TRANSPORTATION 2025 MEGATRENDS
AND CURRENT BEST PRACTICES

NAVIGATING IN A DIGITAL ECONOMY

A WHITE PAPER BY THE UNIVERSITY OF TENNESSEE, KNOXVILLE,
HASLAM COLLEGE OF BUSINESS SUPPLY CHAIN MANAGEMENT FACULTY

APRIL 2017

GLOBAL SUPPLY CHAIN INSTITUTE

NUMBER FOUR IN THE SERIES INNOVATIONS IN SUPPLY CHAIN
Forward-thinking supply chain leaders consider future megatrends that will impact their business and effectively lead their organizations to develop the supply chain capabilities necessary to thrive in that future.

TRANSPORTATION 2025 MEGATRENDS AND CURRENT BEST PRACTICES

TABLE OF CONTENTS
Executive Summary 3
Introduction 5
The Role of Transportation 6
Aligning Transportation to Support Supply Chain Strategy 7
Megatrends 12
Achieving World-Class Transportation in 2025 18
Transportation Best Practices 21
Summary 36
Addendum: The Stages of Transportation Value Creation 38
TRANSPORTATION 2025 MEGATRENDS AND CURRENT BEST PRACTICES

Navigating in a Digital Economy

The fourth in the Innovations in Supply Chain series of UT’s Haslam College of Business Supply Chain Management White Papers

April 2017

Authors:
Mary Holcomb, PhD
Mike Policastro
Mike Burnette

Contributing Editors:
Paul Dittmann, PhD
Ted Stank, PhD

The Global Supply Chain Institute
At the University of Tennessee
Haslam College of Business
Managing Risk in the Global Supply Chain

Global Supply Chain

The ABCs of DCs: Distribution Center Management

Supply Chain Talent: Our Most Important Resource

These white papers can be downloaded by going to the publications section at gscli.utk.edu
Executive Summary

Forward-thinking supply chain leaders consider future megatrends that will impact their business, and they effectively lead their organizations to develop the supply chain capabilities necessary to thrive in that future. This Global Supply Chain Institute white paper identifies the major megatrends that will impact the transportation industry over the next ten years as well as the key capabilities that transportation thought leaders are developing to enable their firms to successfully manage transportation in 2025.

Transportation represents the largest element of most firms’ supply chain logistics cost. Accordingly, supply chain leaders have prioritized managing this cost for decades. In many cases, this cost focus drove a commoditization of much of the transportation carrier market.

This efficiency versus effectiveness dynamic has changed in the twenty-first century. Over the last decade, the transportation discipline faced major challenges including sharp fluctuations in fuel pricing, driver shortages, expansion of 3PL/4PL providers, commoditization of carrier pricing, expanding use of technology and tools, the rise of megaships in ocean freight combined with the expansion of the Panama Canal, increasing regulation (for example, regulations on hours of service; compliance safety and accountability; electronic log device), and the explosion of digitization capabilities. These challenges have exponentially increased the complexity of the transportation environment.

Leaders in the field understand that transportation is a strategic element of the end-to-end supply chain. The company’s last interface with a customer/consumer comes when goods/services are transported to them. Smart companies leverage this interface as a customer service tool, and treated as such transportation requires new capabilities in preparation for the coming decade.

Examining the past decade can reveal much about how to prepare for the journey to 2025. In this white paper, we have included applied research on what the best companies are doing to deliver world-class results in the current environment as well as insight from industry thought leaders on what we will face in the years ahead.

Seven best practices emerged from leading organizations’ transportation capabilities. Applying these best practices represents a first step for
managers seeking the opportunity to derive significant value from the supply chain. All seven of these best practices will be covered in the white paper, including the two leading practices:

- Creating value from Lean methodologies; and
- Establishing the right culture for driving transportation excellence.

It is not sufficient, however, to focus solely on current capabilities. The digital economy that is being fueled by the Internet of Things (IoT), necessitates that supply chain leaders plan for a future in which transportation will be significantly different. Examining research based on the trends and issues in transportation and logistics over the past twenty-five years, we have identified three critical transportation megatrends for 2025. The megatrends provide the second major building block in developing an action plan to deliver the supply chain capabilities of the future. The three megatrends are:

- An omnichannel approach replacing multiple distribution network strategies;
- Integrated supply chain operations enabled by data-format neutral technology; and
- The emergence of chief supply chain officers.

Finally, we have included multiple examples throughout the white paper and a case study to help readers internalize and understand the best practice and megatrends that will enable their supply chain to continue to drive shareholder value through the challenges of the next ten years.

**DEFINITIONS**

**Supply Chain**—The end-to-end, integrated system of processes and activities required to deliver product from the supplier’s supplier to the consumer’s shelf.

**Supply Chain Organization**—The holistic resources and teams required to deliver valued products and services to the consumer with excellence. This includes (but is not limited to): procurement, manufacturing, engineering, process control, quality, safety/environmental, innovation program management, warehousing, order fulfillment, transportation, and materials/production/category/customer planning.
Introduction

The new norm in business is constant change, with turbulent and volatile markets, shorter product life cycles, and increased demand uncertainty. These conditions, combined with outsourcing and globalization, have added to supply chain complexity. A seamless and responsive flow of materials and products across a global network of diversified nodes from suppliers to customers has never been more difficult. Technology is transforming the marketplace and the digital nature of business has created a customer culture of fast, customized experiences.

Companies that operate their supply chains in a one-size-fits-all, linear manner that sources, makes, stores, and distributes products to all customers and channels in the most efficient manner are becoming outdated. Businesses today must rethink old processes and find new ways to meet customer needs. Corporate lifespan is declining at an accelerating rate; the sixty-one-year average tenure for a company in 1958 narrowed to twenty-five years in 1980, and currently the average company life span is eighteen years. This data highlights the sobering reality that the decisions companies make today about supply chain processes and activities are critical to survival and success in the future.
The Role of Transportation

Transportation is a key to thriving in a digital supply chain environment. It enables the marketplace to access a myriad of products in a manner that adds value for all supply chain members. It plays a major role in the spatial relationship between geographic points in a global supply chain and affects time-based relationships. From an economic perspective, transportation creates time and place utility. Both of these utilities are important in a business environment where customers need to know that their product is available and that it can be delivered (often for free) within a shrinking time frame.

A conflict occurs, however, because transportation usually represents the single largest logistics cost for most companies. As companies feel increased pressure from their stakeholders to boost profits, they look for ways to reduce or leverage expenditures. In 2015, United States logistics costs accounted for approximately 7.85 percent of gross domestic product (GDP). Of the over $1.4 trillion that was spent on logistics, transportation represented 63 percent of the total.

