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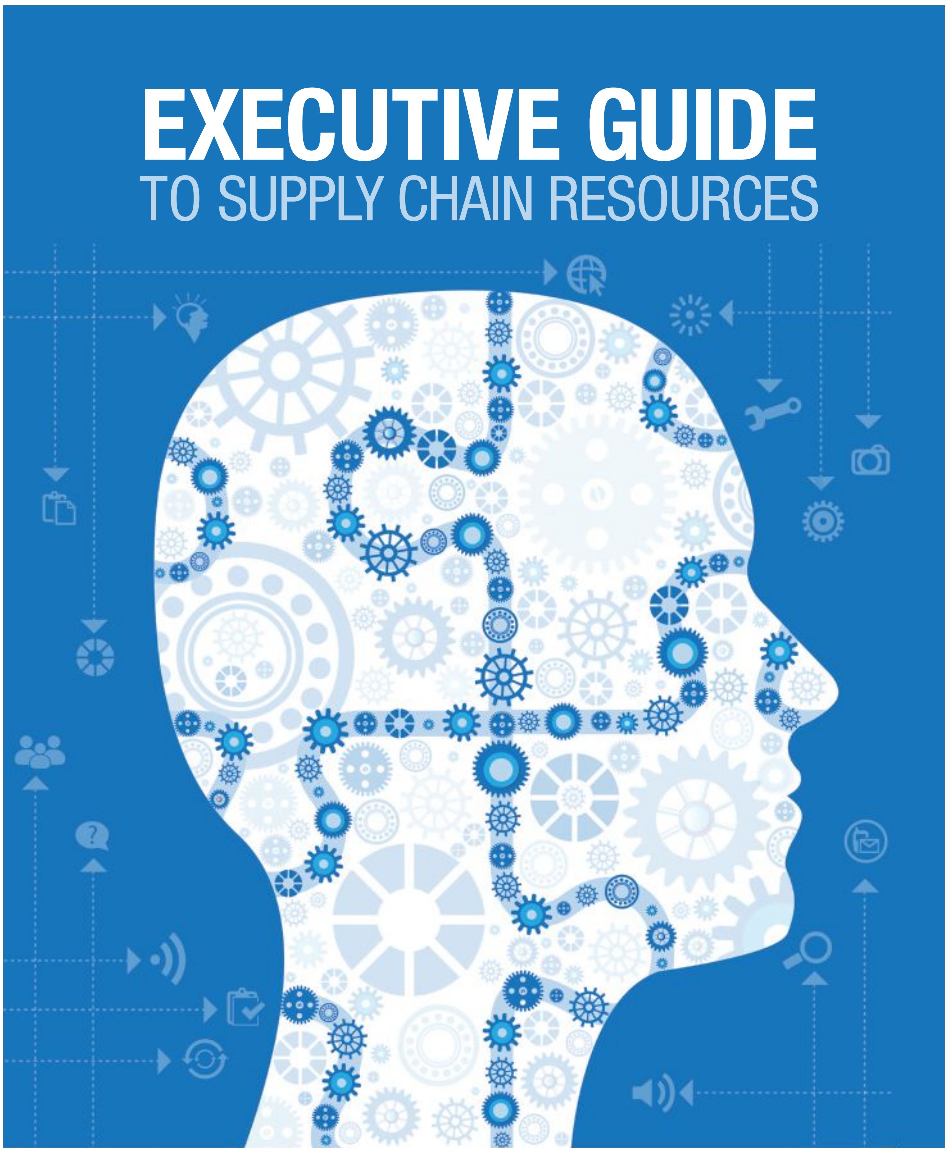

FEATURES

A resource for the year ahead

It's December and time once again for our annual Executive Guide to Supply Chain Resources. This is a comprehensive guide to services, products and educational opportunities targeted specifically to supply chain professionals. As with years past, we're also featuring several articles we trust will offer food for thought in your supply chain in the coming year.

First up is an article by industry veteran Rich Sherman on the pitfalls of demand planning, and how to avoid them. That is followed by executive editor Patrick Burnson's annual outlook for the economy and supply chain management in the year ahead. Burnson surveys a wide variety of published reports and brings them together in one concise outlook feature. For the second year in a row, we're running insights from the Council of Supply Chain Management Professionals' 2018 State of Logistics Report authored by A.T. Kearney. This year, author Michael Zimmerman predicts a steep grade ahead for the logistics sector. He examines the big picture factors that will continue to drive high shipping prices, including a deep dive on each logistics sector and an outlook for coming technological changes. These two are must reads for supply chain professionals who are grappling with uncertain demand, the potential for a slowing economy, volatile fuel prices and a continuing worker and driver shortage.

Bob Trebilcock, Editorial Director
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We round out the issue with a look at how the Indian auto industry is looking to its waterways as a sustainable way to get finished goods to the right locations for its customers. There are lessons that other developing manufacturing economies can apply to their logistics and supply chains.

I'd also like to invite you to *Supply Chain Management Review*'s first NextGen Supply Chain Technology Conference, which will be held in Chicago in April 2019. We'd love to have you attend, but we're also looking for presenters who can speak to the emerging technologies that will shape tomorrow's supply chains and submissions from practitioners to our first annual Supply Chain Awards. You can learn more at **nextgensupplychainconference.com.**

As always, the editors at *Supply Chain Management Review* wish all of our readers a successful year to come. We hope that the information and insights contained in this issue will play some part in that success.

Bob Trebilcock

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FEATURES

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The COMMON PITFALLS *of Demand Planning*

Effective demand management is critical to the financial performance and health of an organization. However, to be successful companies must overcome the common pitfalls that have evolved from decades of insufficient demand planning and management.

BY RICHARD J. SHERMAN

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Effective demand management is critical to the financial performance and health of an organization. Demand management is boundary spanning and, as such, needs to be independent of the functional management organization. When we refer to demand management, we are referring to every functional group within the organization contributing to and relying on managing demand. Digitization and digitalization offer the promise of digital collaboration across functional silos and organizational boundaries without significant manual interaction. However, to be successful companies must overcome the common pitfalls and archetypes that have evolved from decades of insufficient and siloed enterprise demand planning and management. Let's take a look at the four most common pitfalls of demand planning.

The Problem: The traditional supply chain view is linear and disconnected

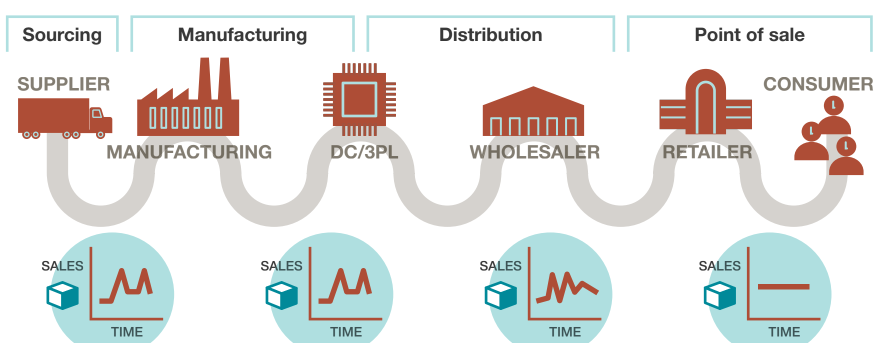
Pitfall No. 1: Lack of an organizational commitment to improved demand planning

- Organizational culture has been conditioned to the "forecast is always wrong."
- Lack of executive commitment to integrated demand/supply planning:
  – demand planning resides in functional silos with a bias to functional metrics; and
  – demand planning led by middle managers supported by junior analysts.
- Operational demand planning is supply chain focused and forecast oriented.

We traditionally view the supply chain as a chain of sequential links each with behavioral attributes that act separately and together to cause demand variation from historical performance. This has been widely characterized as the bullwhip effect. As demand variations are communicated sequentially through the supply chain there are time delays and amplification of the signal variations that cause error to propagate the network (see Figure 1).

FIGURE 1

Errors in the network



- Forecast cycles plan weekly or monthly demand at various aggregated levels
- Sales and operations planning processes don't address SKU by location accuracy
- Advanced: demand driven, demand sensing and shaping techniques occur outside daily operations
- Network and inventory optimization initiatives don't address on-going variability

Source: Author

As a result, planners are making million dollar working capital decisions largely based on custom spreadsheets and tribal knowledge.

Statistical forecasts are based on historical data, and are not representative of the existing and future conditions (causal factors) that influence demand. The departments responsible for creating, marketing and selling do everything they can to change history. The result: The forecast is always wrong. Sales & operations planning (S&OP) is a noble attempt to capture causal factors; however, the time delays associated with S&OP processes exacerbates the error. The statistical forecast is only useful when determining a basis for segmentation, analyzing patterns and creating baseline forecasts. As a result, statistical forecasts about stock keeping units (SKUs) at the location level, for example, will always be inaccurate.

Statistical forecasts are based on historical data, and are not representative of the existing and future conditions (causal factors) that influence demand.

The resulting culture is one of acceptance of inaccuracy with no one collecting the reasons why the forecast was wrong to consider those recurring causes in the future. To improve accuracy, organizations need to collect and study the causal factors that are likely to increase or decrease demand, across the business, to determine and manage variability from baseline demand, for each item, at each location. New and more abundant sources of data from digitization make this feasible today.

Pitfall No. 2: Lack of collaboration among functional silos

- Functional planning silos don't collaborate.
- Actions in one functional silo result in variability to other silos' requirements/demand
  - R&D introduces new products affecting marketing, sales, procurement and production;
  - marketing introduces demand generation initiatives (e.g. promotions, feature extensions, etc.) affecting sales, procurement, production and logistics; and
  - operating plans lack visibility and consideration of demand generation initiatives affecting marketing and sales.
- Finance praises the guilty and punishes the innocent; blame persists throughout the organization.

