



WHITEPAPER

Rethinking Supply Chain Performance with Transportation Managed Analytics

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ABSTRACT

How do leaders drive continuous improvement of a supply chain network? Since the advent of transportation management systems (TMS) in the 1990s, supply chain leaders have streamlined domestic and international networks across all modes of transportation with visibility and planning capabilities. Now, with nearly thirty years of data capture under their belts, how can they use the data patterns, analytics and lessons-learned to improve their supply chain today?

Just as the 1990s brought the then-advanced capabilities of TMS to companies, today, Transportation Managed Analytics is empowering leaders to rethink what's possible for their supply chain. Transportation Managed Analytics is an integrated information process that's been field-tested and proven to improve supply chain performance. It intelligently curates, organizes and analyzes historical and real-time data from robust data warehouses built by 3PLs and supply chain executives, to provide responses to the questions leaders have had for years but never had the intelligence or time to answer.

Learn how Transportation Managed Analytics is building and managing next-generation supply chain's by finally answering the questions that close the gap between visibility, performance, spend and risk.

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The Fundamentals

Transportation Managed Analytics is the combination of a software platform, data warehouse and analyst intelligence that is helping supply chain leaders transform raw data into knowledge. As a result of the information streaming through TMS software, 3PLs and supply chain executives have access to robust data warehouses that are being utilized through this new discipline to inform decision making.

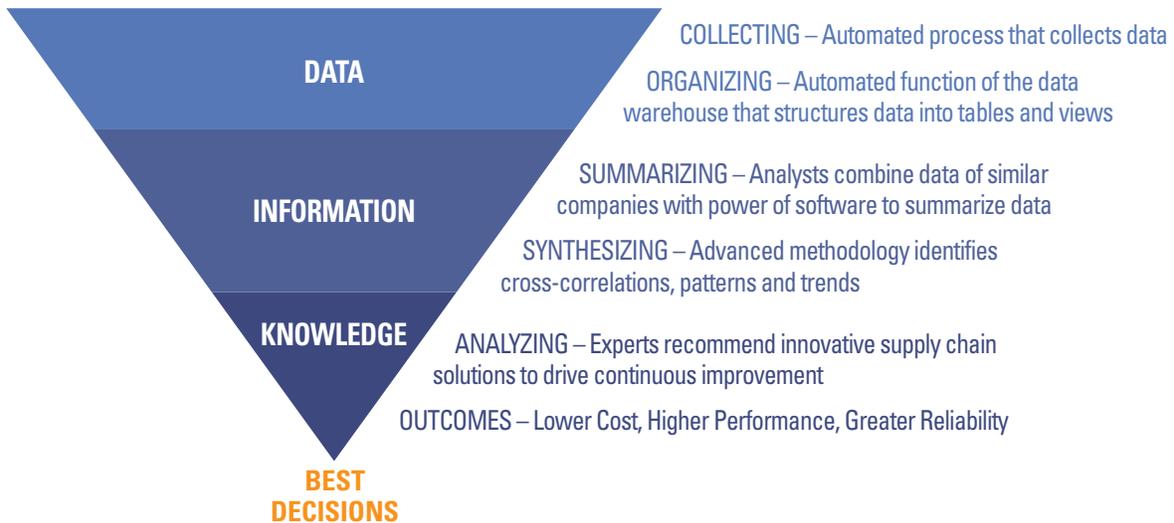
The discipline combines transportation data, along with several other databases about weather patterns, consumer behaviors, destinations, origins, timing, seasonality, invoices and more, into a central data warehouse where a sophisticated set of analytical tools and algorithms are applied. This turns one-dimensional data points into dynamic information, and then, into actionable knowledge.

How It Works

Data informs that transportation capacity and increased rates are an issue

Information identifies the opportunities and inefficiencies in a particular spend market

Knowledge pulls in specific rate structures and data points to identify how to save costs



Market Drivers

Transportation management systems have collected data from domestic and international networks across all modes of transportation for nearly thirty years. While it was only a matter of time before that data would transform into actionable intelligence, there are two market drivers that have accelerated the need for closer scrutiny of the transportation industry and its opportunities for improvement.

CAPACITY CRUNCH

The US is experiencing an extreme trucking capacity crunch—so severe in fact, that in January 2018, the For-Hire Trucking Index rose faster than the capacity index in each of the former 12 months, allowing the supply-demand balance to climb to the highest reading this index has ever recorded.¹

For shippers and supply chain managers, adjusting their supply chain to the ebbs and flows of the economy has always been standard practice; however, navigating today's capacity crunch is requiring more intervention than usual, creating demand for the actionable intelligence gleaned from Transportation Managed Analytics, which is helping generate innovative solutions to questions such as:

- » Where can I get more trucks?
- » What should I do with my private fleet?
- » How do I collaborate with other shippers to share excess private fleet capacity?
- » What are the real causes of this capacity crunch?
- » How long is the crunch expected to last?
- » What options do I have for lessening the effects on my supply chain?