But transportation represents much more than an economic cost-driver that must be efficiently managed. In a digital world, a product’s availability, together with a competitive product price, becomes the differentiator. That is, the combination of these two factors will be the order winner of the future. For this reason, companies must understand the role of transportation in enabling supply chains to develop better product availability at a lower price. As supply chain complexity increases so does the importance of transportation because time becomes even more critical to execution.
Aligning Transportation To Support Supply Chain Strategy

At a macroeconomic level, factors such as energy prices, driver shortages, and the availability of capacity heavily impact the cost of transportation. Since deregulation of transportation in 1980, market economics drive the price of these services through demand and supply.

The balance of power in the shipper-carrier relationship has often resided with the shipper due to a variety of factors. Market economy theory suggests that the price for transportation services reflects supply and demand that determines the allocation of resources in the most efficient way. However, theory does not totally explain the complexity of the respective shipper-carrier power positions when conditions such as record low diesel fuel prices, driver shortages, or rising distribution costs alter the delicate balance of the relationship.

History indicates that both parties often use a myopic perspective to gain short-term financial benefit for themselves when prevailing conditions are favorable to their position. This approach will not be sufficient given the challenges that companies currently face. Results from the 25th Transportation and Logistics Annual Study support the notion that changes in customer and consumer expectations of delivery time affect the carrier/shipper relationship as much or more than the business environment. The cost to serve is rising as customers and consumers alike expect shorter lead times from order placement to receipt. In the case of consumers, the growth in e-commerce has intensified the need to deliver orders the same day and in some cases within the hour. Thus, the traditional tradeoff between cost and service has been dramatically altered.

Future competitive advantages will be achieved by companies that can balance cost and service in a way that results in satisfied customers while ensuring profitability for the supply chain. One only has to look at recent financial statements from Amazon to understand the difficulty of accomplishing this goal. In 2015, as in previous years, Amazon’s shipping costs exceeded the revenues realized by those sales.

As e-commerce and last-mile logistics experience double-digit growth, the cost-service-profitability outcome is not just an Amazon dilemma. Supply chain members, such as manufacturers, distributors, or wholesalers, whose operations were heretofore not directly impacted by e-commerce, are now being affected as their partners are increasingly requesting their active involvement in this area.
The link in any supply chain organization is transportation. Carriers are key partners in facilitating the effective and efficient flow of goods in a supply chain.

The previous discussion emphasizes the importance of transportation and the need to align this activity to support the company’s supply chain strategy. Further, it illustrates the notion that transportation services are more than basic economics of demand and supply. Customer service matters, and often, as the last touch point between the seller and buyer, the carrier’s performance significantly impacts the outcome.

In addition to macro-level economic factors, the shipper-carrier relationship—whether it is transactional or strategic in nature—impacts the cost of transportation services. Deep-rooted conflicts have the potential to detract from the task at hand which is to leverage the combined talents and resources of the supply chain organization to compete against other supply chains in a digital economy.

It is much too simplistic to suggest that one best relationship structure exists given the number of factors that contribute to the complexity of transportation. However, the inherent conflicts that exist in the goals for shippers and carriers affect their ability to attain mutual supply chain goals.

As shown in Figure 1.0, the differences in objectives between the two parties seem to create an environment where the party with the power wins. This is the case when a company-centric view is the basis for the relationship. A shipper’s goal of cost savings will always clash with a carrier’s objective to improve profit unless the relationship is considered more holistically. For example, a shipper sharing information about future demand can enable a carrier to better utilize
managing risk in the global supply chain

its assets. The end result should be lower costs and improved equipment availability for the shipper and enhanced profit for the carrier.

The misalignment between shippers and carriers is even more profound than Figure 1.0 suggests. Findings from the 25th Transportation and Logistics Annual Study suggest that the fundamental issue is how both parties view transportation. As detailed in Figure 1.1, the various contrasts in perspective can be summarized as follows: a majority of shippers feel that transportation services are more of a commodity in nature while a preponderance of carriers believe that their services are more strategic. This is evidenced by differing opinions on factors such as the degree of special knowledge that is needed to provide transportation services to the frequency of change in the mix of carriers.

While the findings from the annual study indicate that the relationship divide is real and the percentage of shippers that view transportation services as a commodity is increasing, further analysis revealed an interesting result. Shippers that have appropriately aligned transportation with their business model have significantly better firm performance than those that are not aligned. This suggests that mutual utility or value creation is an outcome of that alignment. However, as Figure 1.2 indicates the alignment of the carrier-shipper relationship in support of the business model (i.e. the company’s strategic goals) can only be achieved after considering multiple forces that drive the relationship. These forces—the business environment, the cost to serve, carrier performance and customer service goals, technology, and the procurement of transportation—have varying impact on each shipper. The manner in which a company chooses to address them collectively will be unique to each shipper.
The multitude of forces impacting transportation indicates that companies no longer have the luxury of just focusing on being a cost leader or concentrating on customer service. Instead, they must find ways to balance multiple factors to successfully align transportation with the firms' goals. A successful strategy requires a company to do things right and also do the right things. Companies that try to be all things to all customers risk confusion as associates attempt to make day-to-day decisions without a clear structure for achieving an optimal balance.

In contrast to the view of transportation as a commodity, our annual study results also point toward an emerging strategic perspective of transportation by some leading-edge supply chain companies. Figure 1.3 shows an example of a strategic transportation plan. For this company, transportation is a value-added activity consisting of three elements: talent with transportation expertise, integrated processes through technology, and multi-tiered modal strategy (differentiation of transportation service providers).

These elements form the foundation that enables the company, as a global high-volume multimodal shipper of consumer packaged goods, to secure transportation capacity below market rates and meet customer service requirements. The three pillars of the strategic transportation plan help deliver operational excellence that creates value for customers and provides a high
level of efficiency and effectiveness for the company. The view of transportation as a strategic core competency aligns with the company’s vision of being a demand-driven supply chain leader.

The current environment and factors influencing transportation need to be examined in order to predict the future state of this key supply chain activity. The preceding discussion sets the stage for a dialogue about transportation in the future—specifically the year 2025. In addition to analyzing data from twenty-five years of annual studies on transportation and logistics trends and issues, predicting the future state of transportation involved research and discussion among practitioners and academics. This effort culminated in the identification of three central megatrends that we predict will be game changers for transportation over the next decade.

Figure 1.3
In the past, a successful career involved planning your work and working your plan. Today, business operates in a digital world where the rules change at an ever-increasing rate. A company’s ability to survive and succeed in the future will depend on its ability to adapt to the pace of change.

Three principal megatrends offer critical insights into long-term changes that will affect the future of transportation. These megatrends will drive growth and innovation for companies that understand the opportunity and threat that each presents.

**Trend 1: An omnichannel approach will replace multiple distribution network strategies**

Currently, the average number of discrete distribution networks across all industry sectors is three (see Figure 2.0). This average varies depending on the overall corporate strategy, with business units or divisions that pursue a value-added strategy reporting the most distribution networks at an average of 3.4.