The traditional organizational structure is vertical and groups function in a way that creates the very silos that serve as a constraint to optimizing performance. Breaking down the silos is impossible; vertical silos are necessary for effective execution of horizontal processes that flow across organizational structures. I've written about it in detail in my book, "Supply Chain Transformation: Practical Roadmap to Best Practice Results." Sales won't be reporting to purchasing anytime soon, for example, although accurate demand forecasts are critical for both functions. Companies must look to digital technologies to electronically connect the silos and functional plans to manage the organization vertically and horizontally simultaneously and foster intelligent "digital collaboration" among the silos.

A case for digital demand management

Pitfall No. 3: Reliance on historical performance data

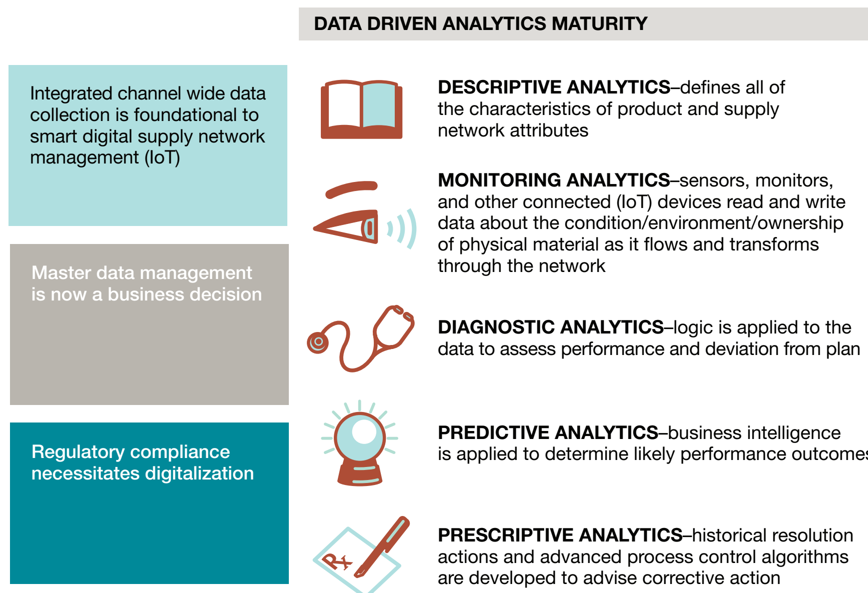
- Companies use historical data sources to forecast:
  - shipments (traditional);
  - orders (more recent); and
  - forecasts based solely on historical data produce hysterical results.
- Sherman's Law of Forecast Accuracy: "Forecast Accuracy improves in direct correlation to its distance from usefulness."
  - Companies must leverage new and more abundant sources of data;
  - causes to demand variability must be collected and explained; and
  - companies must leverage advances in cognitive analytics.

Digitizing your business will give you the data you need to sense, shape and respond to demand changes in real time. This will also allow you to apply scientific principles and derive more accurate demand forecasts. Going digital doesn't break down silos, but it does help to horizontally integrate your organization by linking vertical functional activities with horizontal processes. Digitization also facilitates digitally "connected" collaboration and helps apply statistical process control techniques to manage and improve demand forecasts by determining an acceptable upper and lower range of flowpath variability from forecast. Holding product flow to a range of performance instills confidence that the plan can be achieved as well as serving as an alert to a causal factor that is disrupting the plan.

Traditional S&OP and integrated business planning (IBP) processes are too fragmented and unable to foster the execution level internal and external collaboration needed by modern businesses. As a result, they're unable to execute the new digital demand management processes required to support and develop better supply chains and more mature analytics capabilities (see Figure 2).

FIGURE 2

Using data to turbocharge analytics and forecasts



Source: Author

Using data to turbocharge analytics and forecasts

The connected age calls for a new corporate demand program management function. One that can effectively tap into the new digital sources of data—from external partners and from various fragmented functions, apply advanced predictive and prescriptive analytics methods, and provide more accurate, actionable demand forecasts.

Why is this a competitive imperative? Analytics, especially machine learning, are strongly rooted in historical data. If you haven't collected the data to compile a historical basis for predictive and prescriptive analytics, you are behind. The time

If you haven't collected the data to compile a historical basis for predictive and prescriptive analytics, you are behind.

lost is a hurdle you simply can't leap over, and catching up will take at least a year or two.

A demand management program office outside of traditional functional silos can leverage data from the entire organization and apply cognitive machine learning technology to capture the reasons for unplanned demand and learn to consider them for future planning as well as capture the work arounds that were taken to bring the flow of goods back into control for future prescriptive analytics (see Figure 3).

Causes of Demand Variability Must Be Captured & "Explained" for Future Analytics

Leveraging a causal based demand plan, the plan can be "functionally decomposed" to systemically develop linked individual plans with links to actual demand performance. Each planner is connected to an enterprise plan that is both top-down, bottom-up, and horizontal-vertical cross functional. Using Business Intelligence technologies, the flow of goods to meet the plan can be optimized and at each level and function and an acceptable range within "upper and lower control points" based on standard deviations. The cost of meeting both the upper and lower variations can be simulated and mutually acceptable risks taken for setting the actual control limits as illustrated in Figure 4.

Statistical process control for the supply chain

Pitfall No. 4: Failure to innovate and embrace change

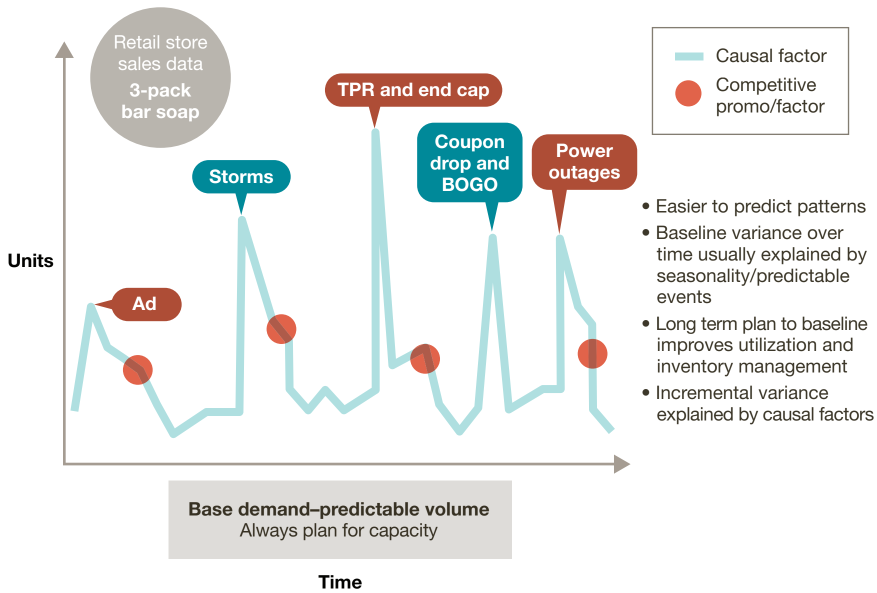
- Innovation is not invention; innovation is incremental change.
- Ecosystem thinking is not new:
  - based on Jay Forrester's research at MIT on computing's impact to business in the late 1950s;
  - evolved based on Peter Senge's "Fifth Discipline" research at MIT in the 1990s; and
  - embodied today in most disciplines especially operations research.
- Encourages collaboration both intra-organizationally and inter-organizationally.

Maintaining the status quo is no longer an option. Digital is a reality and markets are changing dramatically. Companies must embrace and leverage digital technologies. Digital disruption has no boundaries and every company is at risk to changing markets and competition. To compete in the 21st century requires new levels of digital and analytics maturity that are time and data dependent. Not acting and embracing the new digital technologies will be an extinction event for many companies.

We advocate the demand management program approach to transformation as it is the least disruptive to the current structures and is managed with C-level commitment, authority, and governance. As processes are digitalized and functions connected, the transformation to systems thinking and digital demand management is easier to embrace. It simply has to be done.

FIGURE 3

Causes of demand variability must be captured and "explained" for future analytics

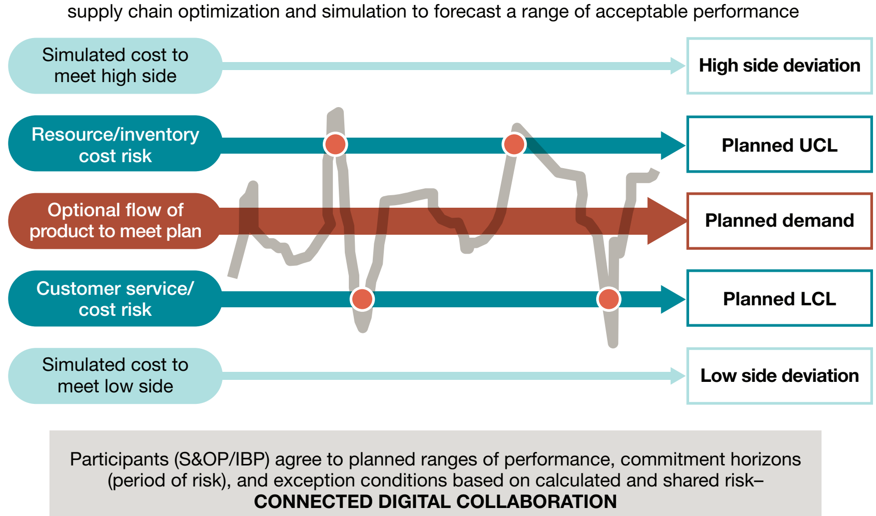


Source: Author

FIGURE 4

Statistical process control for the supply chain

Minimizing the impact of variability and forecast error through model-based supply chain optimization and simulation to forecast a range of acceptable performance



Participants (S&OP/IBP) agree to planned ranges of performance, commitment horizons (period of risk), and exception conditions based on calculated and shared risk–
CONNECTED DIGITAL COLLABORATION

Source: Author

STORM CLOUDS ON THE HORIZON?

