

WELCOME TO THE COURSE

# AI *in* COMMERCE

Smart Technology. Smarter Business.  
Stronger Future.

NG



SALES



ANALYTICS



DECISIONS

Apply. Lead.

Let's explore  
how AI is  
transforming  
the world of  
commerce!



MODULE - 4

# AI-Based Demand Forecasting

## Improving Business Decision-Making

Predicting Future Market Demand with AI



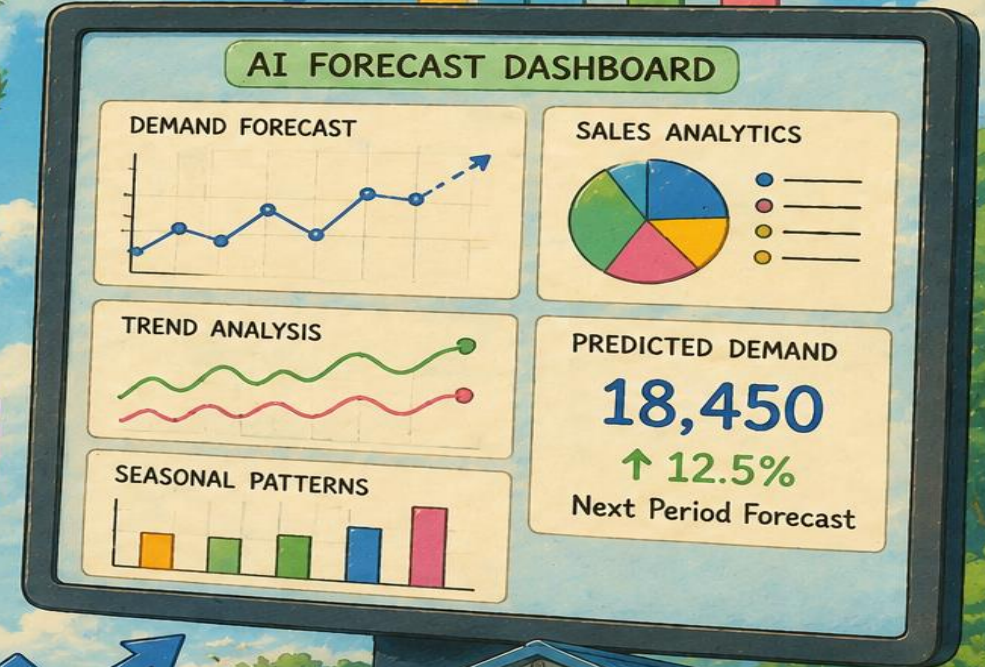
Smarter Planning



Better Decisions




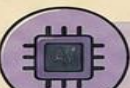


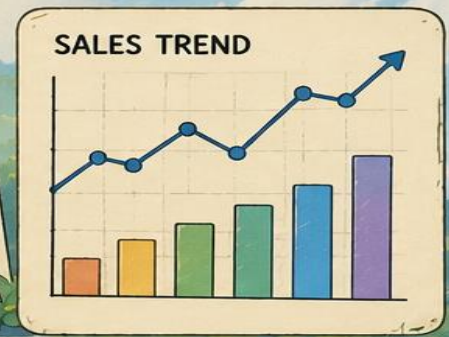
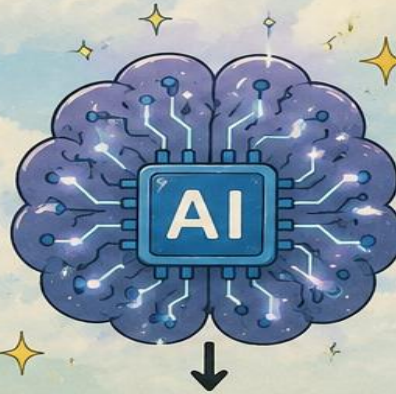
Higher Efficiency



# What is DEMAND FORECASTING?

Demand forecasting refers to predicting future customer demand for products and services using:

-  Historical sales data
-  Market trends
-  Consumer behavior
-  AI and machine learning models



CONSUMER SHOPPING BEHAVIOR

ACTIVITY

- Likes
- Purchases
- Searches
- Reviews

## KEY IDEA



Right Product • Right Time • Right Quantity



# How AI Performs Demand Forecasting

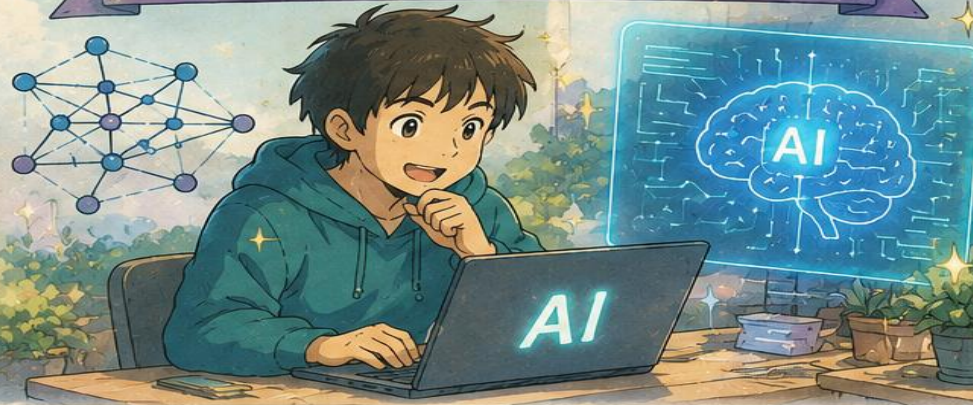
## AI-Powered Forecasting Process

AI systems analyze:

-  Past sales data
-  Market trends
-  Seasonal patterns
-  Consumer behavior

Then:

Machine learning algorithms generate accurate demand predictions.



