

Module 8 – Technology in Logistics & Supply Chain

Logistics & Supply Chain Management | Industry Readiness & Interview Skills (3 Hours)



Systems Overview

Understanding the roles of ERP, WMS, TMS, and SCM platforms in supply chain integration.



Tracking Technologies

Mastering the fundamentals of barcode, QR, RFID, and GPS tracking systems.



Modern Trends

Exploring how automation and e-commerce influence logistical efficiency.



Data Analytics (Excel)

Developing skills in sorting/filtering, essential formulas (VLOOKUP, SUM), and data visualization for decision-making.

Understanding Supply Chain Software

A comparison of core systems and their primary focus

ERP (Enterprise Resource Planning)



Integrates and automates core business processes across the organization.

WMS (Warehouse Management System)



Optimizes warehouse operations, including stock management, storage, and picking processes.

TMS (Transport Management System)



Manages freight, routing, carrier coordination, and transportation visibility.

SCM Software



Provides end-to-end coordination and strategic alignment across the entire supply chain.

Identification and Shipment Visibility Technologies

A comparison of tracking and identification solutions

Technology	Type	Primary Function	Line of Sight Required
Barcode	ID	Data capture	
QR Code	ID	Data access	
RFID	ID	Identification	
GPS	Tracking	Positioning	

Technology in Modern Warehouse and Order Fulfilment

Optimizing logistics through automation and system integration



Automated Warehouses

Leverages robotics, high-speed conveyors, and ASRS to drive process consistency, space optimization, and faster fulfillment.



E-commerce Integration Flow

Seamless lifecycle management from customer order placement through WMS and TMS to final delivery tracking.



Implementation Considerations

Strategic planning for capital investment, technical maintenance, workforce training, and cross-system integration.

Intelligent Technology in Logistics

Leveraging advanced digital tools to enhance operational efficiency



AI & Pattern Recognition

Leveraging machine learning for accurate demand forecasting and proactive warehouse inventory planning.



Predictive Analytics

Utilizing historical data streams to estimate future outcomes, proactively identifying potential bottlenecks or supply chain delays.



Route Optimisation

Advanced algorithms calculating the most efficient transit paths while accounting for real-time traffic, vehicle constraints, and operational variables.

Technology acts as a powerful support for decision-making; success depends on high data quality and consistent human oversight.

Excel Skills for Inventory and Delivery Data

Core operations and sample dataset structure for logistics management

Order ID	SKU	Quantity	Status	Freight Cost
1001	A-123	50	Shipped	\$150.00
1002	B-456	20	Pending	\$75.00

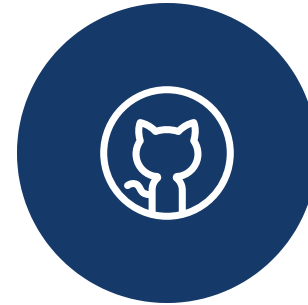
Practical Excel Tools for Logistics Data

Essential functions and workflows for supply chain optimization



Advanced Basics

Core functions including IF for conditional logic, XLOOKUP for data mapping, Pivot Tables for metrics, and Charts for trend visualization.



Data Processing Workflow

A 5-step process: Clean, Sort/Filter, Apply Formulas, Pivot Table summary, and Visual Reporting.

Analysing a Simple Logistics Dataset in Excel

Efficient inventory management through data-driven insights



Core Inventory Analysis

Compare stock levels against reorder points using conditional logic to flag potential supply risks.



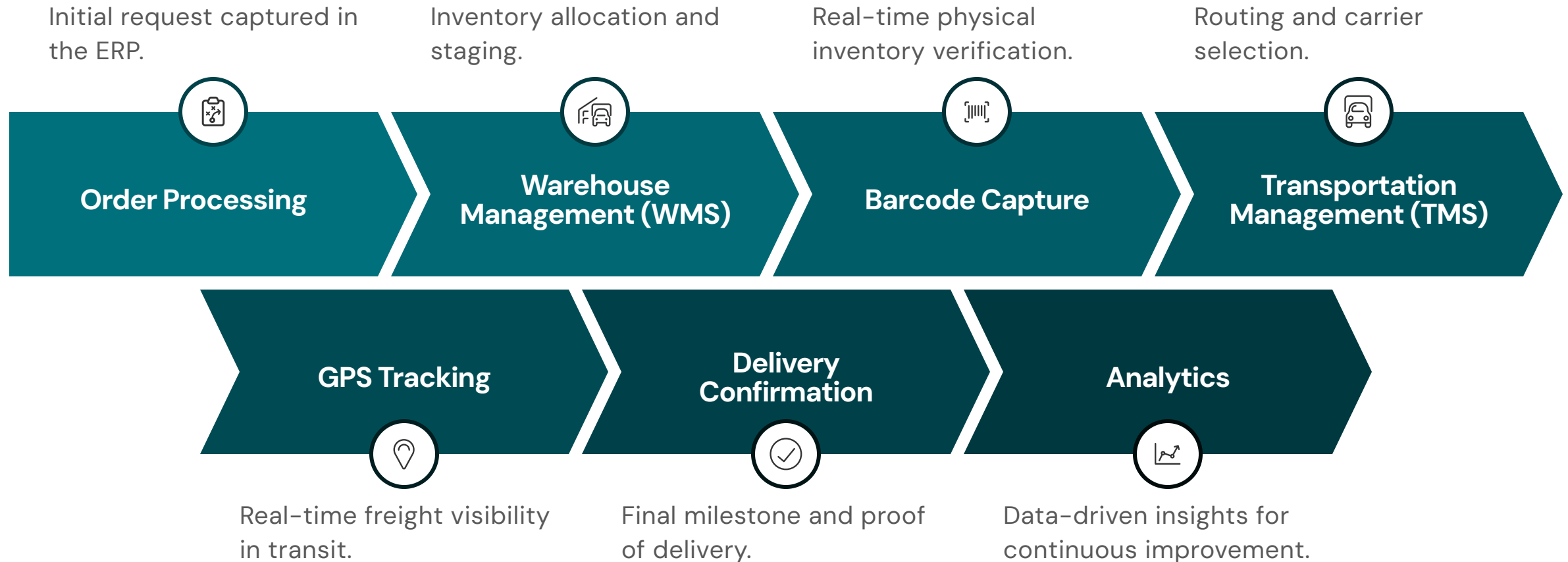
Key Data Tasks

Manage data through sorting and filtering, aggregate totals by category, and identify safety stock outliers.

Operational Note: Always validate data findings against real-world constraints such as lead times, seasonal demand, and supply chain disruptions.

How Logistics Technology Works Together

The Connected Workflow and Critical Challenges



Systems only provide value when data is accurately captured and shared across the entire chain. Address challenges like incomplete data, poor integration, and training gaps to maximize utility.

Technology in Logistics – Hands-On Activity

Applied Data Analysis and Strategic Review



Practical Task: Data Analysis

Assume the role of a Junior Executive and utilize tools such as Sort & Filter, SUM & IF functions, and Pivot Tables to analyze delivery and inventory data.



Revision Topics

Review key systems (ERP, WMS, TMS, RFID), advanced technologies (AI, Predictive Analytics, Route Optimization), and essential Excel functions for efficiency.

Technology and data literacy are fundamental pillars for effective operational decision-making.