

Maximizing Supply Chain Performance in the Transportation and Logistics Industry

Executive Summary

Managing transportation and logistics has been a critical focus area for manufacturers, distributors and third-party logistics players in their pursuit of developing a lean, agile and efficient customer-oriented supply chain. Among the biggest challenges these players face today is maintaining the delicate balance of increased material and transportation costs against the expectations of improved service levels mandated by customers. To achieve this end, many industry players are collaborating with their key customers and vendors to improve their processes and systems and provide better service quality, reduce costs and improve visibility. To gain full advantage of such collaborative initiatives, building an efficient and effective supply chain intelligence infrastructure is a must.

To achieve better customer service at reduced costs, organizations are increasingly adopting the two levers of process improvement and technological breakthroughs in track-and-trace, improved control systems and IT innovations such as cloud platforms. To fully realize the benefits from these initiatives and move toward an era of continuous improvement in their operations, organizations will also need to realign their logistics performance measurement strategies.

Performance management is a methodology to optimize the execution of business strategy. It

consists of a set of integrated, closed-loop, analytic processes, supported by technology, addressing financial as well as operational data. It enables a business to define, measure and manage its performance against strategic goals. Performance management has a few aliases, such as corporate performance management (CPM), business performance management (BPM), enterprise performance management (EPM), etc. But simply put, it is a strategic approach to improving business performance.

Performance vs. Complexity on Efficiency

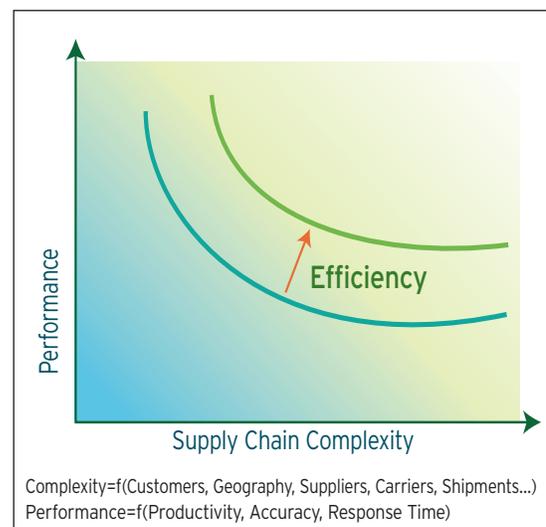


Figure 1

Need for Performance Management of Logistics Operations

You Can't Manage What You Can't Measure

In spite of the increased focus on logistics by most companies, the gap is widening between logistics cost leaders and laggards. Logistics leaders are unlocking the value of the enterprise across the value chain. Some of the key trends influencing logistics decisions are as follows:

■ Organizational focus on managing logistics costs

The total cost of logistics for a typical company is 7% to 12% of sales¹ and is growing due to increasing supply chain complexities. Thus, there is an increased focus from corporate management on controlling and managing this cost. Logistics costs typically follow economic cycles. During times of growth, the available capacity becomes constrained, and rates rise. When recession hits, rates fall due to competition among service providers to utilize the surplus capacity. Managing capacity and utilization is often a tightrope walk for most service providers and proves to be a differentiating factor for most companies.

One Size Doesn't Fit All

The measurement of logistics operational metrics varies widely from one company to another. For example, in a survey of 247 respondents conducted by *Supply Chain Digest*, only 40% said their primary measure of logistics costs is percent of sales. The other responses were split among measuring logistics costs as absolute costs, as a cost per unit of weight (hundred weights, kilograms, etc.), cost per unit measure (case, unit) and activity-based costing as the primary measure. With such wide variation in measurement of the basic metrics, it is no wonder that the logistics measurement used by one organization may not be suitable for another. Even within the same industry, where processes might be similar, markedly different methods of measuring metrics exist.

While most organizations have cost data at a summary level, access to details are often found lacking. Drill-down data at lower levels is required for identifying issues and for conducting analysis on high-cost line items. Consistent and credible data is required for organizations to be able to make informed decisions.