Strength in employment and income, solid gains in household net worth and elevated consumer sentiment have generated considerable momentum just as tariffs on some $200 billion of imports from China have gone into effect.

BY PATRICK BURNSON

Patrick Burnson is executive editor of Supply Chain Management Review. *He can be contacted at pburnson@peerlessmedia.com.*

While a global recession is probably still a year or two away, "storm clouds on the horizon" are starting to look more than a little threatening, say IHS Markit economists.

"The good news on the trade front is that the United States, Mexico and Canada have agreed to a revised North American trade treaty," says IHS Markit's chief economist Nariman Behravesh. "The bad news is that the trade tensions between the United States and China seem to be escalating inexorably."

One symptom of the contentious trade environment is a fall in the IHS Markit purchasing managers' index (PMI) for global export orders for the first time in more than two years. Another source of concern is the volatility in oil prices for dated Brent. Putting all this together, IHS Markit predicts that world GDP growth will edge down from 3.2% in 2018 to 3.1% in 2019 and 2.9% in 2020.

Meanwhile, recent strength in employment and income, solid gains in household net worth and elevated consumer sentiment have generated considerable momentum just as tariffs on some $200 billion of imports from China have gone into effect.

"In our view, the higher tariff rates will reduce demand for imports from China, but two factors will mitigate this effect," says Behravesh. "First, Chinese exporters will temporarily reduce the pre-tariff price to preserve market share, and some imports will be re-sourced outside of China to avoid paying the tariff. Secondly, we also expect higher post-tariff import prices to pass through to domestic prices and weigh on real income and wealth, reducing domestic demand."

In their forecast, real GDP growth rises from 2.2% in 2017 to 2.9% in 2018 before slowing to 2.8% in 2019, 2.0% in 2020, and 1.6% in 2021.

Intensifying woes in the EU have other economists concerned. "Rising oil prices could significantly hamper growth, especially compared with the U.S. economy," says Sara Johnson, Executive Director, Global Economics for IHS Markit.

U.S. transportation growth outweighs rate hikes

Despite the prospects of further interest rate hikes, supply chain managers are being told by Fitch Ratings that all three major U.S. transportation segments may expect continued healthy growth in the coming months.

According to its latest report, cargo airports and seaports face potential increases in borrowing costs should the Federal Reserve continue to increase interest rates (three increases this year to date). Toll roads are also vulnerable to this risk.

That, coupled with increasing capital improvement spending needs, has the potential to slow growth.

"That said, the transportation sector's high ratings, along with high rate of fixed-rate debt, should limit the effects of potential interest rate escalation," says Stacey Mawson, director in Fitch's Global Infrastructure group.

This comes as all three segments continue to see healthy growth that is outpacing that of U.S. GDP so far this year.

"As the economy continues to expand, growth is felt across transportation sectors, although higher fuel prices are muting some of that effect," says Mawson.

Enplanements for U.S. airports nearly doubled year over year, up a healthy 5% for the first six months of 2018 compared with 2.6% growth during the same period last year.

Fitch expects a similar rate of growth for the second half of 2018, with medium and small hubs having the potential to outperform. Strong medium and small hub performers include Rhode Island, San Jose, Cincinnati, Albuquerque and Burbank, while Ft. Lauderdale, San Diego, Tampa and Orlando have been leading the pack for large hub airports.

Growth among U.S. ports has been solid through the first six months of this year (4.8%), though lower as compared with the robust performance seen in the first six months of 2017 (6.9%), though volume is still ahead of real U.S. GDP growth. There may be some more immediate volume shifts between ports with trade agreements still being renegotiated and steep tariffs imposed. Over time, however, any initial move in volume should level off.

"The report did not contain any startling surprises," says Mawson, "although we were impressed by how strong North Carolina Ports Authority performed after its recover from the Hanjin bankruptcy."

Mawson also notes that Alabama Ports Authority continues to perform well in the current trade environment.

Meanwhile, traffic and revenue growth for toll roads will stay on an upward trajectory. Facilities in the Southeast and Southwest recovered rather quickly following hurricane-related travel interruptions in the latter half of 2017 with year-to-date 2018 traffic growth averaging 5.0% and 3.8% respectively, easily ahead of toll roads throughout Northeast (1.5%).

More people moving to the Southeast and Southwest will add to toll road traffic and revenue over time. As in past years, one factor that could temper growth for toll roads is a material increase in gas prices.

"Deceleration in much of the rest of the world is also taking the wind out of exports," she adds. "This drag is even bigger owing to the ongoing impact of trade tensions and the rise in the euro and sterling against emerging-market currencies, including the Chinese renminbi."

Furthermore, economists are concerned about the standoff between the European Union and bond markets. The populist Italian government's aggressive budget is also sending tremors through eurozone financial markets.

Brexit impact

The risk of fallout from the Brexit deal is on the rise. Reflecting the tougher outlook, IHS Markit has reduced eurozone real GDP growth rates in 2019–21 by an average 0.2 percentage point a year. The eurozone economy is projected to expand 2.0% in 2018, 1.6% in 2019, and 1.3% in 2020.

At the same time the trade war is beginning to take its toll, economists say. The latest U.S. import tariffs on $200 billion of Chinese goods are being imposed in two phases—10% last September, rising to 25% in January 2019.

These tariffs will have the direct impact of shaving 1/3 of a percentage point off real GDP in 2019. This negative effect will be partially offset by the government's stimulus policies.

The latest U.S. import tariffs on $200 billion of Chinese goods are being imposed in two phases—10% last September, rising to 25% in January 2019.

Beijing has announced personal income tax cuts, as well as increases in export tax rebates on a select list of products. The People's Bank of China has also lowered the reserve requirement by 100 basis points for many banks, aiming to increase liquidity.

Perfect storm?

The trade war's spillover effects have been visible in China. Business confidence is slipping, the growth in fixed asset investment has slowed sharply and China's currency and stock market have been hit hard. Real GDP growth in China is projected to slow from 6.7% in 2018 to 6.1% in 2019 and 6.0% in 2020.

Other large emerging markets may also be heading for the "perfect storm," says IHS Markit. During September, many currencies, including the Russian ruble, South African rand, and Turkish lira, saw gains against the dollar—only to reverse course in October.

During September, many currencies, including the Russian ruble, South African rand, and Turkish lira, saw gains against the dollar—only to reverse course in October.

A variety of factors are to blame for this new reversal of fortune. First, U.S. long-term interest rates have risen steadily in the past month. In turn, the U.S. dollar has strengthened and emerging-market bond yields have risen to their highest levels in four years. This has exacerbated the burden of dollar-denominated debt in many emerging markets.

Second, oil prices are becoming a major drag on oil-importing countries, especially those in the emerging world. Even countries whose finances are relatively strong—such as India—are affected. Given that IHS Markit predicts oil prices to remain high and global interest rates to keep rising.

The pain will not end anytime soon, conclude these economists.

Measured response

Ellen Zentner, chief U.S. economist and a managing director at Morgan Stanley, agrees with most of these observations, and adds a few caveats of her own. Following four Federal Reserve interest rate hikes in 2018, designed to cool the economy, she predicts two additional Fed hikes in the first half of 2019.

"Growth is expected to slow significantly in 2019, as the impulse from fiscal policy fades and trade acts as a restraint on economic activity," says Zentner.

She adds that though direct government spending continues to contribute positively to growth, the stimulus from tax policy was mostly absorbed in 2018. Meanwhile, growth in business investment will be moderate in 2019, but will still help to drive higher productivity.

According to Zentner, household consumption will hold up well through early 2019, supported by higher disposable income and tax refunds. A higher savings cushion alongside a largely fixed-rate household balance sheet remain "cycle extenders."

Household consumption will hold up well through early 2019, supported by higher disposable income and tax refunds.

Finally, says Zenter, job growth will put further downward pressure on the unemployment rate, which should fall to 3.5 percent in 2019.

"A combination of temporary factors that had been depressing core inflation have now abated, and core inflation should remain comfortably at or above the Fed's 2% goal," she says.. "Following four hikes in 2018, the Fed is likely to hike twice in 2019—in March and June—where the hiking cycle will end."

Regional differentiation

Ryan Connelly, a senior analyst for global economics at Frontier Strategy Group, (FSG) recently authored the firm's "Global Outlook for 2019," noting that supply chain managers may opt for a variety of options to mitigate risk on a regional basis.

"Each region in the global economy is going through unique economic transitions," he writes. For example, there have been significant structural adjustment programs in much of the Middle East and North Africa (MENA)."

The same conditions hold true for Latin America (LATAM) and the Commonwealth of Independent States (CIS), while China will continue to "manage" its slowdown. Meanwhile, Connelly says there is an ongoing economic recovery in most of Western Europe (WEUR) along with maturing business cycles in the United States and Germany—leading to very different degrees of price sensitivity and premiumization opportunities in each market.

"Across 2019, this will take place in an environment of rising global interest rates, the emergence of inflationary pressure in developed markets and China, and ongoing foreign exchange (FX) volatility that will need to be addressed in pricing strategies," he says.

In addition to developing "pricing strategies," Connelly has other advice for supply chain managers preparing for shifts in shipping and sourcing in 2019. This includes market monitoring. "Assess what should be the leading indicators for your execution of key strategic initiatives, and incorporate them into dynamic management dashboards," he says. This includes tracking the leading indicator analysis and management dashboards."

There is an ongoing economic recovery in most of Western Europe (WEUR) along with maturing business cycles in the United States and Germany—leading to very different degrees of price sensitivity and premiumization opportunities in each market.

The Frontier Strategy Group also advises managers to develop localized digital strategies to improve customer engagement, operational efficiency, product development and organizational effectiveness. Finally, FSG consultants suggest that managers conduct their own "scenario analysis." They contend that with rising rates, inflationary pressures, FX volatility and geopolitical disruptions expected, scenarios can help mitigate risks to 2019 plans.