CARRIER PERFORMANCE

In times of limited capacity, carriers are positioned with great negotiating power that can cause freight to spike by 10% or more for shippers. Combine these increased costs with decreases to productivity as a result of the newly enforced Electronic Logging Device (ELD) Mandate, and shippers are challenged to look prudently at carrier performance. Transportation Managed Analytics will help shippers look beyond raw data points to understand and uncover innovative solutions to questions such as:

- » What is our carriers' performance trend and why?
- » How does our performance compare to peers using the same lanes and modes?
- » Do I need to change my customers' expectations given market conditions?
- » How long are these conditions expected to last?
- » What out-of-the-box solution do we need to sustain or improve?

Capabilities

With fierce market conditions plaguing domestic and international supply chains, the ability to rethink supply chain optimization with creative data analysis is more important than ever. For companies' still reliant on traditional spreadsheets to manage supply chain improvement, the limitations are apparent.

DATA

DATA CAPABILITIES	TRADITIONAL SPREADSHEET	TRANSPORTATION MANAGED ANALYTICS
ANALYSIS	Traditional spreadsheets allow for descriptive analytics only	Provides interactive database analysis and visualization tools
AMOUNT	Spreadsheets cannot handle the breadth of data available today	Data warehouses today can maintain 6 million+ lines of data
PRODUCTIVITY	60-70% of analysts' time is spent on data prep and sanitation	Majority of analysts' time is spent analyzing cross-correlations
USAGE	Lack of consistency for how people interpret and use the data	Provides a single architecture and methodology for tracking metrics
SECURITY	Document(s) can be saved haphazardly, left open or deleted	Encrypted data is housed on internal server and restricted to a small group

ANALYSIS

Regardless of the TMS platform or business model a company maintains, Transportation Managed Analytics can merge data from external sources into its algorithm architecture. Its interactive database and visualization tools generate analysis' that close the gap between visibility, performance, spend and risk and have been proven to identify 2-5% savings in transportation spend.

- » Cost of Carrier Performance vs. Peer Group
- » Modeling and Predicting Logistics Spend
- » Real-Time Spend Comparison to Peers
- » Degrees of Variability in Customer Demand
- » Unplanned Transportation Spend with Market Comparison
- » Network Modeling and Simulation Across Shippers to Identify Backhauls

Good Fit Supply Chains

The anticipated emergence of Transportation Managed Analytics is transforming how companies leverage their individual supply chains and also that of the transportation community to discover untapped value to customers and stakeholders. The power that comes with clean, consistent data and the ability to manipulate it correctly is tremendous and will only become more palpable overtime—especially as more and more supply chain executives collaborate. While Transportation Managed Analytics can be applied to any supply chain, there are factors that make an optimal candidate:

- » Leadership who is open to collaboration with outside analysts, engineers and peer groups
- » An understanding of the company's in-house operations' and analysts' strengths
- » Use of a TMS that allows for connection with a community of shippers and carriers

COLLABORATION IS KING

Transportation Managed Analytics is most effective for organizations that collaborate at the operational and management level. Data managers/analysts can turn data into knowledge more effectively by understanding the factors that are driving the consequences of the data in the supply chain itself.



DATA MANAGER =
STRONG ANALYTICS SKILLS



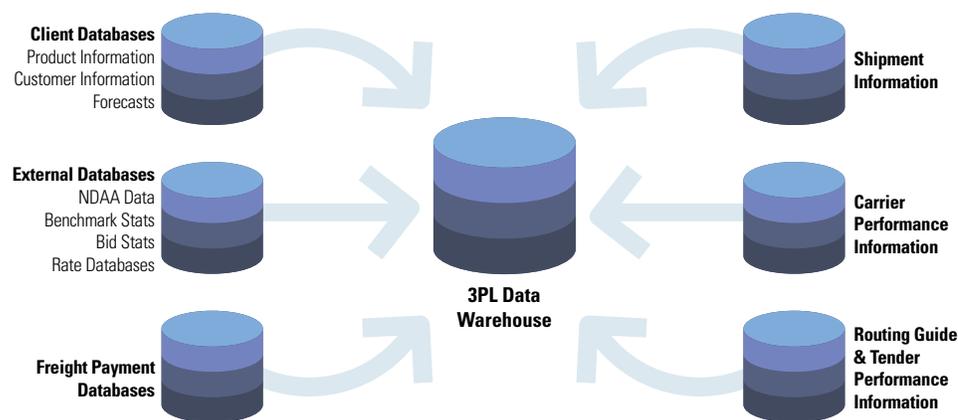
SUPPLY CHAIN MANAGER =
COLLABORATION SKILLS