■ Increasing emphasis on execution excellence in the supply chain

Speed is of the essence in the new order of supply chain management. Real-time flow of information aids in shrinking cycle times and improving the response to changes and exceptions. Service providers have to be quick to spot the shift in market demands and change their focus to rapidly growing regions. At the same time, identifying issues in stable markets and resolving them before competitors take away share is of paramount importance. Declining market share and revenue could be due to multiple factors, the identification of which can turn out to be nightmare without having the mechanisms in place to capture and analyze the data.

Today's demanding customers require not just fulfillment of requirements, but also cooperation and alignment with their service partners for mutual benefit and revenue growth.

Logistics as Differentiator

Companies are increasingly looking at logistics for improving customer experience and for differentiation. Meeting service level agreements is a basic requirement for moving from customer satisfaction to customer delight. Today's demanding customers require not just fulfillment of requirements, but also cooperation and alignment with their service partners for mutual benefit and revenue growth.

Sharing data with upstream and downstream partners and aligning the key metrics across the value chain are among the steps companies have taken in this direction. Industry leaders prefer to partner with logistics service providers that are adept at moving in step with them. Measuring performance has gradually moved from an internal focus on strategic objectives, to measuring performance across the value chain to include the upstream and downstream partners. In addition, the need to benchmark against industry leaders is forcing companies to look beyond home-grown solutions.

Limitations of Current Performance Management System

Is This You?

In a survey conducted by *InformationWeek* in 2008, 91% of transportation and logistics companies deployed BI tools extensively.

However, only 46% of them expected to deliver better business intelligence to more employees, more quickly, in that year. The gap between deployment and realization of benefits from the same is very evident. Some operators are still dependent on outdated legacy applications and/or Excel-based tracking of metrics. Multiple and independent applications such as WMS, TMS, OMS, etc. are being used to deliver analytics and generate reports.

Due to these limitations, logistics planners do not have a single view of the logistics chain and are not able to standardize reports for comparison and dissemination. In addition, third-party vendors and other service providers provide information in their own formats, leading to inefficiencies and loss of productivity in consolidating and assimilating information within the organization. Some of the current systems and applications and their limitations are listed in Figure 2.

Framework for Performance Management

It's All About the Process

All performance management systems have three fundamental ingredients:

- **Metrics:** Up-to-the-minute snapshots of the key performance indicators (KPIs) in a personalized, Web-based dashboard to enable fast, proactive decisions and organizational agility.
- **Business intelligence:** Enterprise software designed to track, understand and manage information. BI enables decision makers to manage by exception, stay informed with alerts and drill into data to examine the root cause of business conditions.
- **Methodology:** A systematic and sustainable means of tracking, measuring and improving business performance, applied top-down throughout the enterprise.

Our Logistics Performance Management (LPM) framework helps organizations improve operational effectiveness by measuring the right metrics in a timely manner. For an integrated LPM implementation, it is critical to have organizational alignment with a strongly communicated mission statement and an

Current Offerings	Limitations
Home-grown solutions	<ul style="list-style-type: none"> ■ Rudimentary tracking mechanisms ■ Excel-based reporting
Service provider solutions <ul style="list-style-type: none"> ■ Carrier tracking system for real-time location of shipments ■ Cargo portals for booking and tracking visibility ■ EDI vendors ■ Supplier portals 	<ul style="list-style-type: none"> ■ Narrow focus areas ■ Limited visibility ■ Disparate metrics and KPIs for each solution, many of which are not aligned with corporate objectives.
Application-based reporting tools <ul style="list-style-type: none"> ■ Transportation management system ■ Fleet management system 	<ul style="list-style-type: none"> ■ Limited reporting capabilities ■ Silo-based approach to reporting ■ Lack of flexibility and unable to customize ■ Few features ■ Varies from vendor to vendor
Commercial visibility solutions	<ul style="list-style-type: none"> ■ Small vendors ■ No coverage for entire logistics value chain
On-demand visibility solutions	<ul style="list-style-type: none"> ■ Higher running costs ■ Loss of data control
EPM/BI/DW offerings from market-leading vendors	<ul style="list-style-type: none"> ■ Single-vendor limitation ■ Lack of flexibility to utilize best-of-breed solutions