"Complacency is not an option for developed and emerging market executives, who will need to take a much more rigorous approach to opportunity assessment, commercial execution and risk management," concludes Connelly.

STEEP GRADE AHEAD

This year's logistics trends are pointing to a single scenario for 2019: a steep grade ahead. As demand outpaced supply in every sector of logistics, carriers have been in control. A variety of factors—from high fuel costs to constricted labor markets—will conspire to keep prices high. To contain costs and ensure stability, shippers must become more efficient, in part by leveraging emerging technological tools.

BY MICHAEL ZIMMERMAN

Michael Zimmerman is lead partner for the Americas in the analytics practice of A.T. Kearney, a leading global management consulting firm. He can be reached at michael.zimmerman@atkearney.com.

Rising volumes. Capacity shortages. Bold price increases. Across all sectors, for all types of shippers. Through most of 2017 and 2018, the story of logistics industry has been inflationary. It simply costs more to move and store things now than in the past. And in general, this trend is likely to continue, according to the Council of Supply Chain Management Professionals' 2018 State of Logistics Report authored by A.T. Kearney.

Reduced available capacity and high prices have resulted in large part from a strong economy. Most indicators call for the strong economy to continue through 2019 and beyond, despite some recent wobbles and concern that the Fed rate increases will trigger a recession. The capacity crunch has not been helped by uncertainty about big, technology-driven changes coming to most sectors of the industry. While those changes are indeed coming and will be profound, they are not likely to arrive soon enough to make a difference in 2019. Thus, shippers will need smart strategies to address the complex tradeoffs inherent in a tight logistics market.

The industry outlook is clearer than it was a year ago. Back then, uncertainties suggested four different scenarios for how 2018 would play out. This year, all trends point to a single scenario: a steep grade ahead. As demand outpaced supply in every sector of logistics, carriers have been in control. A variety of factors—from high fuel costs to constricted labor markets—will conspire to keep prices high. To contain costs and ensure stability, shippers must become more efficient, in part by leveraging emerging technological tools.

This article first examines the big picture factors that will continue to drive high prices. It then takes a deeper dive on each logistics sector. Finally, it addresses the outlook for the coming technological changes.

1. Demand outstrips supply

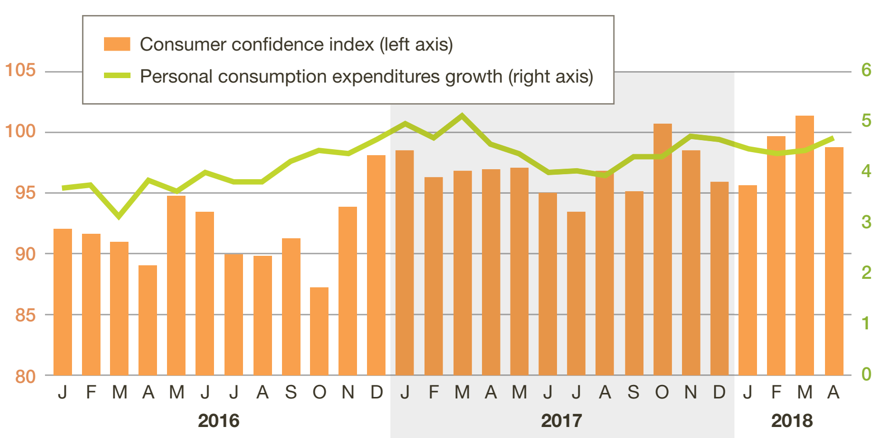
U.S. economic growth revved up in 2018, with GDP growing at a 3%+ rate. Healthy consumer spending was driven by a strong job market and modestly rising wages. In March 2018, consumer confidence reached its highest level since January 2004, according to the University of Michigan (see Figure 1). Meanwhile, a depreciating U.S. dollar boosted exports, which also caused growth in shipping.

High demand from these vibrant economic conditions triggered freight capacity shortages, which gave carriers leverage to raise prices. After years of downward rate pressure, it became a seller's market. Indeed, carriers faced little choice but to raise prices, because the economic growth also drove up their own costs, especially labor and regulatory compliance costs.

FIGURE 1

Household spending trends are relatively strong

Consumer confidence and personal consumption expenditures growth
(Index value, year-over-year %)



Sources: University of Michigan, US Federal Reserve; A. T. Kearney analysis

The result of all this activity: Back in 2017, overall U.S. business logistics costs rose by 6.2 percent, with costs increasing across all components: transportation, inventory carrying costs and other expenses. Most indicators show that these trends continued through 2018 and are likely to continue in 2019. Retail and wholesale inventories are swelling. Economists predict that tax reform will add 70 basis points to GDP over the next decade. In particular, growth in e-commerce is likely to increase logistics demand. Certainly, market dynamics and government policies can change quickly. But experts believe that under current policies, economic growth will remain strong for two to three years, before slowing as short-term tax breaks expire, interest rates rise, and deficits force government to cut spending. The International Monetary Fund, for example, predicts U.S. growth rates in 2018 and 2019 to both be higher than in 2017.

A strong economy is good news for most business people. But it can strain existing infrastructure and result in higher costs. Thus, logistics costs have been rising and are likely to continue to do so.

2. Outlook by sector

Motor carriers: a structural change. The trucking industry is facing an ever-tightening driver shortage, with competition among carriers leading to increased salaries and benefits, and high turnover rates. Early in 2018, it appeared that the driver shortage created a tipping point of structural change in the industry.

With U.S. unemployment continually falling—as of September 2018, it hit a 50-year low of 3.7%—carriers are struggling to attract recruits (see Figure 2). Trucking companies have increased driver salaries by 15% to 18% since 2013, according to the American Trucking Association. New regulations are reducing available driver hours. Meanwhile, fuel costs are also rising, from an average of $2.30 per gallon in 2016 to $3.08 in the first five months of 2018, cresting at $3.30 in October, a level not seen since Q4 of 2014. Thus, carriers are facing significant cost increases that they want to pass on to their customers.

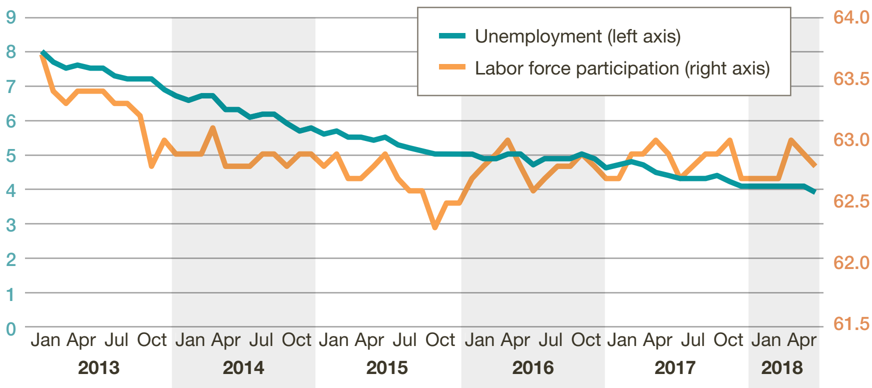
In response to the increased demand, many carriers played it safe in 2018. Neither orders for new trucks nor the hiring of new drivers matched the growth in demand. The load-to-truck ratio rose to its highest point in five years.

Then, beginning in August of 2018, conditions softened (see Figure 3). Hurricanes dampened (rather than intensify) demand, some new capacity did arrive on the market, and

FIGURE 2

The U.S. labor market continues to tighten

(Unemployment rate, labor force participation rate)



Sources: US Bureau of Labor Statistics; A. T. Kearney analysis

the peak season started shaping up as underwhelming. In September, A.T. Kearney predicted that 2019 contracted rates would increase by 5% to 10%—but if this softening trend persists through the end of 2018, carriers will be willing to make rate concessions and 2019 contracted rates could be flat or slightly down from 2018 levels as carriers seek to secure volumes. At the time of this writing, it is too early to tell.

The still unfolding situation deserves monitoring. Meanwhile, whether or not contracted rates stabilize, shippers can benefit from freeing up or generating capacity by changing their internal behaviors (see sidebar: Become a shipper of choice).

Water: *cloudy horizons.* Spot rates on Trans-Pacific ocean transport are at their highest levels in five years, up 40% to 50% from a year ago. As in other sectors, high prices have been the story in 2018, but the 2019 forecast is clouded by the impending U.S. tariff increase on January 1. Early in the summer, carriers withdrew capacity on fears that the peak season had already peaked—but by fall shippers scurried to front-load shipments before the end of the year. This activity may be driving the current high prices; at the same time it will likely weaken demand in early 2019, especially around the seasonally weak Chinese New Year.

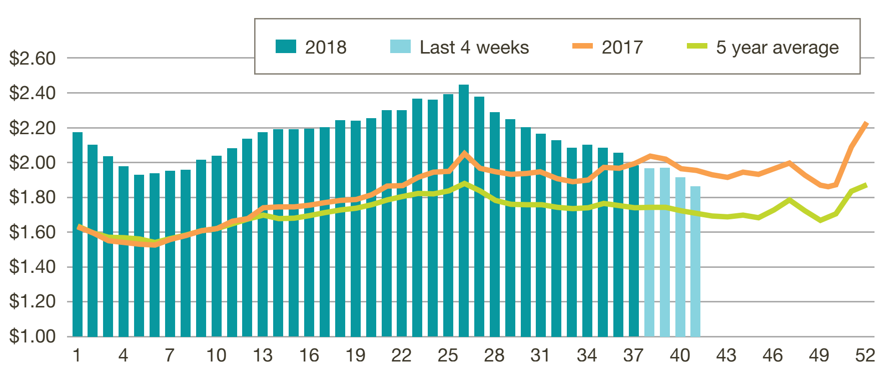
Despite the high prices in 2018, many carriers have posted lackluster results—even dismal, compared to last year. Fuel costs have increased by 25%, and carriers that locked in low contract rates have been unable to pass costs through. To stay profitable, some carriers may preemptively mothball capacity to artificially raise prices, as they did in 2010 after the financial crisis.

