Teradata® Transportation and Logistics Data Model

Change continues to drive the transportation and logistics industries (rail, trucking, shipping lines, etc.) to migrate from a traditional service orientation to a more customer-centric focus. As global trade and emerging markets open new opportunities—as well as fierce competition in a dynamic and demanding marketplace—customers not only demand better service, but want more choices in the way they receive services.

To survive and thrive in this challenging environment, transportation and logistics providers must be agile, find ways to reduce costs, improve operational and supply chain efficiencies, and respond quickly to changing market conditions. That transformation process starts by having an integrated view of your business, across your enterprise. That is where the value of implementing an advanced data and analytics environment—consisting of an integrated data warehouse (IDW) from Teradata—comes in.

In such an environment, enterprise users can access all of the data—all of the time—to deliver analytics that matter. Decision makers can discover answers to critical questions, such as:

- Who are my most profitable customers?
- Which services are these customers using?
- What is the criticality of each shipment in the network with respect to customer priorities?

Armed with better, faster, and more precise answers based on all data (customer, supply chain, maintenance, financials, and service), companies can create more personalized customer marketing and communications programs, optimize route networks and logistics, improve revenue streams with profitable customers and services, and reduce costs throughout the supply chain.

Journey to a Better Business

Teradata understands that drawing actionable conclusions from a data set often requires multiple teams, approvals, and months of work. That's why our focus is to provide the tools and expertise that are necessary to make the planning and implementation of an IDW less daunting.

We provide consulting services combined with tools—such as the Teradata® Transportation and Logistics Data Model (TLDM) that exists within the powerful analytics platform, Teradata Vantage—to jump start your IDW planning and development process.

Similar to planning a journey, building an IDW requires three key things to succeed:

- A clear and worthwhile objective or destination
- A map that shows you how to get to your objective or destination
- A navigational device that helps you know exactly where you are during your journey

Defining Your Business Objectives

Teradata transportation and logistics experts help you start the journey by defining your business objectives and linking them to the analytics, actions, and results that could be taken by leveraging available data. We call this a business use case and outcome assessment, and we do this to help you determine and prioritize your business goals.

Supporting Your Use Cases

Teradata has identified numerous use cases and analytic capabilities that typically challenge most transportation organizations—such as an enterprise customer view, customer data integration, customer value, capacity management, track and trace, maintenance planning, and revenue.

The Teradata TLDM is the map that shows the pieces of information required to support your use cases. The data model includes business data, data relationships, business rules governing these data relationships, and transportation-specific topic areas. It provides a single, integrated view of your business that allows business and IT users to communicate about information needs and systems.

The Teradata Transportation and Logistics Data Model (TLDM): Creates a common understanding across all business functions

- **Customer Analysis**—Examine ratios, such as the amount of revenue generated by customers versus the overall tonnage carried for them. This is one way to determine who the best customers are and where profits are centered. By measuring and ranking customers' key indicators, such as profitability, lifetime value, and usage trends, the results can provide guidance and intelligence to an analyst with the ultimate goal of improving the bottom line, retaining the best customers, anticipating customers' needs, and lowering costs.
- **Promotional Analysis**—Analyze various promotional activities and track the results versus a control state. This analysis should answer questions such as: Which sales deals generate the best response in terms of shipping activity? Do ads or promotions really impact a particular market or lane? What is the relationship between promotions and types of cargo shipped?
- **Service Affinity**—Measure and plot the correlation between shipping volumes and markets served. Determine what combination of services a particular mix of customers often requests. Knowing this information helps to plan for future needs, acquire new customers, market promotional offerings, and anticipate what your customers want.
- **Load Analysis**—Perform detailed analysis of quarter-over-quarter changes in results as it relates to various changing variables. The goal is to maximize profitable growth by understanding which variables, such as price, fleet availability, route structures, special services, and contractual deal making, provides the best growth while creating the most profit. This analysis is what drives the best utilization of corporate assets and revenue growth.
- **Customer Activity**—Track customer behavior from submission of Bill of Lading (BoL), through transport to delivery. Were there operational impacts, complaints, or compliments? What actions can be taken to ensure customer satisfaction, improve service levels, and reduce cost for servicing this customer? Can lessons learned with this customer be leveraged to better service our customers and improve profitability?
- **Web Activity**—Drive better web utilization to provide quality customer service and reduce support overhead. To do this, one must understand what's happening on the web, specific customer interactions, tracking and tracing patterns, and usage. Which channels work best? This requires capturing the web logs in detail and doing detailed analysis of the data.
- **Customer Contract Analysis**—Drive a better understanding of the results of special terms and conditions of contracts and how they affect the profitability of the customer relationship. Which special terms and conditions are generating the greatest activity? What is the customer's compliance to special terms and conditions regarding shipping tonnage and other contractual items? What terms and conditions hurt profitability and are hard to measure and enforce?
- **Inventory Management Analysis**—Reduce the effort necessary to manage inventory by centralizing all inventory information and providing a corporate-wide view of inventory across business units, warehouses, and distribution centers. Increase inventory turnover, and reduce inventory days on hand and inventory write-downs by reducing the risk of obsolescence and reducing the required safety stock.
- **Partner Analysis**—Determine if partner relationships are profitable and good for business. How are customers utilizing business partners? What is the impact of promotions on use of partners? Does this relationship result in better customer service and satisfaction?