Figure 2

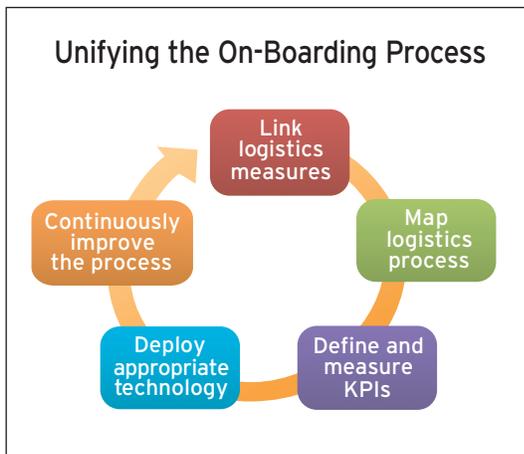


Figure 3

understanding of how individual contributions can meet corporate goals.

Often, the implementation of LPM goes beyond just solution implementation and configuration and is also accompanied by organizational transformation. Process-centric management consulting along with technical systems integration is required for organizational alignment and effective change management (see Figure 4, below).

What follows is a cross-section of best practices for implementing a performance management solution, based on our experience working with a few industry leaders.

- **Selecting the right metrics:** Care must be taken while selecting the metrics and KPIs to reflect the key drivers of business value. This helps move the company in the right direction to achieve the stated financial and organizational goals. To be able to compare all metrics on a common footing, all operational KPIs should translate to monetary measures and be tied to an organization's top and bottom line. This helps create a financial management mindset within the company. Metrics selected must be based on corporate standards that are universally defined and agreed upon by all stakeholders.

- **Creating a detailed metrics framework:** Individual metrics can work at cross-purposes and lead to a sub-optimal result for the organization, while trying to optimize individual efficiencies. To prevent this, metrics must be tied together in a framework that transcends individual business units. Selected KPIs must cascade from top management to individual metrics of each and every individual in an organization. This helps ensure that everyone at every level is moving together in the right direction to deliver maximum value to the organization as a whole. Also, measurements made should be defined with contexts of upper and lower limits, internal or external benchmarks and/or previous trends for the metrics.

- **Designing a robust solution:** Dashboard design and metrics layout is usually not given much