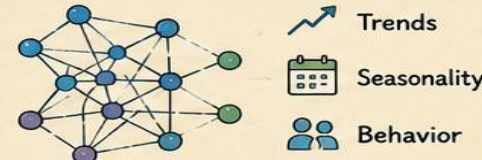
### 1. DATA COLLECTION



### 2. AI ANALYSIS

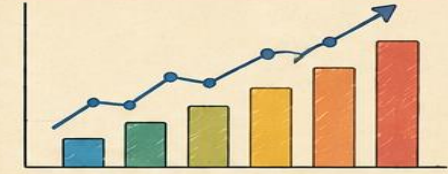


### 3. PATTERN RECOGNITION



AI identifies hidden patterns, trends and relationships

### 4. DEMAND PREDICTION



Data Collection



AI Analysis



Pattern Recognition



Demand Prediction

# Why Demand Forecasting Matters

## AI improves:



✓ **Smarter planning**  
Plan ahead with accurate demand insights.



✓ **Faster decisions**  
Make timely and confident business decisions.



✓ **Reduced uncertainty**  
Minimize risks with data-driven predictions.



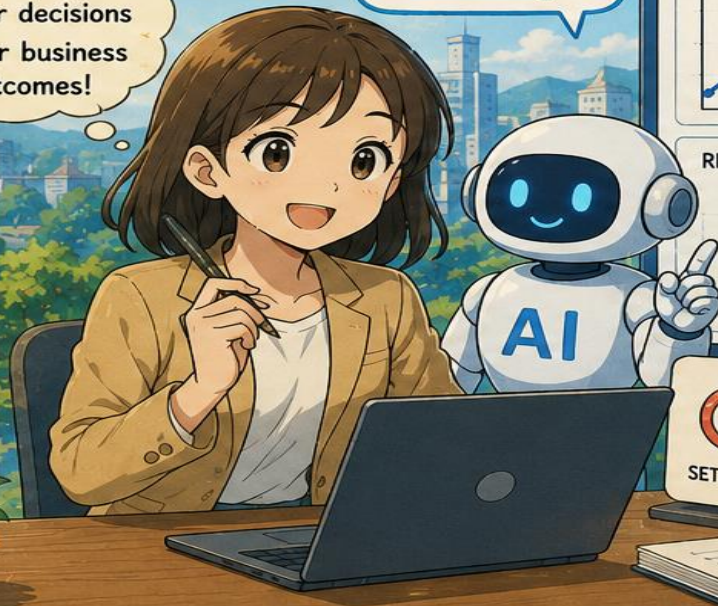
✓ **Better resource allocation**  
Use manpower, budget and inventory more effectively.



✓ **Improved operational efficiency**  
Streamline operations and increase productivity.

Better insights  
Better decisions  
Better business outcomes!

AI turns data into powerful business insights!



SET GOALS    MAKE DECISIONS    OPTIMIZE OPERATIONS    DRIVE GROWTH



## Data-driven forecasting leads to confident business decisions.



Slide 5

# Production Planning

## AI Supports Production Planning



Businesses adjust production levels based on predicted demand



Prevents overproduction and shortages



Optimizes workforce and manufacturing schedules



### BENEFITS



Reduced waste



Better productivity



Cost efficiency



### EXAMPLE

Factories increase production before high-demand seasons.