In the longer term, forward looking contract talks will be dominated by the disruptive effects of new Low Sulfur (LSF) regulations being put into effect on January 1, 2020, by the International Maritime Organization (IMO). Known as MARPOL (marine pollution) 2020, the regulations will have global health and environmental benefits, but initial estimates indicate that they could increase fuel costs by 30% to 50%. To comply, carriers will have to either use LSF bunkers or make capital investments in scrubbers or other alternatives. Given that many are already suffering from profitability issues, if they cannot pass costs on to customers, they may be driven out of business.

Air freight: *at cruising altitude.* Compared to other modes, air freight pricing has remained relatively steady, with increases of "only" 4% in 2017 and about 5% in the first

FIGURE 3

Rates excluding fuel surcharge



Sources: FTR, Truckstop.com–www.trans4cast.com

Become a shipper of choice

For many shippers, the high prices and capacity shortages of the logistics industry have become a C-suite topic. Fortune 500 companies such as Hershey, Mondelez, Mattel and Michelin highlighted the issue in earnings reports. In an A.T. Kearney survey, several shippers noted that they have undertaken strategic changes geared toward shifting industry economics. They may be taking a new look at dedicated fleet models or finding ways to consolidate shipments.

One of the most promising approaches is to become a "shipper of choice"—to pursue operational efficiencies in hopes of winning favor with carriers. For example, reducing load/unload times, treating drivers well, improving payment terms and reducing tender lead times can all reduce carrier costs or hassles. Then, when the carrier faces a capacity shortage, it looks more kindly on its most attractive shippers.

Becoming a shipper of choice is all about changing processes and policies. Improved planning and communication—such as forecasting load requirements by site and lane, being able to accommodate both drop trailer and live-load shipments and giving carriers more flexibility on their appointments—are shipper-of-choice practices that enhance shipper-carrier relationships. The objective is to "create" capacity where it otherwise might not exist.

eight months of 2018. As in other sectors, rising prices result from increased demand, although 9% growth in 2017 has slowed to about 4% so far in 2018. Meanwhile, after several years in which capacity growth continually lagged demand growth, 2018 capacity has grown at 4.5% through August, or slightly stronger than demand.

The immediate impact of tariffs is expected to be more muted for air freight than in other sectors, because traditional air freight users such as semiconductor manufacturers are less affected. However, continued increases in jet fuel pricing are dampening airline profitability. Thus, continued price increases—perhaps smaller than in other sectors but nevertheless greater than inflation—are likely.

Rail and intermodal: *spillover from a tight trucking market.* As tightening motor carrier capacity has prompted shippers to shift more cargo to rail, railroads have been able to reverse prior-year trends and raise prices sharply. Volumes are up, prices are up, operating ratios are down and railroads are making record profits.

Capacity remains limited with shipper demand higher than expected. Although train lengths have increased, there are physical limitations to train length. Meanwhile, efficiency programs have driven down crew counts and locomotive counts, limiting excess capacity. A move toward the efficiency of precision railroading caused some performance issues in 2017, and although executives have apologized, they haven't backed away from these initiatives.

In the longer term, productivity improvements may well be essential to railroads' profitability. Beyond 2019, they will likely face declining volumes of coal, as well as challenges from an over-the-road sector that will benefit from reduced costs due to driverless vehicles and electric vehicles.

Parcel: *rising consumer expectations.* Surging e-commerce shipments have fueled demand for parcel delivery. Rates are rising and innovations coming online as shippers try to solve the "last mile" delivery challenge. Yet that challenge continually grows as customers increasingly demand next-day and even same-day delivery. It is far from being solved.

For years, e-commerce growth has centered on sellers' digital capabilities, allowing consumers to buy anything, anywhere, anytime. But the rise of direct-to-consumer (D2C) strategies are shifting corporate focus to the supply chain. Who will fulfill orders, and how? Will D2C crowd out retailers, or will the demand for same-day delivery give brick-and-mortar facilities new importance in distribution?

Clearly, major supply chain adjustments are needed to move warehouses closer to customers and add delivery capacity. Major capital investments will be required at a time of intense competition. Until markets figure out who will bear those investment burdens, carriers will have room to raise prices. Yet the stakes are high, because parcel costs represent one of the few significant potential headwinds to continued e-commerce growth.

Warehousing: *innovation needed.* Like other sectors, warehousing in 2017 saw strong demand, tighter capacity, higher labor costs and rising rates. As e-commerce surges, the role of warehousing has become even more important and the need for efficiency paramount.

Four major trends will drive the evolution of warehousing over the next five years: labor cost inflation, e-commerce growth, the dominance of larger players such as Amazon and warehouse automation. The sector has plenty of potential for innovation: robots, drones, wearables and chip/sensor technology could all improve warehousing efficiency. With warehouse wages rising 6% in 2017, more than half of warehouse operators were investing large sums in handheld technologies and mobile platforms.

Given the intense competition and rising customer expectations, warehousing faces an "innovate or die" challenge. Better-capitalized players may be better-suited to introduce innovations and break from the pack—but even they face a need to increase their appetite for risk.

Third-party logistics: *poised for growth.* The U.S. third-party logistics (3PL) market is projected to grow by 5.5% between 2017 and 2019, driven primarily by domestic transportation. The capacity crunch and a supportive tax environment outweigh the impact of any macroeconomic uncertainties, and 3PLs' 2018 Q2 earnings continued to be strong.

As the 3PL market continues to evolve from discrete services to end-to-end solutions, it will likely be a hotbed for technology-led disruption. Can incumbents place the right bets on emerging technologies? Will they find, and pay for, warehouse workers with the skills to manage automation and the Internet of Things? Can 3PLs build trust with shippers to create the long-term strategic partnerships that would enable technology-driven collaboration, efficiency, and growth? (See sidebar: Relationship structures.) The earliest signs of answers to these questions will likely be in the increasing role of artificial intelligence (AI) and visibility tools in 3PL activities such as document gathering (data processing), carrier capacity tracking, shipper load requests, load/carrier matching, customer service and other back-office functions.

3. A slow-moving industry and fast-moving technology

Past changes to the logistics industry have typically been evolutions, not revolutions. It's generally a slow-moving industry, which means that the smartest predictions are for continued slow-but-steady evolution. On the other hand, the coming changes are clearly going to be driven by technology. And as technology has changed other industries (book publishing, newspapers, television, etc.), it has usually done so in big, quick, disruptive ways. The smartest predictions about technological disruption are the most radical ones.

What will happen when the irresistible force meets the immovable object? The key indicators will be how and when shippers and carriers can use innovative technologies to make real progress in meeting their needs.

A wide variety of next-generation capabilities are likely to affect different components of the industry in the coming decade (see Figure 4.) A.T. Kearney believes the following applications are closest to adoption.

• "Uberization" of freight: Let's call it the app-driven sharing economy, because multiple start-ups and established organizations are developing apps that could drive an

Relationship structures

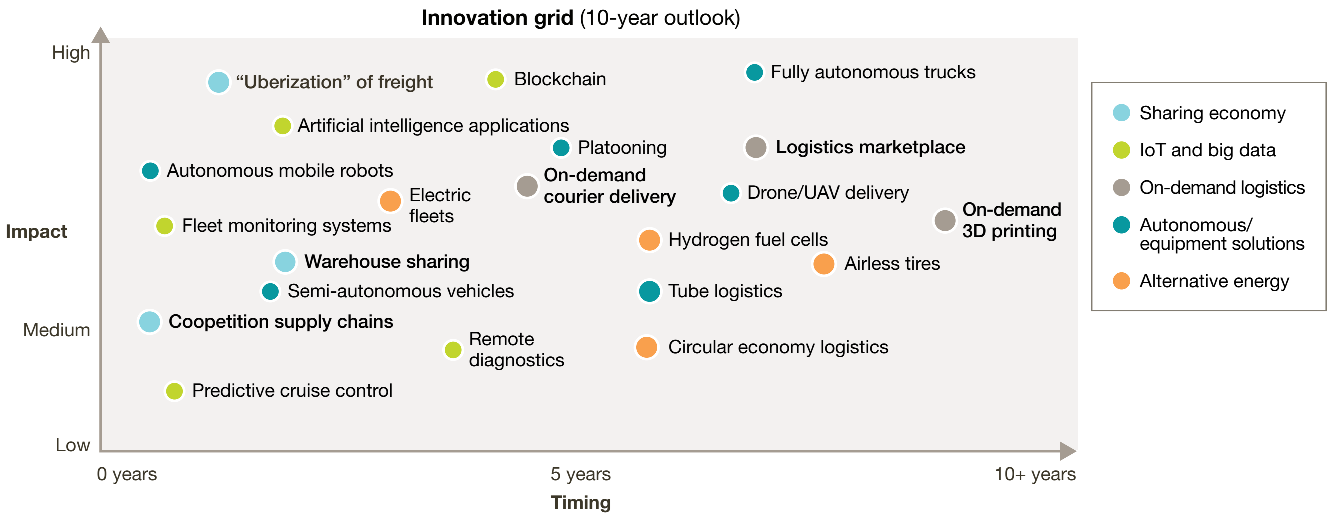
Relationships in the logistics industry have traditionally been transactional. A shipper needs a truck today and chooses the cheapest carrier that can provide one. Tomorrow, with changing prices and availability, the choice may differ. But given the industry's trends—toward short-term capacity shortages and long-term technological change—a more incentivized relationship structure may be more beneficial.

This is especially true for relationships between shippers and third-party logistics providers, searching to lower costs by enhancing productivity. Some productivity advances may come from investments in automation or other technology, which may be easier to make with a longer-term commitment. Other advances may come from both parties making procedural changes—again, a move that benefits from a less-transactional approach to the relationship.