Companies created separate distribution networks to handle the specific requirements of customer or product segments. Most companies pursued distinct distribution networks to gain the same type of advantages derived from focused factories. A few short years ago, a separate e-commerce distribution network was considered a sound supply chain strategy as the requirements of an e-commerce order created significantly different distribution and transportation requirements as compared to other customer groups—even for the same products.

While this distribution network strategy resulted in internally efficient distribution operations, it lacked an important external element that is critical to a digital economy: speed. The annual double-digit growth in e-commerce has drastically changed how companies think about managing distribution. They have begun the work to create a unified and coherent omnichannel strategy that will eliminate the need for multiple distribution networks. Omnichannel is not just another network to be added to the current structure. It requires an integrated strategy to create and deliver value in a digital marketplace.

The digital transformation discussion revolves around omnichannel and the impact of e-commerce on traditional distribution networks. Companies are...
working to provide customers with a seamless shopping experience, whether the customer is shopping online from a desktop, a tablet, a phone, or visiting a brick-and-mortar store. When a company has multiple discrete distribution networks it is often difficult to meet the customer’s expectations for speed and product availability due to the complexity of operations.

Further, the number of discrete distribution networks that a company manages reaches a point of diseconomies of scale causing costs to generally be higher as each network has its own dedicated platform to manage the business. Distinct distribution networks in many cases also do not achieve the service goals required to be competitive in a digital economy as inventory levels swell while product availability declines.

In a digital marketplace, where the product is located can be as important as the product details. Can a customer shop for a product on their phone, order it, and pick it up at the closest retail outlet in a few hours? Digital economies and the supply chains that support them depend on this level of execution.

While traditional focus has been on cost, service, and differentiation, a new emphasis is excellence in execution: the ability to deliver to the customer what they want, when they want it, at a competitive price. It could be anything from a chocolate bar to a case of bathroom tissue. The customer will have a relationship with a provider who can supply their needs better than a competitor.

For those who think this is too futuristic, look to Amazon. Consumers can buy diapers, wipes, and baby detergent and have it delivered to their home on the same day using Amazon Prime Now. In fact, a subscription service will ensure that an adequate supply arrives as needed. What Amazon sells is not nearly as important as how it uses data and its distribution infrastructure to continuously transform how it meets and exceeds consumers’ changing expectations.

**Figure 2.0**

<table>
<thead>
<tr>
<th>Overall strategy for the division or business unit</th>
<th>Average number of distribution networks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cost leadership</td>
<td>3.2</td>
</tr>
<tr>
<td>Value-added mix of cost and service</td>
<td>3.4</td>
</tr>
<tr>
<td>Customer service</td>
<td>3.0</td>
</tr>
<tr>
<td>Product/market innovation</td>
<td>2.2</td>
</tr>
</tbody>
</table>
Future

Competitive advantage will belong to those companies that move from static reports with stale information to real-time, granular data with predictive and prescriptive analytics that enable them to determine the best course of action.

Trend 2: Integrated supply chain operations enabled by data-format neutral technology

In the past, the best technology option for a company was to purchase and install in-house, best-of-breed supply chain software such as transportation and distribution management systems. This investment often translated to improved firm performance in both efficiency and effectiveness.

Advances in technology, however, leveled the playing field by introducing software as a service (SaaS), which provided any firm the same sophisticated tools to manage transportation and distribution activities without a significant financial investment. While this advancement helped to close the competitive advantage that was previously gained by companies that had the deep pockets to make this investment, it did not lead to a significant improvement in efficiency or effectiveness for supply chains overall. Prevailing opinion attributes the lack of substantial improvement in performance to issues beyond the technology itself. While the solutions generated by the software were robust, the timeliness of the data was not.

The adoption of technology is not the end game. Instead technology must be viewed as an enabler for integrated supply chain operations. Its primary purpose is to create value in a dynamic and ever-changing business environment. Leading-edge companies have learned how to deal with demand uncertainty and changing customer requirements better than other firms. Developing this capability is difficult, as it requires a timeliness of data that is only possible through end-to-end supply chain visibility. Without this ability, companies will struggle to effectively manage the cost to serve.

Suppose a shipper has a customer order originating at its fulfillment center in Atlanta and headed to Chicago. The shipper tenders the shipment to its strategic (or core) less-than-load (LTL) carriers using seven-month old rates that were established at the beginning of the year. Now the waiting begins because the electronic data interchange (EDI) carrying the tendering message gets batched with others, and then sent to the first carrier specified.

Once received by the carrier, the message is again put on hold until the carrier downloads its batch of EDI transmissions, ranging in time from every fifteen minutes to every two hours. A pick up is scheduled and confirmed using EDI, but these notifications are also batched with others, adding more time to the overall process. Would any of us wait this long or tolerate this process if we were making a hotel reservation or purchasing an airline ticket?
As you might expect, in-route visibility is limited and batched with other EDI messages. For just-in-time (JIT) shipments, the shipper may be notified by its customer that the shipment did not arrive, and then receive an EDI an hour later confirming the phone call. Why the wait? EDI messages have to be transformed into the right format in order to be sent and received for execution in a transportation management system (TMS).

The value creation is not the EDI message itself but rather the data that is being transmitted. The rigidity of the format and the hardware that is needed for this type of data exchange lacks the flexibility necessary in a digital economy. When companies began to view technology as an enabler it opened the door for innovative approaches that make it faster and easier for data to flow between members. In a digital economy, technology must be neutral with regard to data format to create competitive advantage for a supply chain. Eliminating the impediments to greater supply chain visibility through faster and timelier data flows is paramount for transportation in the future.

An example of this involves carrier selection. The right technology foundation—one that is data-format neutral—can enable a shipper to know which carrier has the best on-time delivery between Atlanta and Chicago over the past three days. This technology could also enable shippers to know the possibility of having shipments arrive on time based on volume headed through specific LTL terminals. Would a shipper be willing to pay more for a carrier with 99.7 percent on-time-delivery (OTD) performance on a lane if doing so would minimize a charge back for a late shipment?

A critical part of conquering the relationship divide between shippers and carriers discussed earlier in this report involves a better understanding of the value created for delivering a specific shipment at a specific time on a specific day. By better understanding demand—in real time—both parties will be able to take risk, and hence cost, out of the formula.

The insights gained from the predictive and prescriptive analytics described in the carrier selection scenario above will only be as good as the timeliness of the data generating that knowledge. Future competitive advantages will belong to those companies that move from static reports with stale information to real-time, granular data with predictive and prescriptive analytics that enable them to determine the best course of action. To create value in a digital economy, transportation must become a dynamic capability. This transformation depends on technology that is data-format neutral to facilitate integrated supply chain operations for maximum effectiveness and efficiency.
Trend 3: The emergence of the chief supply chain officer

The third megatrend that we predict will impact transportation over the next decade and beyond is the emergence of the chief supply chain officer. Findings from the 25th Transportation and Logistics Annual Study indicate that companies with a chief supply chain officer (CSCO) report statistically better profitability than their competitors. While we cannot infer cause and effect, it is reasonable to explore possible contributors to this outcome.

