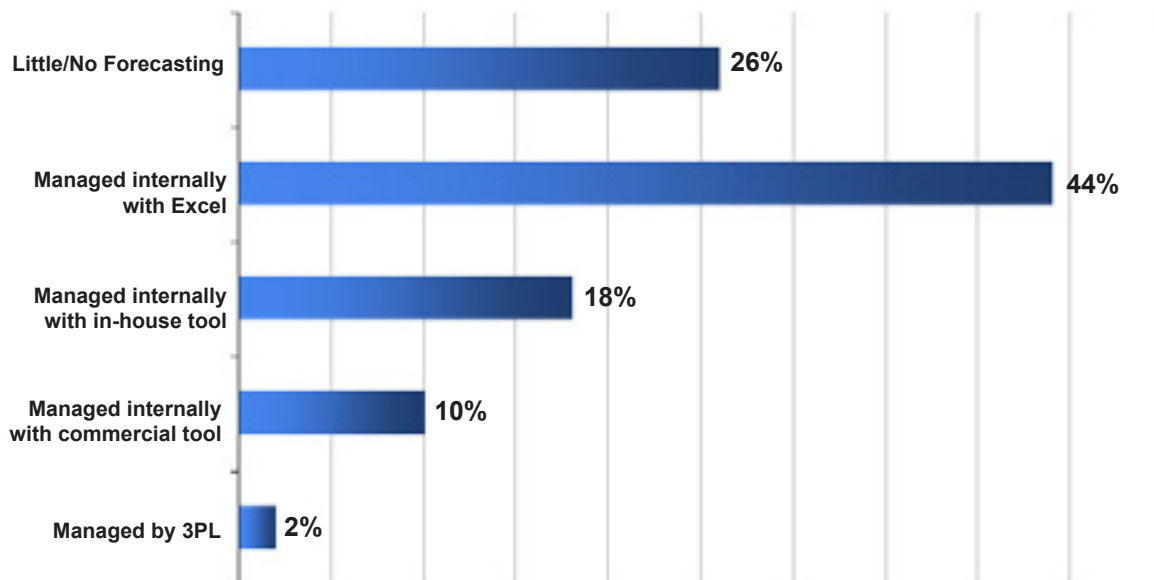
We also asked shippers to assess their capabilities in terms of the process and tools they use to forecast transportation requirements to improve internal planning and to collaborate with their carrier base.

Perhaps surprisingly, 26% of respondents said they performed little or no requirements forecasting. Another 44% managed the process using Excel or similar tools. 18% have developed more sophisticated requirements planning tools in-

house, while just 10% were using a commercial transportation requirements tool. Just a few respondents (2%) were using a 3PL to drive transportation forecasting.

“I think the current overcapacity situation in the truckload and LTL markets has lulled companies into thinking forecasting isn’t important any more,” one shipper told us. “But it has value even in this market, and is critical for when conditions get tight again, as they always do.”

Approach to Transportation Requirements Forecasting



Landed Cost Calculation/Management

Despite the tremendous growth in global sourcing, a surprising number of companies do not well estimate or capture total landed costs. (Note: *Supply Chain Digest's* Gene Tyndall, a former executive at Ryder, believes the correct term and perspective is “total delivered cost.”)

Our survey results support related studies that find investment in tools to support the global supply chain have not in many cases kept pace with the growth in globalization and global sourcing.

Fourteen percent (14%) of our survey respondents said they performed little or no total landed cost management. *SCDigest* contacted a few of these respondents to better understand what was meant, and in most cases it appears to indicate that a company uses very static, pre-built costs that are incomplete and not in tune with the dynamics of each order.

Forty-six percent (46%) were calculating total landed costs internally using Excel or similar tools, while 20% were using a commercially developed total landed cost calculator of one kind or another. That

is the same percentage of companies which have developed their own total landed cost engine.