- **Profitability Analysis**—Accurately calculate and measure customer profitability using behavioral data instead of assumed averages.
- **Order Analysis**—Logistics-based companies center activities around fulfilling customer demand for product. The availability of the right product at the right time is vital to support customer requirements. Actual buying behavior of customers manifests itself in characteristics of orders. Order information, when coupled with key marketing input, helps shape future offerings. Order information can reside in many different areas of a firm. Order analysis opportunities reside in integrating sources of such information to provide business managers with a comprehensive view, as well as a highly detailed view of customer ordering patterns and the firm's success at accommodating customer needs.
- **Financial Management Analysis**—Measure and manage business financial performance. Identify trends in financial statements. Perform multi-dimensional analysis of financial results. Access detailed financial information.
- **Parts Analysis**—Monitor parts utilization, analyze spare parts allocation and tracking, and parts utilization trends.
- **Maintenance Analysis**—Supports maintenance activity tracking, cost analysis, and impact on customer retention.
- **Cargo Shipping Analysis**—Supports cargo allocation analysis, shipping requirements analysis, cargo revenue analysis, track and trace, and customs requirements analysis.
- **ULD (Universal Load Device) Utilization Analysis**—Supports tracking and usage analysis of the ULD inventory.
- **Postal Staff Utilization Analysis**—Supports staffing work analysis to ensure effective use of personnel.
- **Postal Transport Utilization Analysis**—Supports analysis to enable optimization of internal and external transportation between locations and for local delivery while optimizing vehicle utilization.
- **Postal Third-Party Mail Handlers Analysis**—Helps optimize third- party mail handlers (i.e., bulk mail outsourcers), ensuring consistent quality and compliance to standards.
- **Postal Mail Processing Analysis**—Supports analysis to optimize equipment, people, facilities, and processes across the network for mail and packages while minimizing total cost.

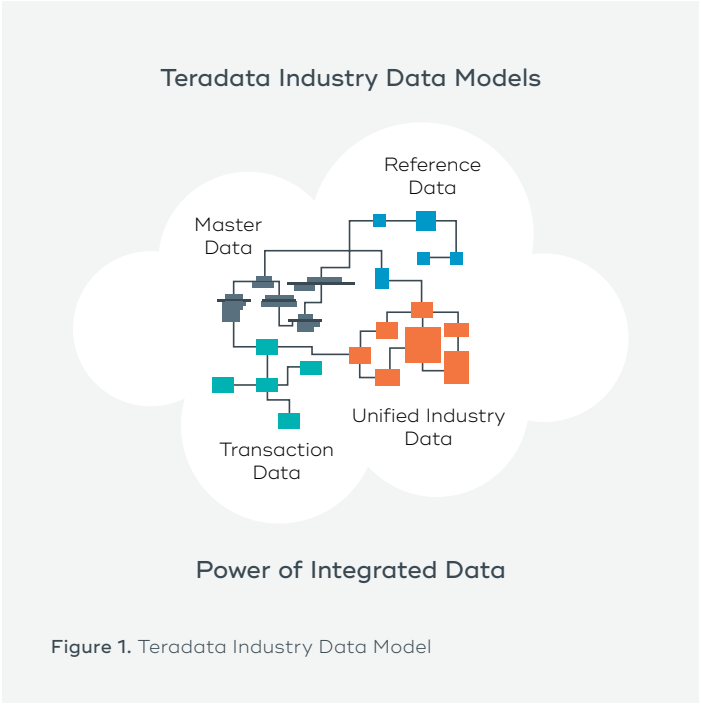

Figure 1. Teradata Industry Data Model

Navigating and Running Your Business

Teradata® Industry Data Models (Figure 1) facilitate the task of creating an enterprise data model for your organization, and is the foundation by which the TLDM is built. The data model is a picture of all of the pieces of information necessary to navigate and run your business. Just as you would not begin a journey without a map, you would not build an IDW without an enterprise data model.

Proven Value and Expertise

What makes Teradata different from the competition when it comes to data and analytics? It's the business value and expertise that we provide. We help your business and IT functions collaborate and agree on the requirements for meeting business objectives and managing data assets better. Teradata is the market leader in advanced analytics and data warehousing, and we have built that expertise, best practices, and intellectual property into our tools. Our team of industry professionals has transportation and logistics business and technical knowledge. They work with all types of transportation and logistics companies to solve key business problems with the goal of helping those companies view and align their business around one of their most important assets—data.

The Teradata Transportation and Logistics Data Model supports these core business areas and industry segments:

- Core functions
- MRO
- Demand chain management
- Supply chain logistics
- Customer relationship management
- Financial management
- Customer profitability
- Clickstream
- Distributors
- Privacy
- Rail
- Truck load
- Less than truck load
- Air cargo
- Postal
- Parcel delivery
- 3PL logistics
- 4PL logistics

About Teradata

Teradata leverages all of the data, all of the time, so you can analyze anything, deploy anywhere, and deliver analytics that matter. By providing answers to the complexity, cost and inadequacy of today's analytics, Teradata is transforming how businesses work and people live. Get the answer at Teradata.com.

For More Information

To learn more about how the Teradata Transportation and Logistics Data Model can help you align analytical capabilities across your organization, contact your local Teradata representative, or visit **Teradata.com**.

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