Existing research has consistently shown that strategy deployed through the appropriate organizational structure leads to improved firm performance. Strategy-structure-performance (SSP) theory supports the idea that an integrated supply chain strategy capably led at the C-suite level of the organization will result in improved firm performance. Most chief executive officers have an understanding of the value of supply chain management, but this knowledge often does not encompass one of the most critical activities for the company’s supply chain success: transportation. Unfortunately, the same is true for many CSCOs whose career progression generally involves procurement but not transportation.

Earlier in the paper we discussed the increasing percentage of shippers that view transportation as a commodity. Many carriers attribute this viewpoint to the growing involvement of procurement in transportation management. This has been one of the biggest changes in transportation decision making over the past five years.

Procurement involvement takes the form of assisting in the preparation and solicitation of request for quotations (RFQs), carrier negotiations, operational planning, and carrier performance (see Figure 2.1). Some firms relegate these four areas to the sole responsibility of procurement, while in other firms procurement...
works jointly with the transportation organization. A more in-depth analysis of data from the two most recent trends and issues annual studies indicates that procurement’s involvement in carrier negotiations and operational planning has increased significantly over this time period.

Why is the emergence of a CSCO in the organizational structure a notable trend, particularly when the results seem to be positive relative to firm profitability? The CSCO often drives the collaborative goals for the two functional activities. It would be easy for procurement to reduce costs without truly understanding the long-term consequences of this short-term gain. The CSCO balances the tradeoffs between the respective functions to achieve the overarching strategic goals of the company. Without sufficient knowledge and due consideration of both functions the CSCO may miss an opportunity to optimize the creation of future competitive advantage. The previous discussion is not meant to imply that a company should not consider elevating supply chain responsibilities to a CSCO position. Having a voice at the C-suite level is critical to achieving the company’s goals and objectives. In a digital economy this level of input will be required to create a competitive advantage for the future.
Achieving World-Class Transportation in 2025

Two companies, Amazon and Alibaba, are rapidly changing business practices. The traditional methods of product distribution will not be sufficient to compete by 2025. In order to compete in a digital world, companies—along with their logistics and transportation providers—must be capable of fulfilling consumer orders from anywhere at any time. Consumers will need to know that the product is available and that it can be delivered—often for free—within a shrinking time frame. Figure 3.0 portrays the transformation that top firms will pursue by 2025 as they seek to make their supply chain both efficient and effective.

How will companies achieve this level of supply chain capability?

**EXAMPLE:**

A large, global, consumer products company has begun to address these challenges by working to build stronger teamwork and partnerships with Amazon. This process began with traditional team problem solving and goal setting but has now progressed to physically shifting the planning and distribution resources into the CPG’s facilities. This action has dramatically increased the flow of information and improved problem solving to drive better supply chain value (cost, customer service).

Recent business decisions by Amazon also indicate that transportation plays a critical role to succeed in the digital marketplace. In the traditional style of product distribution, the relationship between speed of delivery and cost are highly correlated. Some 44 percent of consumers abandon their online shopping baskets because they do not believe that they have the most competitive delivery options. To succeed in the future, companies must find a way to change the speed-cost relationship.
As shown in Figure 3.1, the top five initiatives completed by companies to prepare for the digital economy are a combination of strategic, tactical, and operational actions. Collaborating with key customers, integration of internal systems, and aligning labor force skills to meet changing demand requirements address the strategic gaps that exist between current and future needs.

Other completed initiatives, however, fall short relative to the needs for 2025. Shifting inventory within the network is not a transformational action, nor is the use of multiple methods of transportation. The initiatives that are currently being implemented show even more promise of enabling companies to achieve the needed state of transformation to succeed in a digital economy. A repeat action from the previous list—increased collaboration with key customers—reflects the difficulty of these efforts. Many of the initiatives that are needed for transformation will be multi-year projects, if not continuous improvement initiatives, like reducing supply and order fulfillment lead time.

In 2025, supply chains face the challenges of high levels of digitization, the requirement for end-to-end solutions, and the pace of an ever changing environment. Benchmark 2025 Supply Chains must be highly efficient (cost) and highly effective (customer service) whether the order involves one unit or a volume load of that item.
Figure 3.1

<table>
<thead>
<tr>
<th>CURRENT STATE OF TRANSFORMATION</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>The top five initiatives completed by companies to date include:</strong></td>
</tr>
<tr>
<td>▪ Use of multiple modes of transportation</td>
</tr>
<tr>
<td>▪ Aligning labor force skills to better meet changing demand requirements</td>
</tr>
<tr>
<td>▪ Shifting inventory within the network</td>
</tr>
<tr>
<td>▪ Integrating internal systems</td>
</tr>
<tr>
<td>▪ Increasing collaboration with key customers</td>
</tr>
</tbody>
</table>

| **Many of the current initiatives being implemented are strategic in nature:** |
| ▪ Reducing supply lead time |
| ▪ Increasing collaboration with key suppliers |
| ▪ Integrating internal processes |
| ▪ Increasing collaboration with key customers |
| ▪ Reducing order fulfillment time |

Many companies will not manage the transformation necessary to meet the challenges waiting in 2025 because they have not mastered current best practices in transportation. These companies have not demonstrated a commitment to using available knowledge and technology proven to reliably lead to the desired end state. The first phase of the journey for companies in this position is to understand and become skilled at today’s best practices.

Best practices are an iterative development process accomplished in incremental stages. They are manageable tasks that will lead to success in attaining world-class transportation status by 2025.
We conducted field interviews with sixteen benchmark companies to develop this transportation best practices summary. These companies spanned mostly fast moving consumer goods, shippers, transportation suppliers across all transportation modes, and both 3PL and 4PL service providers.

While our focus was on overcoming transportation challenges specific to North America, most of the shippers were global and have the benefit of incorporating some best practices developed in multiple regions. In many cases the benchmark companies were just completing, or in the middle of completing, a significant organizational redesign or reinvention to reflect dynamic market conditions and leverage opportunities presented by breakthrough technologies.

They shared more than thirty-five best practices, with nearly twenty overlapping between multiple benchmark companies. We have chosen the top seven of these to discuss and share in greater detail below. We have also included headlines on some of the top twenty practices that we judged to be of high interest.

