Manage Your Data: Manage Your Business

Teradata Industry Data Models and Teradata Data Integration Roadmap

Change continues to drive the transportation industry, which now faces a more competitive, dynamic, and demanding marketplace. Globalization has opened new opportunities and competition. Emerging markets and global trade are growing exponentially. Customers are not only demanding better service, but more choices in the way they receive services. Transportation providers must find ways to reduce costs, to improve operational and supply chain efficiencies, and to respond more quickly to changing market conditions.

To survive and thrive in this challenging environment, transportation companies must become more agile and responsive organizations. That transformation process starts by having an integrated view of your business, across your enterprise. That is where the value of an integrated data warehouse from Teradata Corporation comes in.

Decision makers across your organization need fast, accurate access to integrated information about your customers, supply chain, maintenance, financials, and service. They need access to actionable information that lets them quickly and easily ask 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 new insight, those decision makers can make more informed business decisions that allow them to create more personalized customer marketing and communications programs, optimize route networks and logistics, improve revenue streams with profitable customers and services, as well as reduce costs throughout the supply chain.

Teradata understands that balancing the goals of your enterprise with the practical reality of creating a data repository to answer key business needs can be a daunting task.

Begin the Journey to a Better Business

Teradata provides the tools and expertise that are necessary to make the planning and implementation of an integrated data warehouse (IDW) less intimidating. We provide consulting combined with tools, such as the Teradata® Transportation and Logistics Data Model and the Teradata Data Integration Roadmap (DIR) modeling tool, to jump start your IDW planning and development process by helping you understand the data assets you have, or need, to meet your goals and objectives.

Teradata believes that building an IDW is similar to planning a journey. Both require 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.

Teradata transportation experts help you start the journey by defining business objectives and linking those objectives to the analytics, actions, and results that could be taken by leveraging available data. We call this a business improvement opportunity (BIO) assessment, and we do this to help you determine and prioritize your business goals. Teradata has identified numerous BIOs that typically challenge most transportation organizations, such as enterprise customer view, customer data integration, customer value, capacity management, track and trace, maintenance planning, and revenue.

The Teradata Transportation and Logistics Data Model is the map that shows the pieces of information required to support the BIOs that challenge your business. The Teradata data model includes business data, data

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The Teradata Transportation and Logistics Data Model and the Teradata Data Integration Roadmap modeling tool allow your enterprise to:

- Align specific business improvement opportunities with enterprise strategy, business actions, and data requirements.
- Model your enterprise to find the best roadmap for data warehouse support and growth.
- Identify next steps in implementing an IDW.
- Monitor the data warehouse implementation progress.
- Show information and data needed for analysis.
- Enhance interdepartmental communication and understanding.
- Attack the correct business problem areas.
- Accelerate time to market by leveraging Teradata knowledge.
- Synchronize business decisions.
- Reduce costs by reusing data and knowledge.