For shippers working directly with carriers, one approach that many A.T. Kearney clients have used is collaborative optimization, in which advanced analytics supports a sophisticated sourcing allocation. A shipper assembles a list of requirements or constraints, and then uses a software tool to assess them against a variety of carrier offers. The goal is to find the combination where both companies can benefit—from proposed discounts, realized network needs, and capacity and volume commitments. Investments in collaborative optimization help shippers better allocate scarce capacity and mitigate risks.

FIGURE 4

A range of new technological innovations is expected to impact the overall transportation industry over the next 10 years



Sources: A. T. Kearney analysis

Blockchain

The fragmented global logistics industry, lacking in standardized transaction and tracking processes, is full of mistrust and lack of accountability. The transparency of a blockchain ledger promises an antidote. It could simplify payments and cross-border transactions, track goods as they move through the supply chain, and establish goods' provenance and integrity.

But, paradoxically, enacting a blockchain solution will require high levels of trust. For blockchain to work, all players must believe in the validity of the ledger's information. Shippers, 3PLs, carriers, brokers and governments would need to agree on a common framework. The Blockchain in Transportation Alliance (BiTA) says that progress toward global standards has been slowed by the diversity of players.

The task isn't impossible. The potential to save billions of dollars through improved inventory and capacity management makes it worthwhile. Maersk's pilot program is attracting increasing numbers of shippers. But the ultimate success of blockchain will depend on its widespread adoption by all sectors of the industry.

increase in shared capacity. These include not only Uber Freight but also Cargomatic, Convoy, CargoChief, Transfix and Trucker Path. Uber Freight may indeed be farthest ahead, with its new Power Loop company that rents trailers to power-only carriers. But there's clearly a race to make inroads in the brokerage business.

- Robot-assisted warehousing tasks: Big players such as Amazon have been early adopters of robots and cobots (collaborative robots). But expected new advances include more widespread applications and the potential use of virtual reality for training purposes.
- Blockchain: The technology behind crypto-currencies is starting to witness real applications in the supply chain. For example, Walmart now requires lettuce and spinach providers to join its food-tracking blockchain for traceability (see sidebar: Blockchain).

Whether it comes slowly or quickly, negotiating the digital disruption of the logistics industry will be a challenge. It's a particular challenge when day-to-day conditions of rising prices and reduced capacity also demand smart, focused attention. That's why the theme of this report is "steep grade ahead." The consolation: when you get to the top of a steep grade, you're generally atop a mountain with beautiful views, and a smooth downhill from there on.

ROADBLOCKS *to Sustainable Logistics in India's* AUTO INDUSTRY

India has emerged as a major automotive manufacturing hub. But this massive and complex market presents logistical challenges, especially at a time when there is increasing interest in sustainable logistics solutions. One option: Transport more autos by water—but the nation's waterway systems are underdeveloped.

BY SAURABH CHANDRA, DEBABRATA GHOSH AND SANDEEP NIMJE

A study carried out by the Malaysia Institute for Supply Chain Innovation (MISI) and the Indian Institute of Management suggests that the industry can use waterborne transportation to deliver more autos. Strategies such as encouraging more collaboration between stakeholders and targeting investments in water infrastructure could facilitate a shift from road to water modes. There are lessons that other developing countries could learn from the research findings.

Untapped potential

In 2017, roughly 4.6 million passenger and commercial automobiles were produced in India, out of which 3.7 million were sold domestically, according to the Society of Indian Automobile Manufacturers. The domestic industry is scattered across the country, but there are at least three main clusters of activity: One near the capital city of Delhi, another in the southern city of Chennai and a third cluster in the western states of Maharashtra and Gujarat.

About 95% of the autos produced are delivered through roadways on specially designed trucks, reports the *SME Times*, with the remaining units delivered through railways as long-distance cargo. Waterway-based logistics solutions are almost non-existent, and there have been few trials of the coastal shipping mode for the transportation of autos.

Yet it is widely recognized that road is the least energy efficient transport mode, and causes environmental damage through direct emission of pollutants. Also, with rising traffic volumes and the resultant congestion on highways, the social cost of road transport is relatively high, a phenomenon common to many developing industrial countries. Coastal shipping and inland water transport on the other hand, are recognized as sustainable modes of transportation, owing to their high energy efficiency and low levels of pollutant emissions. These modes also help to decongest highways, leading to a reduction in social costs.

However, in India a considerable amount of infrastructural investment is needed before waterborne transportation can become viable for freight. If these investments were forthcoming—especially in port infrastructure—coastal shipping offers huge potential as a conduit for freight given that India has a long coastline that covers a major portion of the country.

Some logistics companies have attempted to tap this potential by developing sustainable logistics solutions based on coastal shipping. A number of deliveries have been made in the recent past through specialized, roll-on/roll-off (ro-ro) ships. In most cases, shipments have been made from the southern automotive hub of Chennai to a few ports in the Western extreme of Gujarat.

But these steps are not enough. The industry has failed to develop a regular coastal delivery service and achieve a sizeable modal shift to water transportation. Numerous studies highlight regulatory bottlenecks and lack of infrastructure as major reasons for this scenario.

Our research indicates that the main constraints seem to emanate from prevailing supply chain practices and performance requirements.

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Research initiative

Major economies in the world have put significant emphasis on developing sustainable logistics solutions. Europe is considered one of the best examples of deploying short sea shipping (a related term of coastal shipping) to connect various European countries by sea. The United States relies extensively on coastal shipping for regional trade, and China has developed its supply networks around coastal and inland waterways.

Some of the most important factors identified for the success of coastal shipping or short sea shipping are inter-modality of freight, port infrastructure to handle cargo and collaboration between logistics players. Certain other conditions suit coastal shipping growth, such as the location of distribution centers and warehouses near ports. Naturally, the geography of the region also plays a major role in the usage and scope of coastal shipping. Additionally, the success or failure of an alternative logistics solution also depends on the level of interest shown by the shippers.

Given these factors, our research into the potential use of water modes to move automobiles in India focuses on the following two research questions.

- What are the factors that inhibit the development of coastal shipping-based logistics solutions in the automotive sector?
- How can coastal shipping-based logistics solutions be developed?

To answer these questions, we conducted in-depth, semi-structured interviews of senior executives involved in the outbound logistics functions of automotive manufacturers in India and third-party logistics (3PLs) service providers. The 3PLs have implemented coastal shipping based-logistics solutions for carrying automobiles from the southern Indian manufacturing base of Chennai to the ports in the western Indian state of Gujarat.

This approach helped us capture both the buyer and supplier perspectives. The aim was to identify bottlenecks and opportunities for the development of coastal shipping-based logistics solutions.

The study findings provide strategic insights into logistics management practices in an emerging economy and highlight lessons for supply chain managers looking to understand the logistics sector in emerging markets.

Three groups of issues

The low adoption levels of coastal shipping for automotive logistics can be attributed to various reasons that are grouped under three main headings: infrastructural, government policies and industry practices.

The former two are extensively talked about in various forums, and these discussions have prompted policy makers and private players in India to implement projects in infrastructure creation and improve upon existing policies. India's government is very keen to develop coastal shipping and has relaxed some major policy bottlenecks. One of the supportive initiatives is relaxing cabotage rules for specialized cargo ships not available in India. This change has made it possible to hire foreign-flagged ro-ro ships for automobile deliveries between ports. Other initiatives include the reduction of port related charges, direct financial incentives for containers or ro-ro cargoes transshipped through sea ports and easing customs related norms for coastal vessels (although policy implementation challenges remain).

To create the infrastructure and assets needed to enable coastal shipping in the long run, the government has introduced schemes related to the favorable financing of relevant projects. In terms of infrastructure requirements, outbound automotive logistics sector is better placed, as outbound operations do not need specialized equipment for cargo handling at ports. A ro-ro ship is fitted with ramps for the loading and discharging of automobile units or any other wheeled cargo of appropriate size. Given the current policy and infrastructural demand, coastal shipping- based outbound automotive logistics seems a viable business model. Indeed, as discussed earlier, companies have already started these operations on a sporadic basis.

Why, then, has coastal shipping based outbound logistics not become an integral part of automotive supply chains?

Growth inhibitors

The answer to the above question lies in the industry policies and supply chain practices that are inhibiting the growth of sustainable solutions. There are three critical entities in outbound automotive supply chains, namely, the auto manufacturer, the 3PL and dealers/customers.

Automotive manufacturers have strategic partnerships with transportation service providers that provide trailer services. These capabilities and relationships have been built over the long term. Developing an alternative mode of outbound distribution acts as a disruption to the existing system, which creates resistance.

Another reason is delivery lead time performance of coastal shipping logistics coupled with large batch sizes of delivery, which undermine the just-in-time (JIT) supply chain philosophy followed by most auto manufacturers in India. JIT logistics prescribes a lean supply chain which implies smooth product flows with minimum defect rate and smaller inventory levels in production and distribution. Large process batch sizes and higher lead times have a strong impact on inventory levels in the supply chain. Higher inventory levels also lead to high working capital requirements, which can reduce the returns on investment performance of the firm. Further, vehicle sales in India are often driven by festive season demand. With several festivals throughout the year, timely delivery becomes a major concern.

The main challenges facing 3PLs that want to develop coastal shipping solutions for the movement of autos are related to the high level of financial risks involved. Logistics firms tend to hire ro-ro ships. In India, only foreign-flagged ships are available, owing to Indian ship owners' reservations in procuring ro-ro ships.

Although the government of India has allowed coastal shipping companies to operate foreign flagged ro-ro ships, there are certain additional complexities in doing so. First, roughly 50% of the crew must be Indian nationals. Second, foreign flagged vessels are not eligible for the relaxation in customs regulations that the government introduced for coastal shipping operators. Thus, the cost of acquiring and operating a ro-ro ship for coastal operations is expensive and complex. To cite an example, a small ro-ro ship capable of carrying roughly 800 cars doing a round voyage from the Southern Indian manufacturing hub of Chennai to the Pipavav port in the western state of Gujarat, costs roughly eight million Indian Rupees, or about US$137,000. If the ship remains unused in the charter period, the logistics company needs to pay a hefty charge of roughly 0.6 million Indian Rupees per day, or about US$12,163. In the absence of an adequate number of automobile units in both directions of the voyage, it becomes financially infeasible to run this service on a regular basis.

