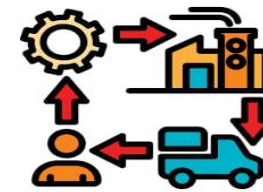


SUPPLY CHAIN ANALYTICS



**PRECISION IN
MOTION, INSIGHTS IN ACTION**

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INTERN @ AARD



MECHANISM WORKFLOW



Planning

TO MEET CUSTOMER
DEMAND



Procurement

ACQUIRE RAW
MATERIALS



**Inventory
Management**



**ware
Housing**

STORES MATERIALS AND
FINISHED GOODS



Manufacturing

TRANSFORM RAW TO
FINISHED GOODS

OPTIMIZE
STOCK LEVELS
TO PREVENT
SHORTAGE



Logistics

**MANAGE MOVEMENT
OF GOODS**



Distribution

**DELIVER
GOODS TO
CUSTOMER
S &
RETAILERS**

**MANAGE RETURN GOODS
FOR REPAIR, RECYCLE OR
DISPOSAL**



**Reverse
Logistics**



**Customer
Service**

**ADDRESS CUSTOMER CONCERNS
AND ENSURE SATISFACTION**



**Performance
Monitoring**

**EVAUATE THE
EFFECIENCY
AND
EFFECTIVENES
S OF THE
SUPPLY CHAIN**



MARKET RESEARCH



GROWTH TREND OF
GLOBAL SUPPLY
CHAIN MARKET **10.6%**
AND EXPECTED TO
REACH **94.71**
BILLION IN 2035



GROWTH TREND OF
INDIAN SUPPLY
CHAIN MARKET
11.1% AND
EXPECTED TO REACH
6,433 MILLION IN
2030



REVENUE OF SUPPLY CHAIN MARKET



REVENUE
GENERATED BY
GLOBAL
MARKET IN **2024**
IS **31.27** BILLION



REVENUE
GENERATED BY
INDIAN MARKET
IN **2024** IS **3,421**
MILLION

CHALLENGES IN SUPPLY CHAIN MANAGEMENT

- DEMAND FORECASTING
- RISK MANAGEMENT
- DATA MANAGEMENT
- MATERIAL SHORTAGE
- INCREASED FREIGHT PRICES
- LABOUR SHORTAGE
- PORT CONGESTION
- DATA VISIBILITY
- GEOPOLITICS

COMPETITOR ANALYSIS

COMPANIES



PROBLEM

Inefficient inventory management, overstock, stockouts and high logistics cost.

SOLUTION

- Implemented predictive analytics for accurate demand forecasting
- optimized delivery routes ,
- inventory cost **reduced by 15%** and saving **\$5 billion** annually



Inefficiencies in delivery routes, particularly in tier 2 & 3 cities caused delays and higher operational cost

- Implemented route optimization using analytics.
- reducing fuel consumption and delivery delays.
- Achieved **8-10%** cost reduction and **2.8%** growth in operating income, with a **12.6%** operating margin



Inefficient fleet management and unplanned maintenance schedules led to higher downtime and costs.

- Adopted IoT sensors and predictive analytics for fleet management.
- reducing downtime by 15-20%, maintenance costs by 10%, and achieving a 12% cost reduction.



Scalability and maintaining visibility over shipments, resulting in delays and lost packages.

- predictive analytics for demand forecasting and real-time tracking,
- improving delivery efficiency and reducing delays by 20%, contributing to 45% revenue growth.