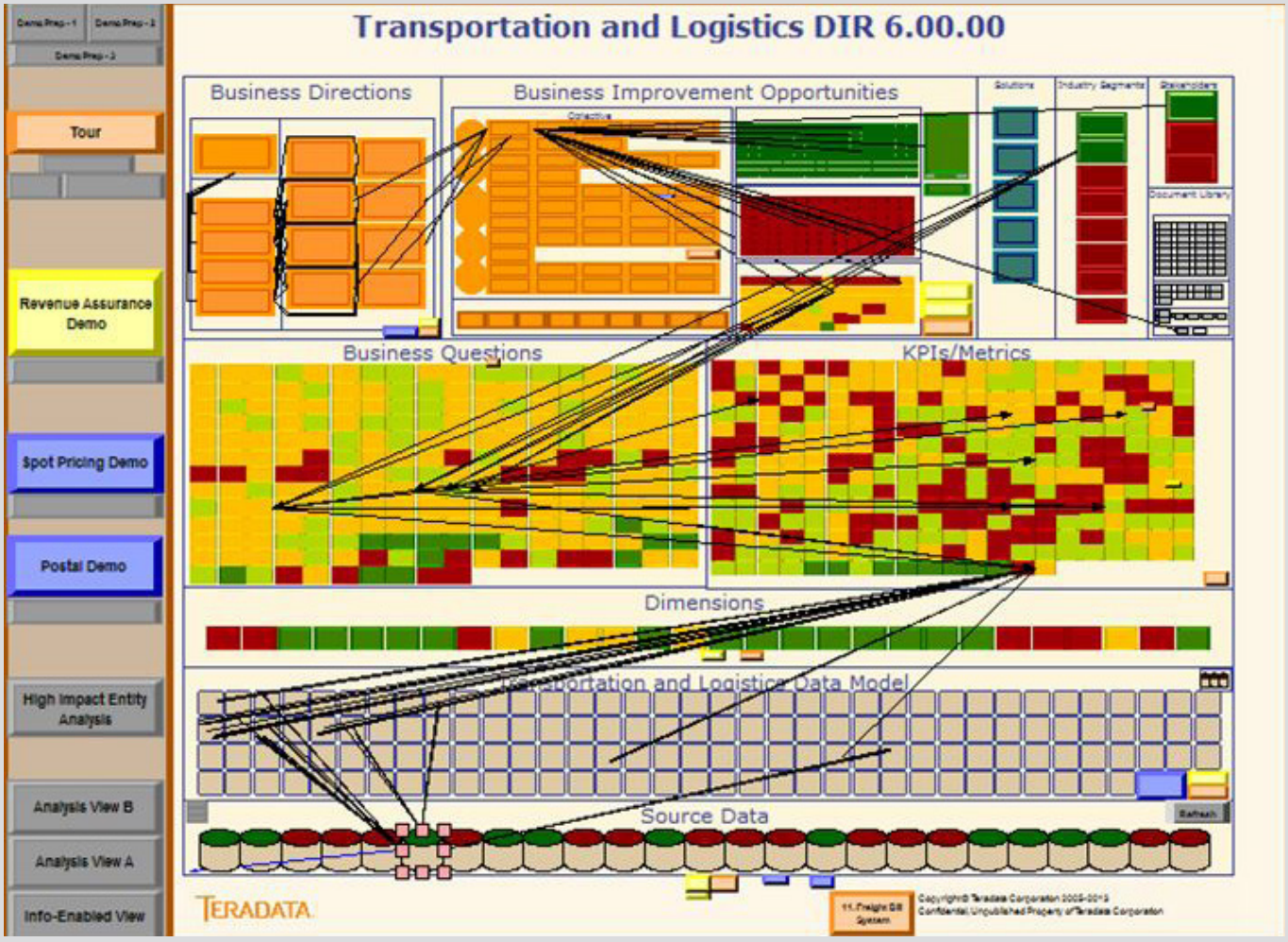

Figure 1. This is a screen shot at the highest level of EDWr. The black lines show logical relationships in the model. These relationships enable analysis and drill-down capability into business opportunity profiles. Throughout the model, color shows the status of a particular content area. Red indicates that the element is not yet enabled. Shades of yellow indicate medium levels of enablement but still needing additional data to be fully enabled. Shades of green indicate nearing full enablement and requiring only a relatively small amount of additional data for full enablement.

The Teradata Transportation and Logistics Data Model provides a wealth of business intelligence. Some examples include:

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 some of these questions: 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 will help 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 all of our customers better 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 channel works 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 writedowns 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, maintenance cost analysis, and maintenance 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 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 costs.

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 Transportation and Logistics Data Model is a picture of all of the pieces of information necessary to 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.

The content and navigation of the Teradata DIR model make it easier to show data required to address a business need or to highlight the business potential of data that is available. By storing data once and using it many times, an enterprise can keep costs down by having a single version of the data backed by multiple uses and users. The Teradata iDM is the map, and the DIR is the visual navigational tool. This navigational tool can help you see where you are at any time. Referencing your map will show how close to or far from your destination you are. The Teradata DIR allows you to visualize how the data represented in the iDM support the BIOs (your destination) that you are trying to address. The DIR helps depict the relationships among enterprise strategy, business initiatives, business questions, business metrics, and the underlying data infrastructure (as embodied in the data model). The DIR brings a disciplined, methodical best practices approach to attaching the information needs of the enterprise to a phased plan (roadmap) for your enterprise to follow.

Strengthen Your Business Value

What makes Teradata different from the competition when it comes to data warehousing? It's the business value and the data warehousing expertise that we can provide. We can 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 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 enterprise data warehouse is the foundation for helping you manage these data. The Teradata iDM and Teradata DIR model make it easier to see what data you need to solve specific key business improvement opportunities. And, these tools can help you leverage data that you already have to address new business improvement opportunities. These Teradata tools and expertise help transportation companies access all centralized, relevant data across the enterprise, regardless of the functional areas, and align their tactical information needs to the large business priorities and goals. Teradata solutions help eliminate the stovepipe approach to