Another issue is a shortage of trucks for the first-mile delivery from the factory to the origin seaport as well as the last mile delivery from the destination seaport to the final dealers or customers. To mitigate this risk, a logistics firm often leases trucks from trucking companies. This entails additional investment, which increases the financial risk. Complex customs procedures, traffic congestion at ports and delays due to tidal variations make lead times even more uncertain.

The primary issue that concerns dealers/customers is the longer lead time of delivery through the coastal shipping mode. In India, dealers or customers make upfront payments to auto manufacturers when orders are placed. These parties have limited cash and higher lead times and hence a longer cash conversion cycle. Also, delays in the delivery of automobiles may increase the cost of lost sales or the additional cost of delayed sales to final consumers. Table 1 below summarizes the reasons for lack of interest and commitment specific to different stakeholders in the outbound automotive supply chains.

TABLE 1

Problem areas in developing coastal shipping for outbound automotive logistics

STAKEHOLDER	REASONS FOR LACK OF INTEREST AND COMMITMENT
Manufacturer	• Long term partnerships with trucking service providers • Just in time supply chain practices—shorter lead times and small batch sizes
Logistics services provider	• Financial risk-high operating cost for chartering vessels and inadequate bookings (inability of automobile manufactures to commit to volumes per voyage) • Lack of trailer availability for first-mile and last-mile deliveries • Complex procedures and traffic congestion inside the ports
Dealers/ customers	• Longer cash flow cycle • Cost of damages, if any and delay in delivery against promised dates to final consumers

Source: Authors

Actions and enablers

Given the problems described above, how can the various stakeholders involved achieve a broad shift away from road and towards water transportation in India's auto industry?

One important action is to improve the level of collaboration between stakeholders. Manufacturers should design strategies to dedicate a part of their shipment to the coastal shipping mode. An auto manufacturer typically supports several product variants with varying demand characteristics. In general, models that generate higher profits but also face higher demand uncertainty can be allocated to the more responsive road-based mode. Products with stable demand, lower profit margins and lower demand uncertainty can be delivered through the coastal shipping mode.

Coastal shipping can be used to make large deliveries from ports to these regional distribution centers, while trucks can be used to make final shipments to the dealers on a frequent basis.

Another supply chain initiative that can enable coastal shipping-based logistics is the development of distribution centers near destination sea ports. India has a coastline that is roughly 7,000 kilometers long and covers a major area of the country, with major ports spread across its length. If a major port catering to a particular region is developed as a distribution center for automobile deliveries, this can serve as an intermediate storage point for finished automobile that can serve dealers on a timely basis. These distribution centers can be used for final processing and customization of automobile units before final delivery.

Coastal shipping can be used to make large deliveries from ports to these regional distribution centers, while trucks can be used to make final shipments to the dealers on a frequent basis. Thus, economies of scale in transportation can be captured for a major part of the supply chain using large capacity coastal ships, while simultaneously achieving on time deliveries through the distribution centers.

Additionally, suitable contracts need to be designed between supply chain partners such that the financial and operational risks faced by 3PLs can be shared with other stakeholders. Innovative contracts can enable auto manufacturers to commit adequate number of automobiles to be shipped during a period of time, which would make coastal shipping operations financially feasible for 3PLs.

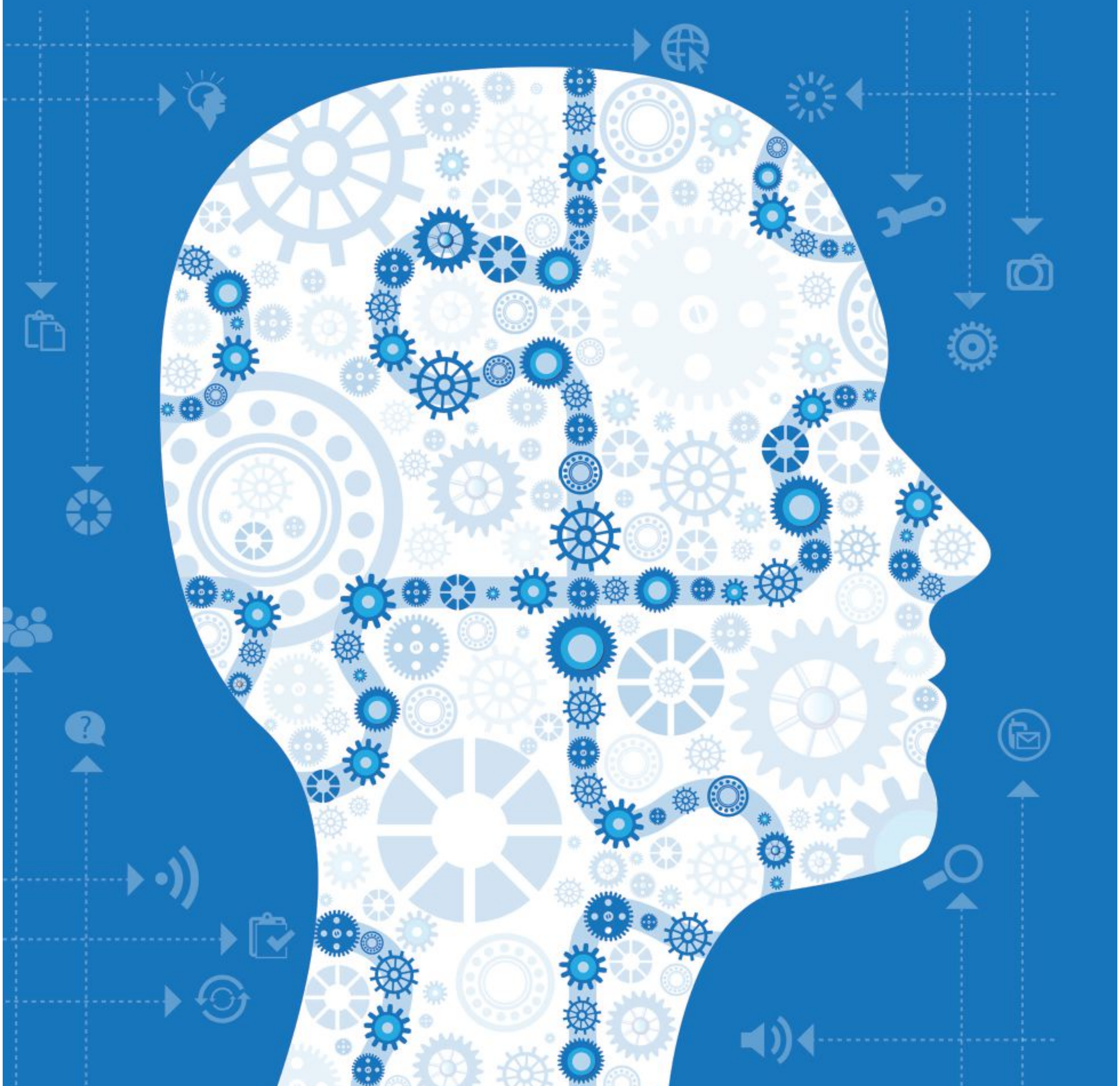
In this case, collaboration between different auto manufacturers located across three different clusters in the country may be required, as a single manufacturer may not be able to guarantee regular shipments through the coastal shipping mode. Suitable cost sharing contracts can ensure that auto manufacturers share the reduction in per unit logistics costs due to the usage of coastal shipping mode with dealers and final customers. In addition, automobiles delivered via coastal shipping can be labelled as more environmentally friendly, and hence more attractive for eco-conscious consumers.

Suitable cost sharing contracts can ensure that auto manufacturers share the reduction in per unit logistics costs due to the usage of coastal shipping mode with dealers and final customers.

Wider lessons

The problems associated with developing sustainable logistics solutions are by no means unique to India; many major economies struggle to adopt the policy frameworks that underpin sustainable transportation. However, the way India is attempting to address these issues to capture the advantages of coastal shipping, offer some important lessons for other emerging countries that are grappling with similar challenges.

EXECUTIVE GUIDE
TO SUPPLY CHAIN RESOURCES



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Description: Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology gives businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance

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Description: Offering a complete suite of transportation management, strategic capacity, and cross-border & global trade services, Transplace's customizable logistics solutions and best-in-class technology gives businesses greater control of their transportation operations and enhanced visibility of shipments and overall supply chain performance.

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COMPANY PROFILES

The following Company Profiles offer important insight from top-level companies. Read through these pages and see all of the new opportunities that are being offered to help improve your company's supply chain and keep costs in check.