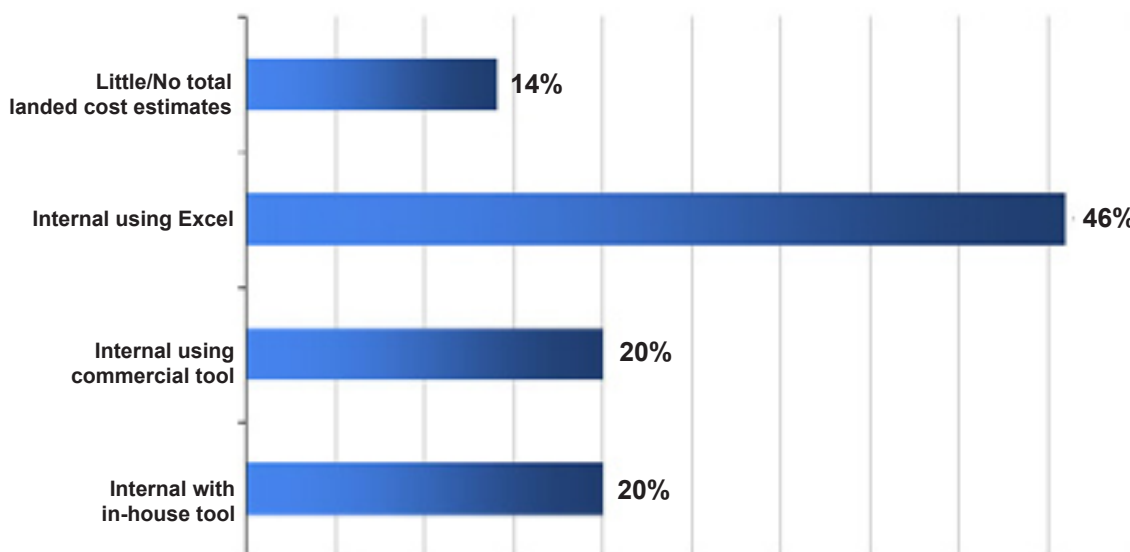
For most companies, there is a significant gain to be had from better understanding total landed costs, in terms of better decision-making on sourcing, carriers, pricing and a variety of other supply chain components.

But very few companies are managing total landed cost comprehensively, as a 2007 study at Penn State confirmed. It benchmarked the total landed cost practices of six large corporations, and found that none of these large companies was including all six of the elements of the total landed cost model it developed working with these same companies!

In addition, none of the six companies was doing a rigorous job of comparing estimated total landed costs with actual cost to find discrepancies in estimates or execution.

Clearly, total landed cost management is a ripe area for process and technology improvements.

Approach to Total Landed Cost Calculation



Supply Chain Visibility

Landed Cost Model Sophistication Among Case Firms

Stage/Case	Stage 1 Price	Stage 2 Transport	Stage 3 Customs	Stage 4 Inventory	Stage 5 Overhead	Stage 6 Risk
Case A	X	X	X			
Case B	X	X	X	X	Somewhat	X
Case C	X	X		X		
Case D	X	X	X	X		
Case E	X	X	X	Somewhat		
Case F	X	X	X			

Penn State Study on Total Landed Cost, 2007

Supply Chain Visibility has quickly evolved from a rather vague concept just a few years ago to an objective that is near the top of the priority lists of many companies.