**TRANSPORTATION BEST PRACTICES**

1. Long-term strategies/partnerships to succeed
2. Creating value from lean methodologies
3. Fully leveraging new intermodal capabilities
4. Highly customized services to meet emerging needs
5. Establishing the right culture for driving transportation
6. Fully leveraging digital technology/analytics
7. Expansion and bundling services for growth
1. Long Term Strategies/Partnerships to Succeed

All the benchmark shippers and suppliers fully embrace transportation as an important enabler of value creation and no longer just a cost to be optimized. Development of holistic end-to-end supply chain strategies and integration of supply chain organizations to span the breadth of all supply chain nodes have resulted in long-term visions in transportation strategies and better partnerships between shippers and suppliers. Transportation capabilities and strategies are seen as critical enablers to top line sales growth, and cash flow, not just a contributor to bottom line profit improvement.

Value chain strategies are becoming more sophisticated to capture scale advantages as well as market benefits of service and product differentiation. The omnichannel emergence is just one example of the supply chain segmentation taking place, which requires tailored transportation services. Soft market growth and margin pressure are pushing for faster innovation and increased profits, which in turn accelerates supply chain integration and synchronization efforts. These changes require stronger partnerships built on long-term strategies.

Benchmark companies are updating their strategic planning and partnerships accordingly. By changing their supplier management process to include more

**Figure 4.0**

**ELEMENTS OF A TRANSPORTATION STRATEGY**

- Modes—Primary and Secondary
- Use of Strategic Suppliers vs. Auction
- Capacity Planning Horizons
- Transportation Management System and Linkage with Suppliers
- Load Tender Preconditions (e.g. Stock Availability, Customer Appointment, etc.)
- Bid Process vs. Incumbent Negotiations vs. Open Book Profit Sharing
- Contract Time Horizon/Bid Award Time Horizon
- In House vs. Dedicated Contracted Fleet/Last Mile Services
- Action Limits—When Key Issues Will Be Escalated
- Transportation Management KPIs

**Value chain strategies are becoming more sophisticated to capture scale advantages as well as market benefits of service and product differentiation.**
face-to-face leadership meetings, formal establishment of long term partnerships, clearer expectation sharing, and joint defect elimination, they are seeing both result in breakthroughs and more robust transportation strategies. The joint value-creation relationship between shipper and supplier can often be characterized as tactical, strategic, or collaborative. It is in these final two stages where typically the most value creation occurs. This is visualized in the addendum section of this paper.

Putting these strategies into operations is as critical as their creation, and often strategic suppliers have representatives who are co-located at companies’ planning service centers working seamlessly with the transportation management. Service and capacity planning, as well as problem solving, are done jointly with these carriers, with continuous review and improvement.

**EXAMPLES:**

- A best-in-class shipper found that documenting an operating strategy for their end-to-end supply chain is a prerequisite for operational excellence, integration, and ultimately synchronization. The supply chain operating strategy links tightly with each business unit and go-to-market operating strategies. Having clarity on sales growth, margin requirements, and cash flow targets is not enough. Establishing the end-to-end supply chain operating strategy requires articulating the business strategies to achieve those goals well. This is complex, as different business unit or market requirements must be protected while seeking scaled solutions. There should be a section dedicated to transportation strategy within the documented supply chain operating strategy. This plays a critical role in aligning transportation choices and operating parameters to support the company’s supply chain strategy.

- One best-in-class company ensures consistency across business units and markets by insisting that common elements are covered within the transportation strategy (see Figure 4.0).
2. Creating Value from Lean Methodologies

Virtually every benchmark company cited their adoption/application of Lean methodologies to transportation management as key to breakthrough results and sustained performance. While Lean methodologies have been around since at least the 1950s with the seminal total productive maintenance (TPM) work, and more recently with Womack/Jones popularizing the term ‘Lean thinking’ in the 1990s, their current application in the transportation arena has been credited with service, margin, productivity, and even sales improvements.

Some companies have imported skills in this area while others developed in-house mastery and integrated Lean into their cultures. Some combined this with TPM while others combined it with Six Sigma programs. In most cases with shippers, the capability originated elsewhere in their organization, typically in manufacturing, and migrated to transportation operations as end-to-end supply chain organizations were established.

For these shippers, integrated Lean/Six Sigma methodologies are being applied across the breadth of supply chain nodes and functions, and are often fueled by an end-state vision needed to support far more demanding, complex, business needs. This integrated approach enables both the Six Sigma benefits of process variation elimination and defect elimination and the benefits of optimizing process flow across the supply chain and functions.

Benchmark companies cited their adoption of standardized work processes and daily management systems for increased reliability and visibility to critical in process metrics. They credited well defined, standard key performance indicators (KPIs) with improving accountability across the supply chain and improving emerging visibility issues. Using Lean-focused improvement teams, often including strategic partners, significantly increased visibility and eradication of losses, leading to lower costs and higher productivity.

As supply chain speed and velocity become givens, the requirements for right, first-time performance and predictable stable systems increase. Creating a Lean culture and disciplined implementation of Lean methodologies is now seen as a core competency in leadership and a critical capability across virtually all benchmark companies. Importantly, this approach engages all of the employees and equips them to develop and maintain improved capabilities.
EXAMPLES:

- A transportation provider educated a retailer on how to synchronize their tendering times with supplier capacity management drumbeats, ensuring better service.

- A company created a formal, in-house Lean program enabling their culture of continuous improvement in all departments. This included application of Lean and Autonomous Maintenance and Planned Maintenance for breakthrough results in maintenance area.

- Lean was applied to speed up the overall hiring process: all activities are now designed around the applicant experience.

- Standard work processes were designed for smooth touch points driving operational excellence across suppliers, distribution requirements planning, customer services operations, business units, shared services, and customers.

- Lean principles were built into supply network redesign, significantly increasing the number of highly reliable movement with fixed frequencies.

- Multifunctional, integrated direction-setting and loss-elimination processes were adopted spanning daily direction setting to weekly, monthly, and quarterly continuous improvement cycles (An example process is using PDCA methods—Plan, Do, Check, Adjust).
3. Fully Leveraging New Intermodal Capabilities

Breakthroughs in intermodal service and visibility, coupled with cost, sustainability, and driver retention benefits, were all cited as reasons for both shippers and suppliers to grow this mode of transportation. Improved partnerships between truck and rail companies result in smoother handoffs, better capacity management, and real-time visibility throughout the entire movement. Suppliers in this space continue to invest in terminals to enable better intermodal drayage as they see this as a strategic growth area.

As 3PL and 4PLs grow, the number of small and mid-size shippers moving into this mode is expected to grow. Also, with many large shippers redesigning their distribution networks to reposition inventories closer to customers/major markets, and the resulting fewer long haul customer shipments, intermodal becomes an ideal mode for the long-haul replenishments from producing plants to the local distribution centers/mixing centers.