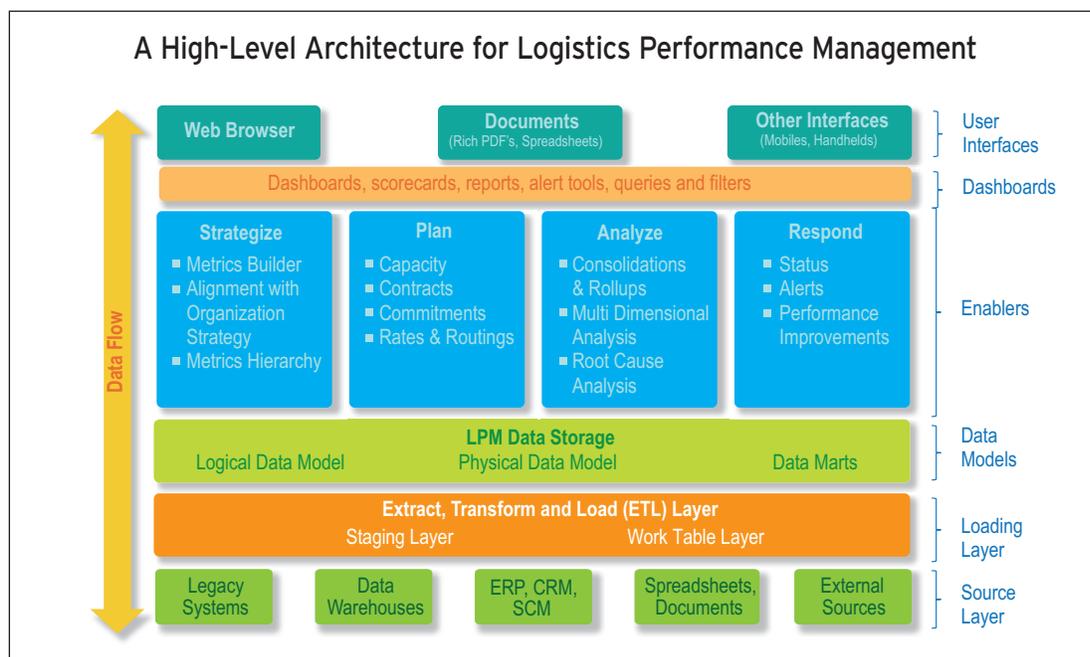


Figure 4

thought and often takes place without end-user involvement. A well-designed front end, however, can deliver results beyond mere aesthetics by aiding users in quickly identifying and disseminating information. An intuitive flow for drill-downs and dimensional analysis helps save time and effort and eliminates the need for most analyses.

A robust back-end extract, transform and load (ETL) layer leads to consistent and more accurate results by eliminating disparate sources for data. While selecting the metrics, designers should ensure they are calculable and that base data is available for the same. Also, the data should be clean or should be cleansed before being put to use. A flexible data model ensures that the solution can be tweaked with changes in business scenarios and changing business rules. Having placeholders for additional data elements is one such method for ensuring flexibility.

Implementation should preferably be carried out in phases. Modules that can help with quick wins should be targeted, along with critical areas offering the largest scope for improvement. Initial baselining of the solution should be performed, followed up by fine-tuning of a complete solution to achieve desired results. The staged approach also gives the organization time to develop a dynamic performance management mentality.

- **Leveraging the solution:** Users should be adequately trained and instructed on the solution. BI-based decision making can help improve organizational efficiency and effectiveness. Periodic monitoring for deviations is aided with the help of root cause analysis of frequently occurring issues. BI solutions that allow for drill-down and drill-through analysis of the metrics can aid in this. Alerts and e-mails can help proactively inform users about issues without the need to log in and view the reports. Capabilities to view single metrics across multiple dimensions can help in dissecting issues.

For example, on-time pickup can be measured from the perspective of the carrier, the plant or the warehouse, either for a particular area

or for the organization as a whole. By enabling the user to change perspective with the click of a button, analysis of the same issue from different dimensions is made possible. Finally, top management should communicate the goals and objectives of the performance management solution to all employees for effectively leveraging the solution.

A conceptual model of logistics services for implementing a performance management solution is shown in Figure 5, next page.

Cognizant's Clarity Value Discovery Assessment framework helps companies achieve the four key objectives of efficiency, effectiveness, virtualization and innovation. The Clarity diamond (see Figure 6, next page) depicts some of the key areas for business transformation that create higher levels of value for our clients.

This robust performance management solution yields multiple dividends for the organization. It

Corporate Performance Management: A Single View Across the Organization

We implemented a CPM solution for one of our marquee clients in the transportation and logistics industry to demonstrate the impact of an individual on key areas of volume, service, safety and contribution. The solution covered almost all business areas of the organization and provided frontline associates visibility into their personal metrics aligned with enterprise goals. Dashboards and scorecards were available for individual users and their supervisors to effectively coach and monitor. The solution also provided a comparison with enterprise, as well as personal goals. It also offered drill-downs and drill-outs to diagnose performance. By providing a rich graphical end user experience, a high-performance environment was created, changing the way the business was managed. Front-line associates were able to make balanced and rational day-to-day decisions based on the performance reports.

The solution won the *DM Review* Innovative Solutions 2008 award.

