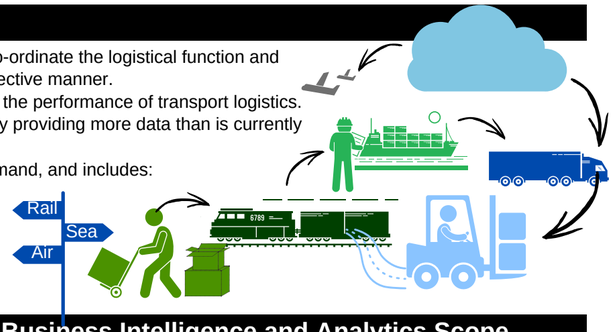
TRANSPORTATION AND LOGISTICS ANALYTICS:
BECOMING AN INFORMATION-DRIVEN BUSINESS

Transportation and Logistics Analytics

- Business Intelligence and Analytical procedures conducted to analyse and co-ordinate the logistical function and supply chain to ensure smooth running of operations in a timely, and cost-effective manner.
- Involves the extraction of knowledge from transportation data and measuring the performance of transport logistics.
- Data is easily available in this industry - because systems in place are already providing more data than is currently being used.
- Done to establish a value-driven Logistic network aligning the supply and demand, and includes:
  - Advanced Transportation Business Intelligence Analytics
  - Route Planning and Optimisation
  - Just-In-Time Inventory Optimisation
  - Condition-Based
  - Equipment Maintenance



Business Intelligence and Analytics Applications

- Role-based Thinking
- Holistic Data Sources
- Root Cause Analytics
- Embedded Analytics
- Landed Costs
- Follow the Money
- Query, reporting and data visualisation

Business Intelligence and Analytics Scope

- Supply Chain Management
- Contract logistics
- Multimodal transport
- Warehouse logistics
- Airfreight
- Sea freight
- Container services
- Rail cargo
- Freight forwarding
- Parcel service

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Business Pain points

- Fuel Costs
- Business Process Improvement
- Better Customer Service
- Manpower Management
- Environmental Issues
- Technology Development
- Reverse Logistics
- Inventory Control and Visibility

Value Benefits of Logistic Analytics

- Increase level of transparency
- Optimise resource consumption
- Improve process quality and performance
- Increase customer loyalty and retention
- Perform precise customer segmentation and targeting
- Optimise customer interaction and service
- Expanding revenue streams from existing products
- Route optimisation
- Creating new revenue streams from entirely new (data) products
- Performance management
- Productivity improvement
- Order processing capabilities
- Metrics, KPIs and forecasting
- Development of new business models and projects
- Digitalisation of crucial operations
- Towards a data-driven logistics

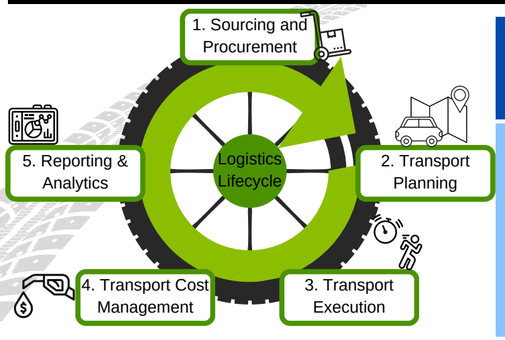
Internal Data Sources

- Transportation Management Systems i.e. Shipment Records
- Carriers or 3rd Party Logistics
- Invoice Data
- CRM data i.e. customer, volumes, address, order frequency
- Driver-collected data (e.g., address data)
- Vehicle diagnostics, driving patterns, and location information
- Sensor/camera/RFID/GPS data from mobile and attached devices
- Model of customer supply chain topology
- Customer data on product demand
- Operational supply chain data
- Call center records i.e. Customer emails and feedback forms

External Data Sources

- External data on politics, economy, nature, or health events
- Position and status of delivery crowd members
- Telematics and traffic information services
- Regional industry and trade growth forecasts
- Public news on regional incidents
- Weather data

Application



1.Plan:	2.Define critical success factors:	3.Data audit:	4.Design the process:	5.Design the data collection strategy:	6.Data collection:	7.Analyse data:	8.Report data:	9.Evaluate:
• Develop the goals/ purpose for the analytics activity • Map the requirements of the customer and plan questions/queries which will be answered by the analytics process	• Define the measures that will show if the project has been a success	• Map the data which is currently available and grade its quality	• Define roles and set objectives for team members • Define resource requirements and map stakeholders for the project	• Design the collection and processing stages of the analytics activity	• Collect data from data sources • This can be from drawing on established data or running new data collection processes	• Depending on the customer requirements, analyse the data and develop insights in the form of recommendations and guidance for the users of the data	• Report in a clear and simple way illustrating a solution to their issue, or further areas of investigation if further data is required	• Review the data-analytics-insights process and evaluate impact. • Review and update process as required

Business intelligence and Analytical Outcomes For Logistics

Real-time Route Optimization
Delivery routes are dynamically calculated based on delivery sequence, traffic conditions and recipient status

Crowd-based Pickup and Delivery
A large crowd of occasionally available carriers pick up or deliver shipments along routes they would take anyway

Strategic Network Planning
Long-term demand forecasts for transport capacity are generated in order to support strategic investments into the network

Operational Capacity Planning
Short- and mid-term capacity planning allows optimal utilisation and scaling of manpower and resources

Customer Loyalty Management
Public customer information is mapped against business parameters in order to predict churn and initiate countermeasures

Service Improvement and Product Innovation
A comprehensive view on customer requirements and service quality is used to enhance the product portfolio

Risk Evaluation and Resilience Planning
By tracking and predicting events that lead to supply chain disruptions, the resilience level of transport services is increased

Financial Demand and Supply Chain Analytics
A micro- economic view is created on global supply chain data that helps financial institutions improve their rating and investment decisions

Market Intelligence for SME
Supply chain
monitoring data is used to create market intelligence reports for small and medium-size companies

Address Verification
Fleet personnel verifies recipient addresses which are transmitted to a central address verification service provided to retailers and marketing agencies

Environmental Intelligence
Sensors attached to delivery vehicles produce ne-meshed statistics on pollution, traffic density, noise, parking spot utilisation, etc.

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