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Moving at the Speed of Supply Chain

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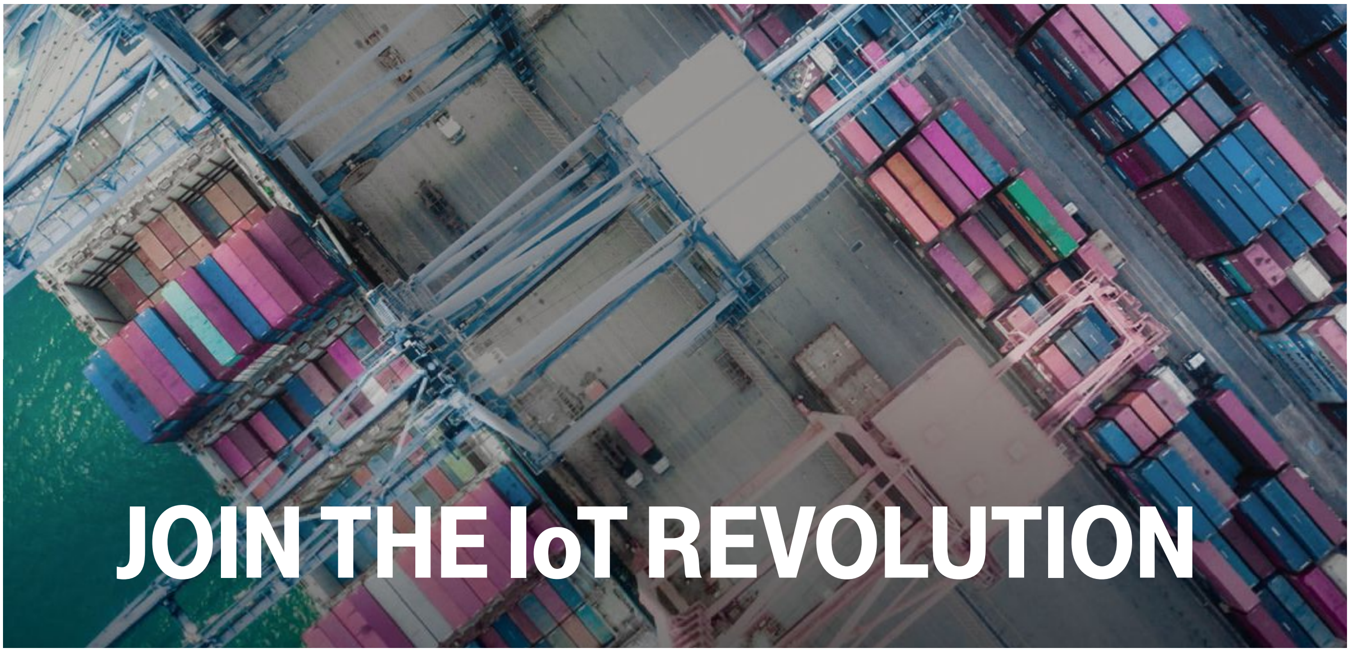

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Transplace is the premier provider of managed transportation, consulting & TMS solutions; and intermodal, capacity solutions, and cross-border trade services. With operations centers located throughout North America, Transplace delivers integrated solutions tailored to meet in-country and cross-border supply chain needs.

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A SPECIAL SUPPLEMENT TO:
SUPPLYCHAIN MANAGEMENT REVIEW

IMPROVING 3PL RELATIONSHIPS

Finding the right balance of EXPERTISE & TRUST

When the "3PL Value Creation/North America Summit 2018" convened in Chicago last month, shippers heard from a diverse group of industry experts on how to drive the best deals with their lead providers in both the global and domestic arenas.

BY **PATRICK BURNSON**, EXECUTIVE EDITOR

Armstrong & Associates' 6th annual summit helped shippers gain fresh insights on third-party logistics (3PL) provider trends and forecasts. And, shippers sought advice on how to establish and sustain relationships of trust and mutual benefit. In this roundtable discussion, we've asked four summit speakers to share their views on the current state of the industry.

Joining us in this dialogue are John Larkin, CFA, managing director of transportation and logistics at Stifel Investment Banking; Chris Caplice, executive director of MIT's Center for Transportation & Logistics; Ravi Dosanjh, executive vice president of international advisory for Armstrong & Associates; and Rich Hamilton, managing director of Cushman & Wakefield's 3PL Advisory Group.

***Supply Chain Management Review (SCMR):* What are the greatest challenges facing 3PLs today in the domestic and global marketplace?**

John Larkin: The biggest challenge relates to sustainably maintaining a technological edge over your customers and competitors without pushing the edge of the envelope out to an impractical, unreliable, and uneconomic frontier. And like all businesses, 3PLs struggle to find a sufficient number of qualified and motivated associates.

Chris Caplice: New ideas and approaches. While technology is excellent at improving the efficiency of existing operations and procedures, it takes an experienced and forward-thinking professional to come up with a dramatic improvement or change of business processes that delivers a real breakthrough.

Rich Hamilton: The rapid development and zeal to deploy new technologies that enhance visibility within the supply chain means investing—and reinvesting—and constant reevaluation of leading edge technologies to stay current and lead the competition. The development and deployment of these technologies is very expensive, and in many cases, it's the price of entry to pursue new business or retain existing customers.

Ravi Dosanjh: Evolving expectations around transit time and visibility are a challenge in today's environment. Faster transit times mean 3PLs must have interconnected networks with efficient hand offs supported by predictive analytics. Visibility necessitates system integrations with those networks supported by 3PL platforms that, in real-time, can share detail that allow the user to mitigate disruptions, stay agile and predict market trends.

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>
> *— Chris Caplice, MIT Center for Transportation & Logistics*

***SCMR:* With that as a baseline, how can 3PLs best demonstrate competence in an ever-changing business arena?**

Dosanjh: The respective freight markets have always been constantly changing and posing challenges such as supply and demand, cost management and service issues. The 3PLs that can navigate those issues and execute well are the leaders that rise to the top in their respective fields.

Larkin: Indeed, we also feel that 3PLs must improve supply chain velocity and reliability while reducing inventory, lowering logistics costs, and meeting more stringent customer expectations. Once accomplished, they should use successful case studies to pitch services to other potential customers.

***SCMR:* How should shippers choose the best 3PL provider?**

Larkin: Many rely on old relationships where a high level of trust already exists based on demonstrated competence. Others conduct small-scale tests to determine if claims by 3PLs are reasonable. Still others continue to look only at what appears to be the cheapest option. The problem with that strategy is that it does not consider the lifecycle logistics costs—it's just the cheapest compilation of freight rates.

Caplice: I suggest that shippers consider the knowledge of the 3PL's strategic planners to come up with an innovative approach to the business as well as the operational expertise at actually executing to the plan. The technological expertise, in my opinion, really comes in during the daily operational efficiency. Once that plan is in action, shippers should then ask: How can the 3PL speed up the entire transportation process for every transaction?

Hamilton: Keep in mind as well that shippers should recognize that perfection doesn't exist, but it's totally reasonable to expect something very close. The most important thing for shippers to evaluate is how the 3PL partner reacts to an issue. Do they respond with speed, dedication to getting it right, and a post-episode review of what went wrong and how it will be avoided in the future? Also, shippers need to assess whether your organization and processes—or lack thereof—had any hand in the episode and then to work with the 3PL to jointly anticipate issues before they become problems in the future.

Dosanjh: I think we all agree on this issue. Shippers should have a firm strategy in place supporting best-in-class total cost planning, procurement and operations teams and be aligned on what that means to the enterprise and what the best ways are to execute as a group supported by each category.

Once these strategies are adopted, shippers should understand the strategies as well as what drives the behaviors of their 3PL base. Many 3PLs have unique offerings based on their own strategies and have different targets and capabilities. Leveraging these capabilities effectively will drive high performing supply chains.

SCMR: We hear a lot about shipper/3PL collaboration. How is that actually achieved?

Caplice: Collaboration is a funny word. Growing up, the only time you heard the word collaboration was with the rest of the phrase "…with the enemy." It has obviously changed over the years. The mathematics of finding where different shippers can leverage their complementary loads is actually well understood and easy to implement; however, the difficulty is making it happen on a regular basis with minimal external or extraneous effort. That is the big challenge in leveraging collaboration in this context.

Larkin: Collaboration kicks in when the amount of freight exceeds the available supply of freight transportation capacity. Many shippers still revert to rate bashing when slack returns to the supply/demand dynamic, as not all shippers are enlightened quite yet.

Hamilton: Today, with supply chains as complex and long as they are, collaboration is the only path to success. Collaboration begins with the client's self-assessment, continues with the joint assessment of the right shipper/3PL partnership and how that will be designed to work. It continues with the client and 3PL coordinating with other providers the client may have hired for other areas of the supply chain or other locations to insure that there's synchronization across the entire supply chain.

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— Rich Hamilton, Cushman & Wakefield 3PL Advisory Group

In addition, there are the administrative elements of the organizations where collaboration is critical. These can include accounting, IT, legal, human resources, and engineering—to name a few. Finally, and probably most important, it includes the client and the various other supply chain providers collaborating with the client's ultimate customers. All parties provide inputs and outputs within a working supply chain. The collaboration across and among these various audiences is the key to success.

Dosanjh: I'll add that collaboration, cooperation or "co-opetition" between 3PLs will help drive efficiencies in the market as well that will benefit the ecosystem. An example would be driving visibility, predictive information and enhancing cargo flow at major gateways supported by numerous players—carriers, terminals, truckers, regulatory agencies, and intermediaries. So, collaboration is not only practical, but a necessity between 3PLs as well.

SCMR: Finally, how many 3PLs should most shippers engage every year? Can one alone meet all their needs?

Caplice: I believe it's always best to have more than one supplier unless there's a strategic reason that overrides the economics. Having more than one firm that is familiar with your operations and way of doing business reduces the pain—and cost—of switching.

Larkin: Our sense is that it's wise to use a primary 3PL and a secondary 3PL that can help keep your primary 3PL from becoming complacent. It's also wise to solicit proposals from a wider variety of 3PLs periodically, say every five years. This puts pressure on incumbents to keep pace with the state of the art.

Hamilton: The 3PL industry would want you to believe that "sole sourcing" is possible. In fact, in some specific situations, it may well be possible. However, that vast majority of outsourced supply chain networks are a collection of best-in-class providers linked together to provide the best solution for the client. I'll add that there are many clients who have what I will call dominant 3PL relationships—where a single firm performs the vast majority of the work. But invariably there are other 3PL firms supplementing the primary 3PL because of geography, service line, skill set or some other variable.

Dosanjh: And as we wrap up this discussion, we should recognize that the other trend we're seeing is the ability to segment what we call "commodity" type business, or the ability to rotate 3PLs based on their capability and need. A commodity type business supports non-specialized and general transportation where there are many players offering a similar service. In this scenario, we see up to 10 different 3PLs participating in and supporting these programs.