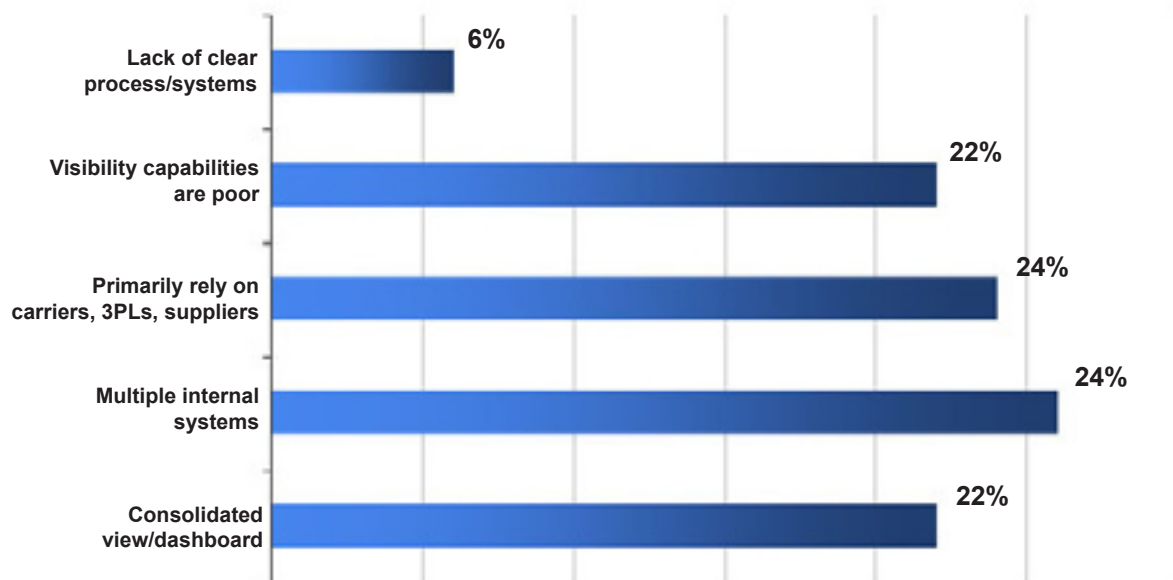
Still, it means different things to different companies, and perceptions of the improvements a company needs to make depend very much on where it stands right now. Visibility is very much like an onion, with each layer peeled back revealing another layer that needs to be pursued.

Our survey data supports the view that the majority of companies have a lot of work to do to achieve world

class levels of visibility – a definition which itself continues to evolve.

As shown in the figure below, 28% of our respondents said they had little or no real supply chain visibility, or else that current systems/processes were poor. 24% of companies rely primarily on logistics service providers for visibility, and 26% achieve visibility by managing multiple internal systems. About one-fifth of companies (22%) have implemented some type of visibility tool (in-house or commercial) that provides a consolidated view of most supply chain elements (inventory, orders, shipments, exceptions, etc.)

Approach to Supply Chain Visibility



There are a few key points.

First, visibility itself is not sufficient, or even particularly valuable. What does add value is “actionable visibility” – information that can lead supply chain and logistics practitioners to make improved decisions, not just be able to tell others in the organization what ship a PO is on.

Second, context is key. A shipment arriving late has totally different ramifications if the order has parts needed for an upcoming production schedule, or will result in lost sales from out of stocks, versus if the company is already well stocked with those SKUs.

Leading companies are combining supply chain wide visibility with intelligent alerts to use context to inform users not only when there is an exception, but the potential urgency or impact of that variance.

SCDigest research, including a web survey and one-on-one interviews, leads to the following observations:

- There continues to be significant shipper dissatisfaction with both the breadth and depth of most 3PL supply chain technology capabilities.
- The reality is probably somewhere in the middle. Certainly many 3PLs have made significant investments in technology, and many bring world-class capabilities (packaged or home-grown) to the table. Others have the potential for high levels of performance through basic investment in tier 1 supply chain solutions, but have failed to fully exploit them for the benefit of their customers or themselves.

- The 3PL industry is lagging the overall supply chain market in terms of investing beyond the traditional areas of capabilities such as warehouse management, order management and domestic transportation management.
- In fairness to 3PLs, the stated preference by shippers for more advanced 3PL technology capabilities and higher levels of strategic relationships are not always followed by execution of those preferences. As a result, 3PLs historically have tended to be very conservative technology “followers,” meaning they will make investments when it can be specifically linked with new business. As a result, there is often a “chicken and egg” game here – 3PLs won’t invest in new capabilities unless tied to a new or expanded contract that justifies the investment, and shippers are hesitant to expand relationships or outsource services to 3PLs that do not have the process and technology capabilities in place.
- On the shipper side, in many supply chain processes, Excel is still the rule: in all four of the areas included in our survey, Excel or related manual methods were used by 40-50% of all respondents, which included many very large corporations.

On the 3PL side, we believe that capabilities must over time expand to play a greater role in the overall supply chain and that, for many, the path will be to move beyond transactional/single service relationships to ones that bundle additional capabilities and services, and ultimately provide integrated services across major elements of the supply chain. Clearly, that will take both adoption and skill of more advanced capabilities than WMS and TMS.