Slide 6

# Inventory Planning

## Smart Inventory Management



Retailers maintain the right stock levels



Prevents stockouts and overstocking



Improves warehouse efficiency



### BENEFITS



Better customer satisfaction



Reduced storage costs



Faster order fulfillment



AI Forecast



Optimal Stock Planning



Smart Replenishment



Happy Customers

Slide 7

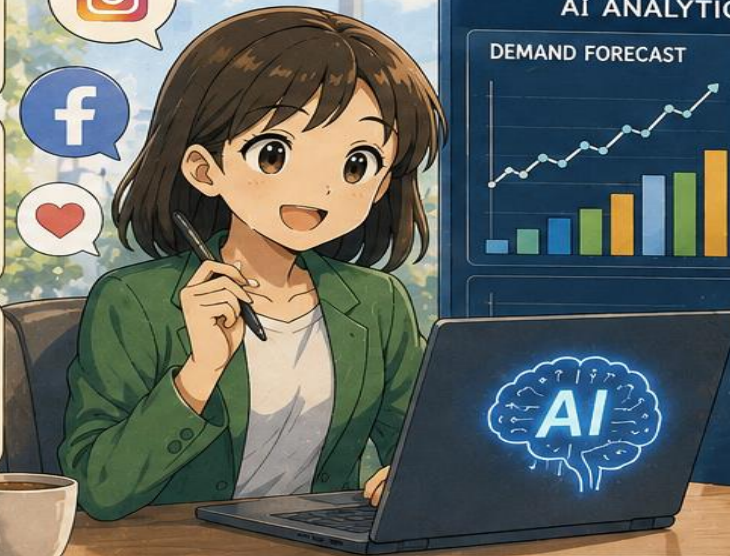
# Marketing Strategy

## AI Improves Marketing Decisions

 Businesses launch promotions during expected demand increases

 AI identifies customer buying trends


 Supports targeted campaigns and pricing strategies




### BENEFITS


 **Higher Engagement**  
Reach the right audience with the right message.



 **Increased Sales**  
Drive more conversions with data-backed strategies.



 **Better Campaign Timing**  
Launch campaigns when demand is at its peak.



 30% OFF



#### TARGETED CAMPAIGNS

**FLASH SALE!**  
LIMITED TIME ONLY  
UP TO **30% OFF**



**NEW ARRIVALS**  
JUST FOR YOU!



**WEEKEND SPECIAL**  
BUY 1 GET 1  
**50% OFF**



**AI turns data into action and insights into impact!**



# Supply Chain Optimization

## Smarter Supply Chain Management



AI helps coordinate suppliers and logistics efficiently.



Improves delivery planning and procurement.



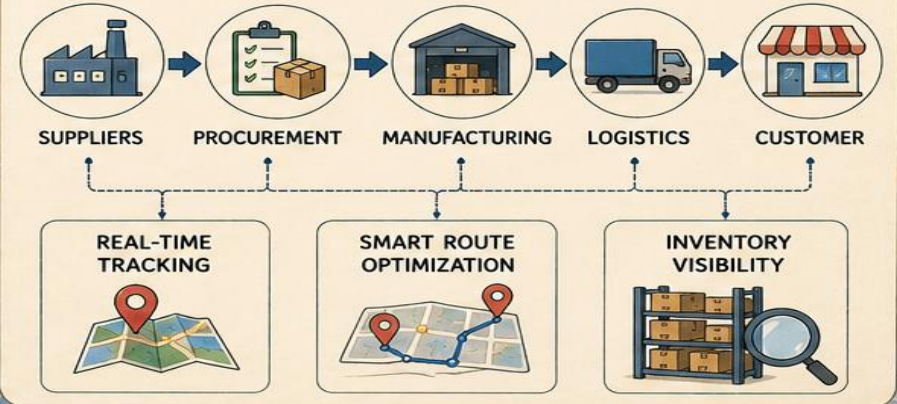
Reduces delays and operational bottlenecks.



AI analyzes real-time data to make smarter, faster supply chain decisions.



### AI-POWERED SUPPLY CHAIN FLOW



### BENEFITS



#### Faster Delivery

Optimized routes and real-time planning ensure on-time deliveries.



#### Better Coordination

AI connects suppliers, manufacturers and logistics for seamless collaboration.



#### Lower Logistics Costs

Reduced delays, better planning and efficient operations cut costs.



AI today, optimized supply chain tomorrow!



# Example: Retail Demand Forecasting

AI helps retailers predict demand and stay ahead!

Retail companies forecast higher product demand during:



### Festivals

Increased shopping during festivals like Diwali, Eid, Christmas, etc.



### Holiday Seasons

High demand during holidays and vacation periods.



### Special Sales Events

Spikes in demand during Black Friday, End of Season Sales, Flash Sales, etc.



## AI SALES PREDICTION DASHBOARD

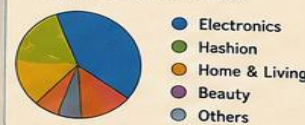
### DEMAND FORECAST



### TOP PRODUCTS (FORECAST)



### DEMAND BY CATEGORY



### SALES TREND (PAST)



AI analyzes historical sales, customer behavior, trends, and market data to predict future demand accurately.

## RESULT



Businesses stock products in advance to meet customer demand.



AI forecasts demand spikes in advance.



Retailers plan inventory and stock up early.



Products delivered to stores and online warehouses.



Customers get what they want, when they want!



“E-commerce platforms **increase inventory before festive sales.**”




# Key Takeaways

AI transforms how businesses predict, plan and grow!

 ✓ **AI-based demand forecasting** improves business decision-making.

 ✓ **Helps businesses predict future market demand** accurately.

 ✓ **Supports production, inventory, marketing, and supply chain planning.**

 ✓ **Enables smarter, data-driven business strategies.**



AI transforms forecasting into a powerful tool for business growth.

 Better Predictions Stronger Decisions	 Efficiency at Every Step	 Customer Satisfaction Goes Up	 Lower Costs Higher Profits	 Sustainable Growth for the Future
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## Attribution & License Information

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