In turn, suppliers feel that by having dedicated drivers and trucks for drayage at either end of the shipment, they combine the reliability and visibility of truckload shipping without the driver retention challenges, since 85 percent of their drivers are home every night with regular routes and customers. Additionally, both truck and rail suppliers continue to invest in digital infrastructure to supplement existing EDI capabilities. This, coupled with the ability to feed real time data into shipper dynamic distribution resource planning (DRP) systems, means intermodal service is rapidly moving closer to truck-like reliability that’s built around customer needs.

EXAMPLE:

- A major transportation supplier invests heavily in its company-owned and managed intermodal chassis fleet with the aim of virtually eliminating reliance on shared intermodal chassis pools. By addressing intermodal chassis availability and reliability issues that can come with shared chassis pools, the supplier hopes to continue growing its volume and profitability in intermodal. By owning this equipment, the supplier can leverage its in-house TPM/Lean capabilities to ensure equipment is properly maintained and always available.

  Additionally, by establishing a single, lightweight chassis, the supplier can better maximize load weights for its shippers who will no longer need to size their shipments to the average weight across a chassis pool. These types of investments in intermodal not only eliminate losses to improve margins for both the supplier and its customers, but also contribute to the growth of intermodal and the many sustainability, driver, and service benefits this mode provides.
4. Highly Customized Services to Meet Emerging Needs

Transportation suppliers are increasingly playing a more prominent role enabling shippers to unlock the value-creation potential of their supply chains. By offering this full-service transportation management expertise and specialized services, transportation suppliers are increasing the profitability mix of their offerings portfolio.

By their very nature, services are difficult to commoditize and given that they can enable value creation across shipper revenues, profits, and cash flow, they can generate higher margins for suppliers. Expanding this full-service transportation model to all other services is an opportunity for growth—从 full-service equipment maintenance to logistics consulting and 3PL services to logistics administrative services (HR, finance, IT, etc.).

As shippers pursue growth opportunities via segmentation and customer differentiation, suppliers are offering ever more specialized transportation solutions and specialized services to their customers. Value chain management increases the speed and complexity at either end of shippers' supply chains, and increasingly transportation suppliers are managing these on behalf of the shippers with tailored digital solutions, dedicated fleets, and specialized drivers who act as an extension of the shippers' organization.

Many shippers are losing their in-house transportation expertise as they pursue productivity opportunities, experienced Baby Boomers retire, and their managers are encouraged to develop broad supply chain experience to become future end-to-end supply chain leaders. This allows suppliers an opportunity to leverage their scale to provide training, thought leadership, and technical mastery unlike many shippers.

Examples of these services range from regulatory compliance management to freight auditing to freight and inventory management to claims and billing. Many suppliers we spoke with host customer training events on transportation best practices, Lean continuous improvement, and value creation tools and approaches. This includes providing clients with values-based culture training and programs to enable client leadership growth and development.

Shipper resources increasingly spend their time on strategic supply chain design and value chain integration, versus building transactional and operational mastery. Even in this strategic area, best-in-class shippers and suppliers partner to pool their expertise in distribution design and management, transportation network analysis/planning, international customs and foreign trade zone decisions, and import, export, and foreign-to-foreign freight forwarding operations design. Small and mid-market companies are also seeking these specialized services when they cannot afford to build the capability internally.
'Last mile,' that portion of the supply chain between the final distribution point and the final destination point, is often the missing link for shippers pursuing customer/consumer value creation via the omnichannel. While there are many competitors in this area, the last mile market is huge and still very fragmented. Given the need for volume density to make it profitable, transportation suppliers partner with forwarders to supplement their own equipment when needed, building their own in-house load and route optimization technology, and leveraging existing white glove delivery distribution networks. Examples of the final mile services range from job site delivery to hospital operating room kitting and cross dock solutions to dedicated uniformed drivers and equipment, including customer logos.

**EXAMPLE:**

- Subscription services obtain more stable demand and freight density. Amazon Prime is a form but other companies offer comparable services. How to approach and implement subscription services is a major challenge. Companies need to decide whether to go it alone, go through Amazon, or go with another online retailer. These services may substantially increase the volume of order and piece picks as well as parcel delivery cost. The difficulty is obtaining sufficient transportation/volume density.

One participant speculated that Amazon is using the information it captures to determine which areas and routes have the greatest density. Since it controls this information, neither the shipper nor carrier has much insight into volume/demand/geography of their customers. As a result, UPS and FedEx will be relegated to moving parcels to outlying areas. Suppliers will have difficulty competing due to the lack of downstream visibility in the supply chain.

5. Establishing the Right Culture for Driving Transportation

While difficult to measure, company culture was often cited as a competitive advantage by the best-in-class companies. They credited it with enabling them to reach new heights of excellence or weather economic downturns or business challenges.

Several companies with roots in traditional family-run businesses credited their cultures with attracting and retaining talent. Their employees felt respect from top to bottom and this empathy for employees instilled strong loyalty and
commitment. Rather than external events straining the organization, there was a strong sense of “we’re in this together,” resulting in high employee engagement in identifying and eradicating losses. This extends beyond just driver retention to other areas in operations, as well to entry- and middle-level management.

High employee engagement also proves critical as both shippers and suppliers are challenged to supply highly specialized services for an increasingly segmented customer base. Empowered, well trained, and committed employees are seen as driving high-touch client service, commitment to continuous improvement, and flexibility in a changing environment. This was highlighted as a key requirement for last mile services. When the company values and principles are well understood, employees can act in a consistent, professional manner, fostering more trusting, higher-value relationships both internally and with customers/suppliers.

Developing talent and nurturing a strong culture is a leadership focus in the best companies—it starts at the top but then is an expectation through the balance of the organization. Service and people are central to their company success. This talent management approach often follows the five-step model in Figure 4.1 (first published in the GSCI white paper Supply Chain Talent).

Figure 4.1

<table>
<thead>
<tr>
<th>FIVE-STEP TALENT MANAGEMENT FRAMEWORK</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Analyze</strong></td>
</tr>
<tr>
<td>The work to clearly define the skills, experiences, and capabilities required in the supply chain today and for the next decade.</td>
</tr>
<tr>
<td><strong>Find</strong></td>
</tr>
<tr>
<td>The effort to locate a critical mass of people with the skills, experiences, and capabilities needed to deliver the supply chain goals.</td>
</tr>
<tr>
<td><strong>Recruit</strong></td>
</tr>
<tr>
<td>The process to attract, select, and land the resources needed.</td>
</tr>
<tr>
<td><strong>Develop</strong></td>
</tr>
<tr>
<td>The systems required for building skills, experiences, and capabilities in your talent to fill all the roles (at all levels) in the supply chain organization. The process to enable all people to be their best.</td>
</tr>
<tr>
<td><strong>Retain</strong></td>
</tr>
<tr>
<td>The systems to reinforce, support, recognize, and reward supply chain resources. The process to keep your important resources and best talent.</td>
</tr>
</tbody>
</table>
6. Fully Leveraging Digital Technology/Analytics

Best-in-class shippers and transportation suppliers have embraced digital to increase real-time visibility, optimize operations, and design future ideal networks and systems. This shifts value creation from traditionally transactional information-sharing activities, such as load tendering or service monitoring, to the development and execution of sophisticated transportation operating strategies and anticipation of losses.