Role of the 3PL

Supply chain leaders who seek to expand the potential of their supply chain network can implement Transportation Managed Analytics at any time. To get the most from the algorithm architecture however, they will want to partner with a 3PL for a few reasons.

A 3PLS DATA WAREHOUSE

A 3PL that manages the logistics of dozens of supply chains has access to millions of lines of data. Information such as company type, industry, location, product and other characteristics across a multitude of clients is captured daily by a 3PLs TMS as well as the outputs of their accompanying processes. With all of this information constantly flowing through their TMS and into their data warehouse, a 3PL is primed to analyze cross-correlations in the data and develop innovative transport model solutions.



COST SAVINGS OF APPROXIMATELY 2-5 PERCENT OF TRANSPORTATION SPEND

With information across all mods and industries, 3PLs and supply chain leaders can identify how variability in customer demand affects spend to proactively build smarter transportation strategies and networks, including solutions such as integrating truckloads from client-to-client.

REDUCED RISK BY CALLING ON DECADES OF DATA TO MAKE SMART DECISIONS

With access to millions of lines of transportation management data, plus decades of experience across all modes and industries, 3PLs combine that intelligence to build performance-driven plans. Beyond that, a 3PL has access to robust carrier networks and TMS technology that can alleviate capacity issues while providing insight about available lanes and rates.

OPTIMIZED CAPACITY AT THE CARRIER LEVEL AND IN THE WORKPLACE

Transportation Managed Analytics handled by a 3PL also helps optimize carrier capacity. With insight across a number of clients, a 3PL can connect one transportation model with another to optimize freight loads across origins and destinations. Beyond that, a 3PL also has the manpower of multiple logistics professionals, versus a single person responsible for supply chain management among other things.

Rethink Possible

Transportation Managed Analytics is transforming the status-quo of supply chains and introducing new potential for the supply chain network. With collaboration from supply chain managers at the executive and operational level as well as from 3PLs and shippers, the barriers that supply chain leaders have faced for decades can be transcended.

The potential for continuous improvement of the supply chain that comes with the efficient and smart use of data is enormous, empowering supply chain leaders to rethink what is possible for their supply chain with ideas such as:

- » Network modeling across shippers to identify capacity
- » Inferential analytics to understand the broader transportation market
- » Group purchasing organizations for a community of shippers
- » When to stop using protect-from-freeze equipment
- » Analyzing metadata on carrier invoicing to assess risk
- » Shippers' associations for transportation of commodity products
- » Application of artificial intelligence
- » How to short-circuit the bullwhip effect by connecting market trends
- » Buying fuel futures to help stabilize fuel costs for carriers in the ecosystem
- » Velocity and acceleration of spend as a percentage of revenue

For companies' ready to implement a next-generation supply chain, partnering with a 3PL that can provide Transportation Managed Analytics to its fullest capacity is the first step.



DALE MCCLUNG, DIRECTOR OF DESIGN SOLUTIONS, CLX LOGISTICS, LLC

With a background in chemical and biochemical engineering and over 20 years' experience in strategic supply chain innovation, Dale McClung specializes in global supply chain network design and leads the Design Solutions team at CLX Logistics. Delivering innovative and disruptive design solutions for the most complex global supply chain challenges is what we do best. By using a unique blend of descriptive, predictive and prescriptive analytics coupled with trajectory forecasting we give clients remarkable insight into the performance of their supply chains as it relates to their financial bottom line, their customers and suppliers. We use the latest stochastic and multi-variant modeling techniques coupled with fundamental lean six sigma principles to drive comprehensive and sustainable solutions.

CLX LOGISTICS, LLC

CLX Logistics, LLC is a global provider of comprehensive logistics management, technology, and supply chain consulting services to a broad base of industry verticals. The global company, with offices in North America and Europe, is dedicated to solving its customers' most vital logistics challenges by leveraging a broad range of industry expertise, best-of-breed technology and a personalized, high-touch approach to deliver measurable, sustainable value.

CLXLogistics.com

REFERENCES

1. Trucking Capacity Crunch Leading to Record Freight Rates, Truckinginfo, January 2018

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