Business Improvement Opportunities Framework

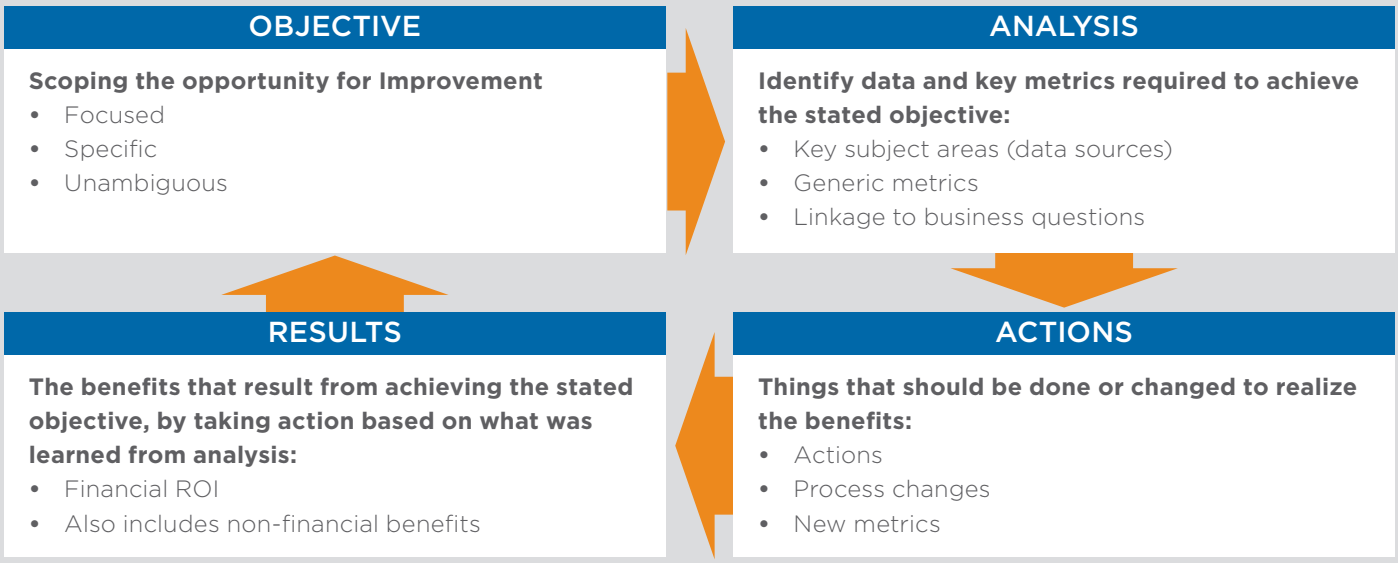

Figure 2. Illustrates the framework that we use to define business improvement opportunities. We help you progress from identifying an objective to realizing results that you can achieve through analysis and actions.

accessing data and, most importantly, get IT and business users focused on connecting their individual pieces to the broader company strategy.

Why Teradata?

Teradata helps companies get more value from data than any other company. Our big data analytic solutions, integrated marketing applications, and team of experts can help your company gain a sustainable competitive advantage with data.

Next Steps?

To learn more about how the Teradata Transportation and Logistics Data Model and the Teradata Data Integration Roadmap model can help you build a better business and align your business and IT functions around similar goals and objectives, contact your local Teradata representative, or visit **Teradata.com**.

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

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

DIR Macro Process Steps

Business—Technology Perspective Linkage

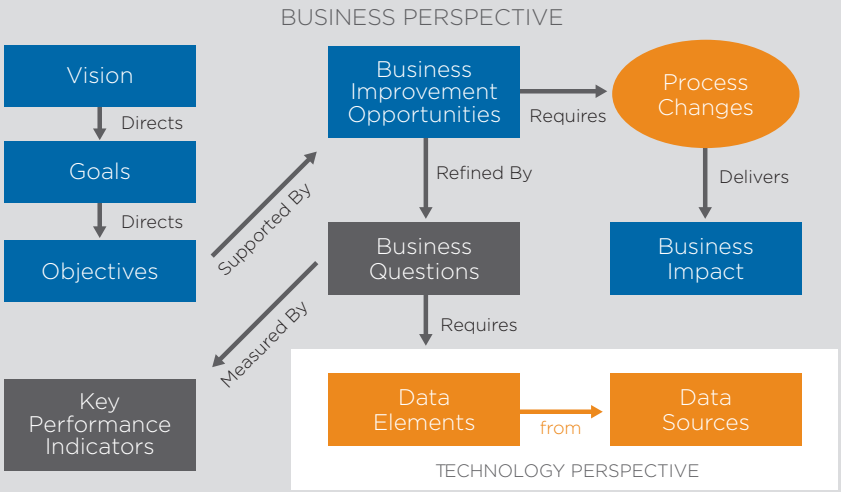

Figure 3. Using the Teradata DIR allows you to visualize DIR planning information to see exactly which allocate resources better a specific BIO. It also spotlights which business questions are most important to answer based on your goals, allowing you to better allocate resources and develop more effective plans. It also shows how we link business needs to technology with the DIR. This is the macro process the DIR can illustrate to help business and IT map vision to data requirements to get the best value from your data warehouse.

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