“First, visibility itself is not sufficient, or even particularly valuable. What does add value is “actionable visibility” – information that can lead supply chain and logistics practitioners to make improved decisions, not just be able to tell others in the organization what ship a PO is on.”



Summary and Conclusions

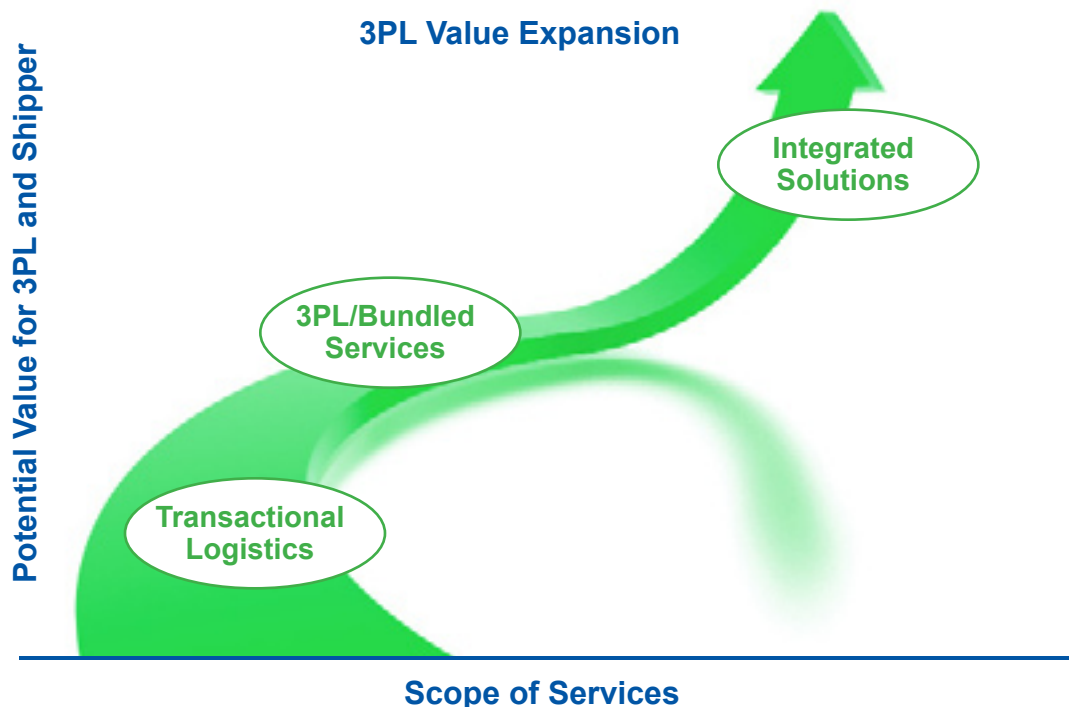
“There’s something very interesting going on in terms of outsourcing. Our company is increasingly looking at offshore IT companies like Wipro and Infosys to provide outsourced supply chain technology capabilities,” this manager said. “Not to build it for us to run, but to source the capabilities and run them for us. This is something 3PLs should pay attention to.”

Interestingly, one shipper told us he agreed that there is an opportunity for 3PLs to provide more advanced supply chain technology solutions – and that if they didn’t, there were other offshore alternatives.

“There’s something very interesting going on in terms of outsourcing. Our company is increasingly looking at offshore IT companies like Wipro and Infosys to provide outsourced supply chain technology capabilities,” this manager said. “Not to build it for us to run, but to source the capabilities and run them for us. This is something 3PLs should pay attention to.”

In the future, *SCDigest* believes it is clear shippers will move more towards technology-based services, especially in terms of visibility, analytics, predictive dashboards, and support for the global supply chain.

The lack of world class technology on the part of many shippers means opportunities for them – and 3PLs – to move or help them move to higher levels of process and results in these challenging supply chain times.



About Supply Chain Digest

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–*On-Target*, and *The Supply Chain Digest Letter* – and web site (www.scdigest.com) deliver news, opinions and information to help end users improve supply chain processes and find technology solutions.

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