Investing in logistics digital innovation is an important element within shippers’ digital supply chain masterplans, intended to provide real-time connectivity across the breadth of their end-to-end supply chains. While technologies such as GPS and RFID have been available for years, their prevalence has increased with lower costs and their linkage into TMS and ERP planning systems is making this data more visible across supply chain seams.

Even when taking advantage of 3PL brokerage capacities, carriers are having to meet minimum standards for EDI connectivity. This has been an enabler to intermodal growth, with suppliers putting GPS into intermodal containers. This included suppliers co-designing GPS units capable of providing intermodal container location, load status, and door detection. Door detection is becoming critical to prove chain of custody and meet ever-increasing compliance regulations. All technologies are web-based and visible to all stakeholders of the supply chain.

Real-time connectivity has been a prerequisite to the growth of logistics control towers, allowing shippers and suppliers to optimize operations across their entire networks. Both in-house information (e.g. supplier equipment maintenance, shipper customer order patterns) and key external indicators (e.g. weather, oil production, export market shipments, macro-economic indicators) are fed into these optimizer systems. The control towers are a very deliberate design and integration of people, processes, and technologies to optimize operations, leveraging digital technology with 100 percent of all loads being managed in the system. With all operating requirements built into digital systems this not only generates excellent control-tower visibility but also feeds daily, weekly, and monthly continuous improvement with an abundance of exception data.

Investment in in-house predictive analytics generates significant value and improves profitability. The best companies analyze service, response times, and
With all operating requirements built into digital systems this not only generates excellent control-tower visibility but also feeds daily, weekly, and monthly continuous improvement with an abundance of exception data.

costs, and then use the same data in an in-house pricing model. This allows them to compute a dynamic contribution per load to enable them to know the profitability of loads as they are tendered. Knowing that means they can allocate excess equipment to the most profitable loads and provide spot pricing as needed.

This technology also enables both suppliers and shippers to identify purchasing opportunities in transportation, leveraging deep, internal mastery for data-driven negotiations. Both 3PL and asset-based suppliers use their TMS or optimizer models to analyze rates across all lanes and identify above/below average rates per mile, which allows them to engage their customers on how to make their business more profitable.

This real-time data and analytics capability is also being used by suppliers to predict future service failures. When they analyzed service failure conditions they could predict which ones were present most often when loads had service failures. In fact, they found that just 1.5 percent of the loads accounted for 5 percent of the service failures. This experience bore out what they had been told by a research company: customer loyalty is more driven on a supplier’s ability to prevent failures than on absolute service alone.

Several transportation suppliers have been told by key customers that their predictive service analytics—among other strengths—creates significant value. Some suppliers, using this predictive capability, determine if a load is high risk for service failure and inform the customer before accepting it.

Specialized digital solutions are also being implemented to address strategic capabilities. LTL suppliers are making big investments in their own freight dimensioners at their largest terminals. Traditionally, when freight moves through the LTL network, carriers have not had the time or resources to weigh and measure each shipment that hits their dock. Installation of pallet truck scales and pallet dimensioners make accurately weighing and classifying freight less disruptive to operations, saving them time and money.

This is a huge step for LTL shipping. Technology drayage providers invest in cabs fully equipped with PCs for constant EDI and driver work that can be done in-cab. 4PLs are developing and implementing in-house dock management, cross-dock optimization, and trailer optimization systems, installing externally sourced Oracle ERP systems to upgrade human resource and finance systems. In order to pursue
more channels and incremental sales-growth opportunities some shippers are working with technology companies to pioneer Uber-like transportation systems, especially for developing markets and new routes to market.

In the independent contractor choice program, independent contractor (IC) drivers get to access proprietary systems to pick the loads they want. The IC’s take care of their truck and equipment with the assistance of an advisor to troubleshoot any issues related to loads, payments, etc. This gives them access to a large base of drivers and equipment in the one-way truckload business that many competitors abandoned.

**EXAMPLE:**

- An app now exists for drivers to rate customers in terms of ease in servicing them. They have generated 70,000 ratings to date. This allows their customers to identify unproductive practices in their receiving/carrier interface operations from safety, service, and quality of facilities. They used to incentivize drivers to use the app via gift cards and raffles; now customers pay for gift cards, given the valuable operational feedback.

**Installation of**

pallet truck scales and pallet dimensioners make accurately weighing and classifying freight less disruptive to operations, saving them time and money.
7. Expansion and Bundling of Services For Growth

As more shippers shift from just optimizing single supply chain node results and pursue value creation across the breadth of the value stream, many leading transportation suppliers are providing a one stop shop service offering across virtually all transportation modes covering inbound, interplant, and customer delivery segments. They also offer design logistics solutions that span the breadth of the supply chain to optimize total system cost and maximize flow.

The increasing complexity of market segmentation and servicing omnichannel makes strategic transportation providers who can supply across intermodal, truckload, LTL, and dedicated categories ever more valuable.

Suppliers are marketing their end-to-end breadth—from port to the customer home—using their complementary intermodal, 3PL, and truckload capabilities. Those transportation suppliers with scale and a truly national hub footprint enable local dedicated drivers and trucks for drayage at either end of intermodal shipments. They combine the sustainability and cost benefits of intermodal with the reliability and visibility of truckload shipping.

Serving the omnichannel consumer also alters traditional supply chain relationships. Suppliers, shippers, and customers are exploring new ways to serve consumers who shop online and want regular home delivery of products they traditionally purchased in brick and mortar facilities.

Numerous articles have documented how traditional retailers felt threatened when manufacturers allowed internet-based retailers to set up shipping locations on the manufacturer’s site. Yet the value creation of such arrangements cannot be denied. Co-location reduces the cost of storing high cube products like paper towels, toilet paper, and other large consumer goods, while the manufacturer saves on typical transportation costs. This expansion and bundling of services shifts who controls what portion of the value chain (see Figure 4.2).

This scale naturally leads to operating efficiencies and provides some protection from capacity swings and driver shortages. For shippers, partnering with fewer strategic suppliers reduces interface complexities and often leads to co-location of transportation supplier representatives in the shipper’s planning service centers. It also ensures collaborative operational excellence.

Many transportation suppliers have scale and deep mastery in one or two nodes (e.g. intermodal and truckload, warehousing and LTL, airfreight and LTL). However, they are increasingly partnering or acquiring other suppliers or brokers to offer the full gamut of transportation modes.
Despite the breadth of service offerings across modes, best-in-class suppliers manage each division independently. This does not prevent divisions from helping each other out for service, but they run each division as a separate profit center. This creates clearer accountabilities, clarity on operating efficiencies, and focused efforts to address biggest opportunities within each division.