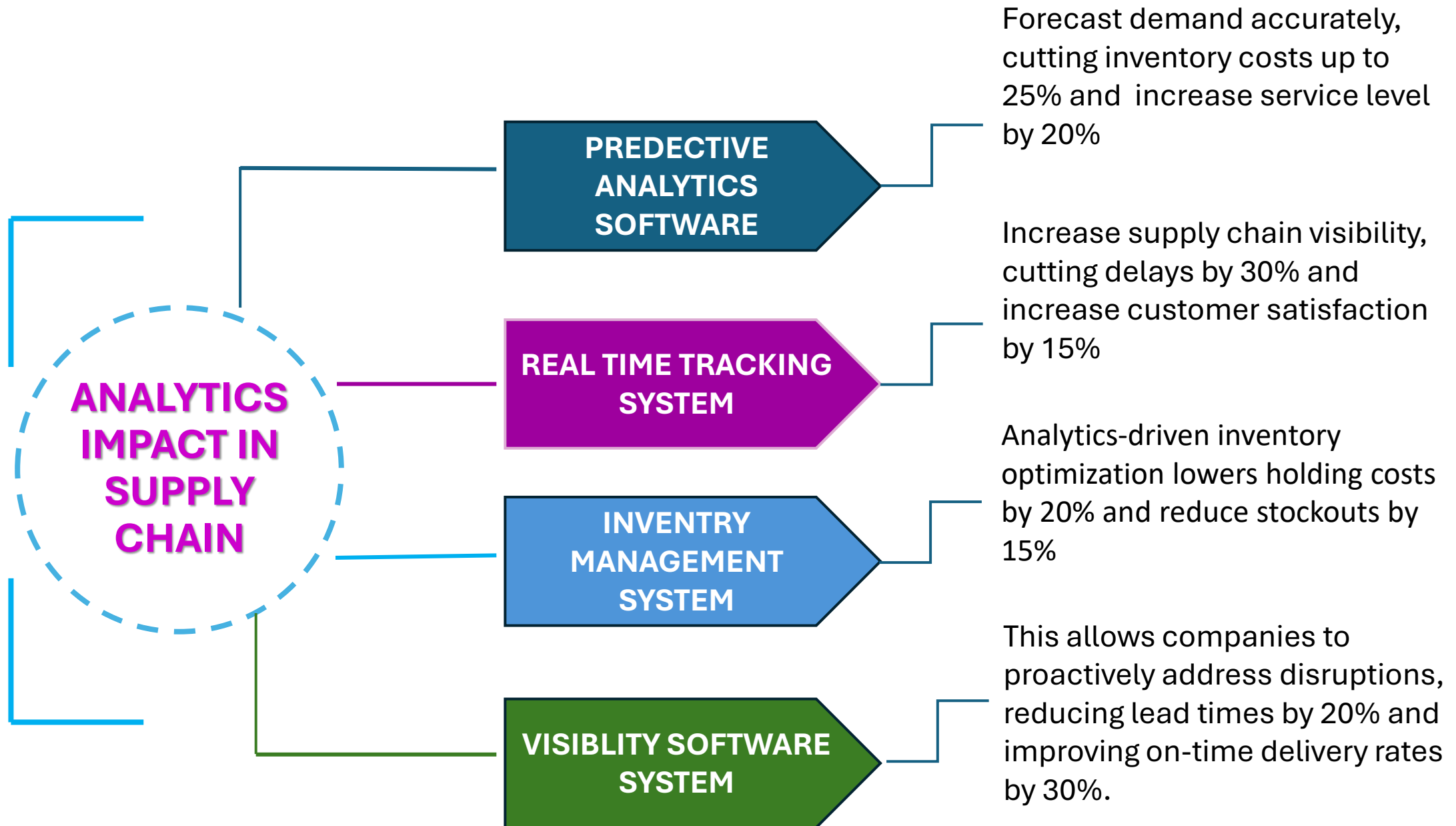


predicting demand during peak seasons, leading to stockouts and overstocking.