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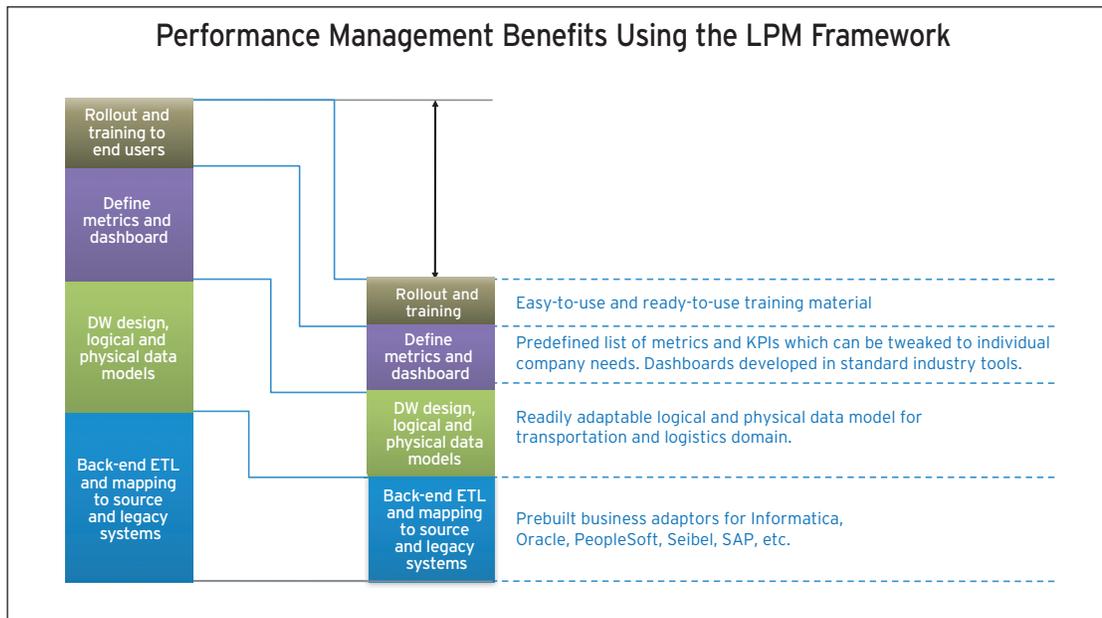


Figure 7

Our Logistics Performance Management framework helps reduce implementation time by utilizing pre-built process and technological components. It aids organizations in faster

deployment, reduced total cost of ownership and improved returns on investment by saving time and effort in implementation (see Figure 7).

Footnotes

¹ "Logistics Cost and Service: 2008," a presentation by the Council of Supply Chain Management Professionals.

Resources

Business Performance Management, Industry Framework Document, BPM Standards Group.

"KPI-Driven Supply Chains: How to Master Complexity, Optimize Inventories and Meet Rising Customer Expectations," white paper, CDC Software.

Chris Caplice, Yossi Sheffi, (1995) "A Review and Evaluation of Logistics Performance Measurement Systems," International Journal of Logistics Management, Vol. 6 Issue 1, pp.61 - 74.

About the Author

Anand Kalathil, CPIM, CSCP, is an Associate Consultant with the Manufacturing and Logistics Practice within Cognizant Business Consulting. He has worked with leading transportation and logistics providers and has been instrumental in developing industry solution accelerators in the performance management domain. His key areas of expertise include supply chain consultancy, business process modeling, analytics and BI. Kalathil holds a bachelor's degree in Mechanical Engineering from the National Institute of Technology-Kurukshetra and has a post-graduate diploma in Industrial Management from NITIE, Mumbai. He can be reached at anand.kalathil@cognizant.com.

About Cognizant

Cognizant (NASDAQ: CTSH) is a leading provider of information technology, consulting and business process outsourcing services. Cognizant's single-minded passion is to dedicate our global technology and innovation know-how, our industry expertise and worldwide resources to working together with clients to make their businesses stronger. With over 50 global delivery centers and approximately 88,700 employees as of June 30, 2010, we combine a unique global delivery model infused with a distinct culture of customer satisfaction. A member of the NASDAQ-100 Index and S&P 500 Index, Cognizant is a Forbes Global 2000 company and a member of the Fortune 1000 and is ranked among the top information technology companies in BusinessWeek's Hot Growth and Top 50 Performers listings.

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