Virtually all the best-in-class companies also provide consulting and design services to supplement breadth. Particularly when paired with warehousing, this enables transportation suppliers to provide truly integrated solutions that optimize physical flows across the breadth of the system: from manufacturing drop lots, to distribution center cross-docks, to customer deliveries. Optimizing across these movements generates more value than optimizing each in isolation.

Finally, even for shippers or retailers with their own fleets or distribution centers, the scale and technical mastery, coupled with supplementary transportation capacity, provided by the best-in-class transportation companies is a key enabler.
**EXAMPLE:**

- What constitutes great supplier service is not always the same across shippers. It varies greatly based on the shipper’s industry, business model, and operating strategy. What constitutes a preferred supplier also varies depending on the same factors for the shipper. In a recent industry forum, here is what shippers and suppliers said when asked to describe what they valued most in each other (see Figure 4.3).

---

**Figure 4.3**

### BEST IN CLASS (BIC) POINT OF VIEW DESCRIPTIONS

<table>
<thead>
<tr>
<th>Shippers’ Descriptions of BIC Supplier</th>
<th>Shippers’ Descriptions of BIC Supplier</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consistent, collaborative, best value provider</td>
<td>Provide lane density/consistency</td>
</tr>
<tr>
<td>Performance and KPIs driven</td>
<td>Operationally efficient (e.g. efficient loading, use of drop and hook)</td>
</tr>
<tr>
<td>Best in class technology</td>
<td>Proactive communication on business changes (forecasting)</td>
</tr>
<tr>
<td>Dependable, flexible, customer centric</td>
<td>Partnership versus transaction relationship</td>
</tr>
<tr>
<td>Strong cap ex, vision (3-5 year plan)</td>
<td>Consistent feedback (scorecard)</td>
</tr>
<tr>
<td>Asset availability (or access to)</td>
<td>Freight/financially efficient/financial ease of doing business</td>
</tr>
<tr>
<td>Load and service visibility</td>
<td>Share customer segmentation to help with priorities</td>
</tr>
<tr>
<td>Effective partner with pricing vision</td>
<td>Continuous moves—ability to match inbound/outbound</td>
</tr>
<tr>
<td>Global and E2E service offering</td>
<td>Leverage technology—electronic billing and timely payment, tendering, reporting, planning</td>
</tr>
<tr>
<td>Strong carrier culture match</td>
<td>Professional drivers</td>
</tr>
<tr>
<td>Professional drivers</td>
<td>Accurate billing</td>
</tr>
<tr>
<td>Operationally efficient—turn times/driver dwell</td>
<td></td>
</tr>
</tbody>
</table>
Summary

The transportation challenges we face today in the supply chain will increase as we move to 2025. As discussed in the megatrends, the omnichannel, digitization, and corporate needs for single point supply chain leadership will increase the complexity of the work while providing tremendous and exciting new opportunities for our supply chain teams and individuals.

Transportation is a strategic element of our supply chains and business. It represents a significant percent of our total cost. It is typically the last touch point between the supplier and customer. Finally, if your transportation strategy is effective, it can become a competitive advantage for your business.

The leading 2025 supply chains will learn from the best practices created to face our current challenges and develop capabilities to deliver excellence. Further, the leading 2025 supply chains will seek knowledge on the megatrends impacting transportation needs for the next decade.

The examples in this white paper demonstrate that the capability to deliver improved results through these best practices is not theoretical, but proven in benchmark supply chains. The key question is “Do you have a supply chain plan for 2025?”

Visualize the leadership challenges existent in the journey that Figure 5.0 depicts. The time to create the transportation and supply chain capabilities required for 2025 is now.
Supply Chain Leaders Own Defining and Leading the Transportation Capability Pathway to 2025
Addendum: The Stages of Transportation Value Creation

Finally, we have included an addendum on value creation. As the Global Supply Chain Institute studies and works on building excellence in transportation capability, we are frequently asked “How do you increase value through transportation?” We have added Figure 6.0 to help visualize our learning on this question. This figure is consistent with the preceding white paper and focuses on the development of strategic capability and collaborative partners to drive supply chain value in the transportation industry.

Figure 6.0

TRANSPORTATION MANAGEMENT VALUE CREATION

Collaborative Partnerships

Multiple Year Contract

Environment of Continuous Improvement

New Business Opportunities

EDI/Technology

Bundled Services

Mutual Network Visibility

Mutual Network Leverage

Cost

Contractual Requirements Met

Services

High

INCREASING VALUE CREATION

Tactical

RELATIONSHIP ATTRIBUTE SCALE

In the last two decades we have commoditized transportation. In 2025 the best supply chains will develop key carrier strategic partnerships.
End Notes

i Creative Destruction Whips through Corporate America (report, Innosight, 2012).


iii Mary C. Holcomb and Karl B. Manrodt, 2016 Annual Study on Trends and Issues in Transportation and Logistics (The University of Tennessee’s Haslam College of Business, 2016).


v Shay Scott, Mike Burnette, Ted Stank, Chad Autry, and Paul Dittmann, Supply Chain Talent - Our Most Important Resource (white paper, University of Tennessee Haslam College of Business, 2015).
Acknowledgement

We would like to acknowledge our Global Supply Chain Institute sponsors, more than sixty corporations representing over $1.7 trillion in annual revenue, and our advisory board, forty senior executive supply chain officers, for their proactive support, including networking, benchmarking, coaching, financial, and project partnerships. These leading companies are dedicated to delivering world-class supply chain innovation.

Global Supply Chain Institute

The Global Supply Chain Institute provides relevant research and practical educational services to enable highly effective supply chains. These include:

**WHITE PAPERS**: applied research and benchmarking papers on current, impactful topics

**SUPPLY CHAIN AUDITS**: coaching for supply chains working to improve based on an extensive collection of current supply chain best practices

**EXECUTIVE MBA AND EDUCATIONAL COURSES**: programs to create a continuous, long term learning process for supply chain leaders

**SUPPLY CHAIN FORUM**: the nation’s largest academic forum for supply chain leaders, focused on networking, benchmarking, and leadership
A FINAL NOTE
We hope you have found the material in this white paper helpful and useful. We at the University of Tennessee’s Haslam College of Business are committed to translating our top-ranked position in academic research into information useful for practitioners. We believe the real world of industry is our laboratory. It’s why we have the largest Supply Chain Forum in the academic world, with over sixty sponsoring companies. We are always looking for industry partners to assist us in this journey. Let us know if you are interested in being one of our valued partners.

J. Paul Dittmann, PhD
Executive Director, The Global Supply Chain Institute
The University of Tennessee’s Haslam College of Business
jdittman@utk.edu
O: 865-974-9413
C: 865-368-1836