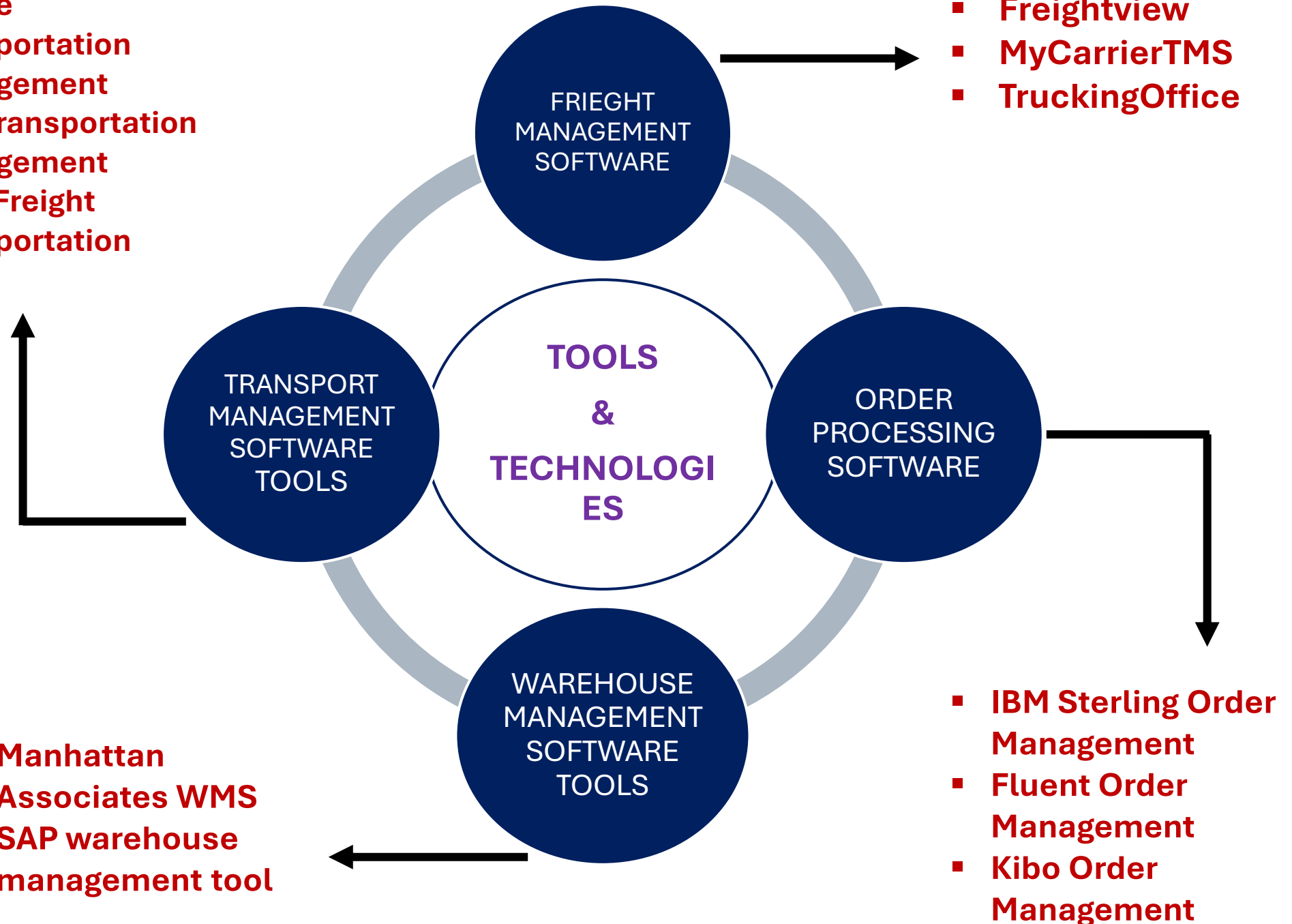
Used analytics for inventory optimization and demand forecasting, improving fulfillment rates by 25% and reducing costs by 15-20%, increasing profit margins by 15%.



BUSINESS IMPACT – ACTIONABLE INSIGHTS, PROFITABLE OUTCOMES



- **Oracle Transportation Management**
- **SAP Transportation Management**
- **Uber Freight**
- **Transportation**





CASE STUDY



MAHINDRA LOGISTICS AND IMPACT OF DATA ANALYTICS ON LAST MILE DELIVERY



INTRODUCTION:

Mahindra Logistics, a leader in the Indian logistics sector has been providing last mile delivery solutions to major e-commerce platforms. Their primary focus on **First Day Delivery Success and Inventory Accuracy.**

KEY OPERATIONS:

- **Inventory Management:** wall to wall audits to ensure accuracy and reliability.
- **Employee training:** emphasis on training staff to improve productivity and maintain delivery standards
- **Inventory Management:** wall to wall audits to ensure accuracy and reliability.
- **Employee training:** emphasis on training staff to improve productivity and maintain delivery standards

- Maintained shrinkage rate of only **0.25%**
- Effective inventory management and improving the reliability of stock handling



INVENTORY SHRINKAGE

- Maintained a 0% damage rate for goods during delivery
- High quality control in packaging and transportation



FIRST DAY DELIVERY

- Achieved **92%** first day delivery
- Majority of customers receive their delivery on first day, which critical for customer satisfaction.



KEY METRICS ACHIEVED



PLANNED DELIVERY DATE

- Achieved **98.5%** success rate
- Most deliveries arrived as per the scheduled date and improving logistical efficiency.



ZERO DAMAGE

FINANCIAL IMPACT OF DATA ANALYTICS



OPTIMIZED OPERATIONS

Data analytics has enhanced on-time deliveries, route efficiency and driver performance, reducing cost and ensuring customer satisfaction



COST REDUCTION

Predictive analytics minimizes fuel consumption, inventory shrinkage, and transit damages, lowering operational expenses.



REVENUE GROWTH

High FDDS (92%) and PDD (98.5%) rates improve customer retention, driving repeat business and higher revenue.



PROFITABILITY ESTIMATE

Efficiency gains and cost reductions help Mahindra Logistics maintain an estimated **profit margin of 5-10%**.

CONCLUSION

Mahindra Logistics' success in last-mile delivery results from leveraging data analytics to optimize operations, improve customer satisfaction, and reduce costs. By focusing on key metrics like on-time delivery and route efficiency, they have enhanced performance and sustained healthy profit margins, estimated at **5-10%**. This showcases how data-driven decisions enable logistics companies to remain competitive and grow in the dynamic e-commerce landscape.