

COURSE STRUCTURE & TOPICS COVERED

Pedagogy

- “College is a place where a professor’s lecture notes go straight to the students’ lecture notes, without passing through the brains of either.” – Mark Twain
- “*The mind is not a vessel that needs **filling**, but wood that needs **igniting**.*” – Plutarch (from Ian Kidd’s translation of *Essays*)

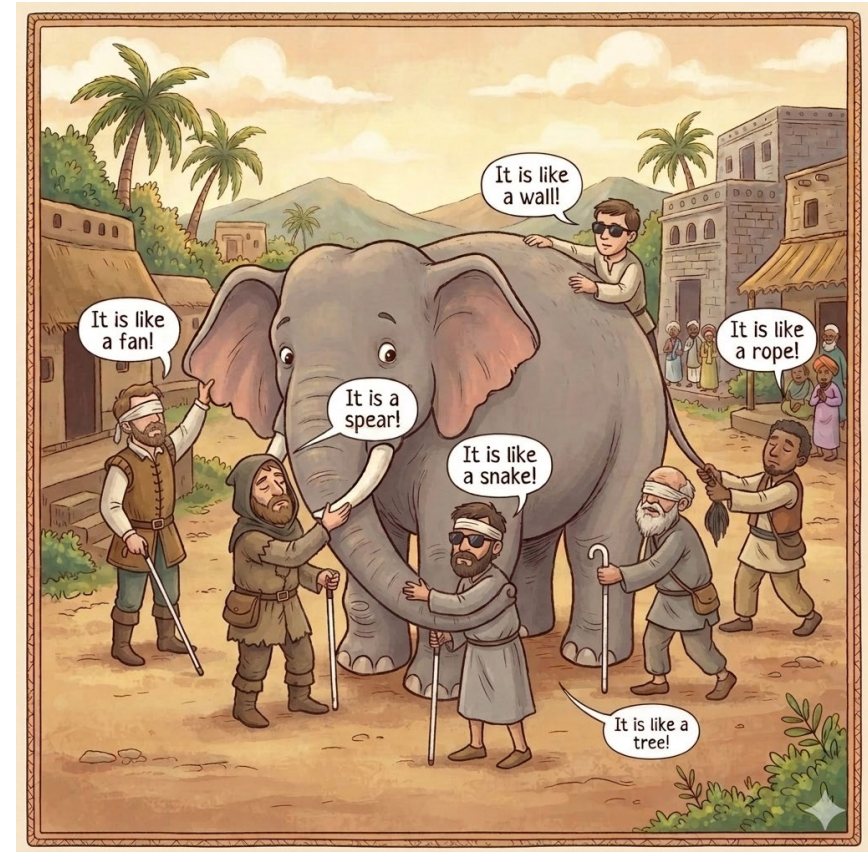


Thrilling, Inspiring, Eye-opening

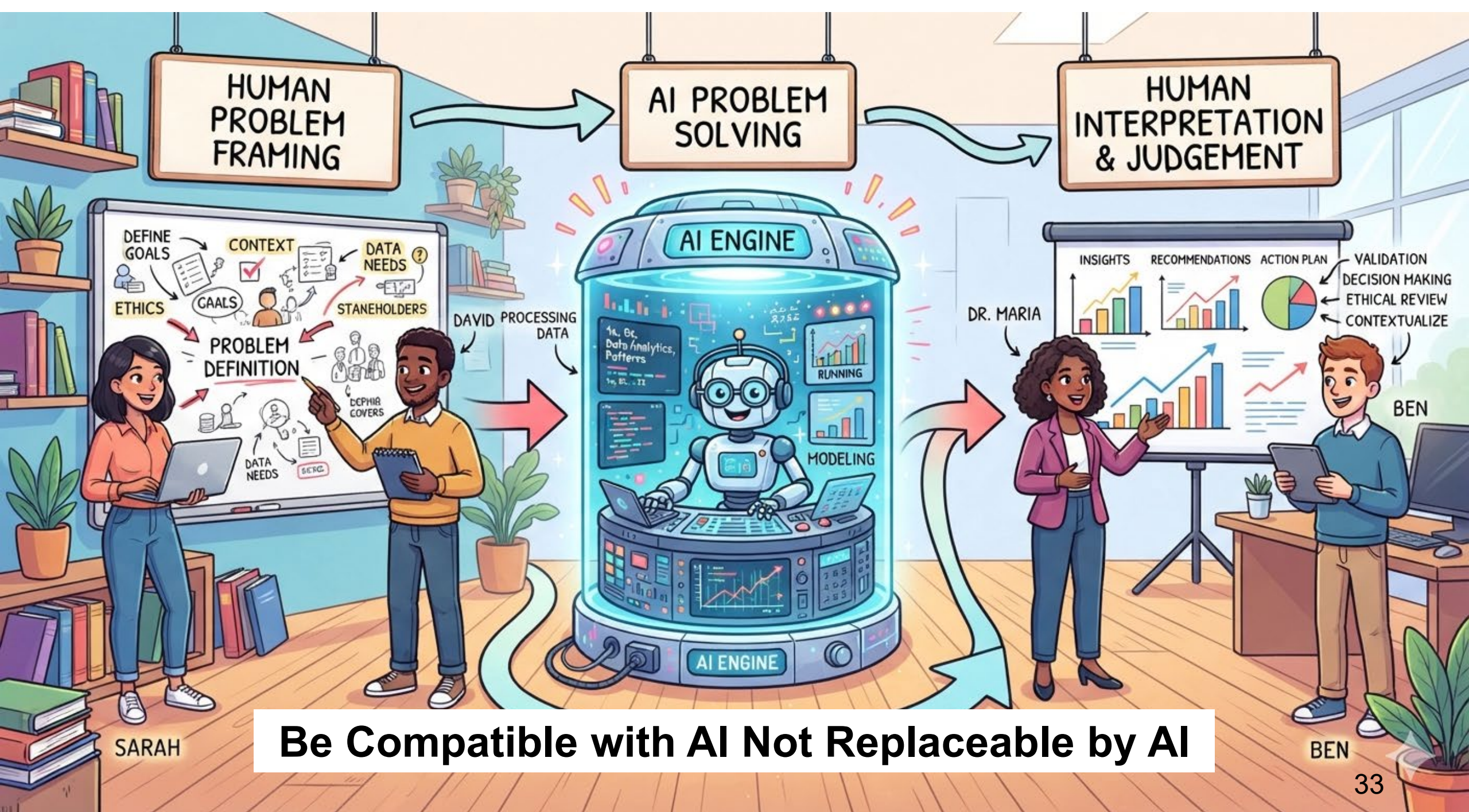
Visual Storytelling



Tells the story hidden behind data

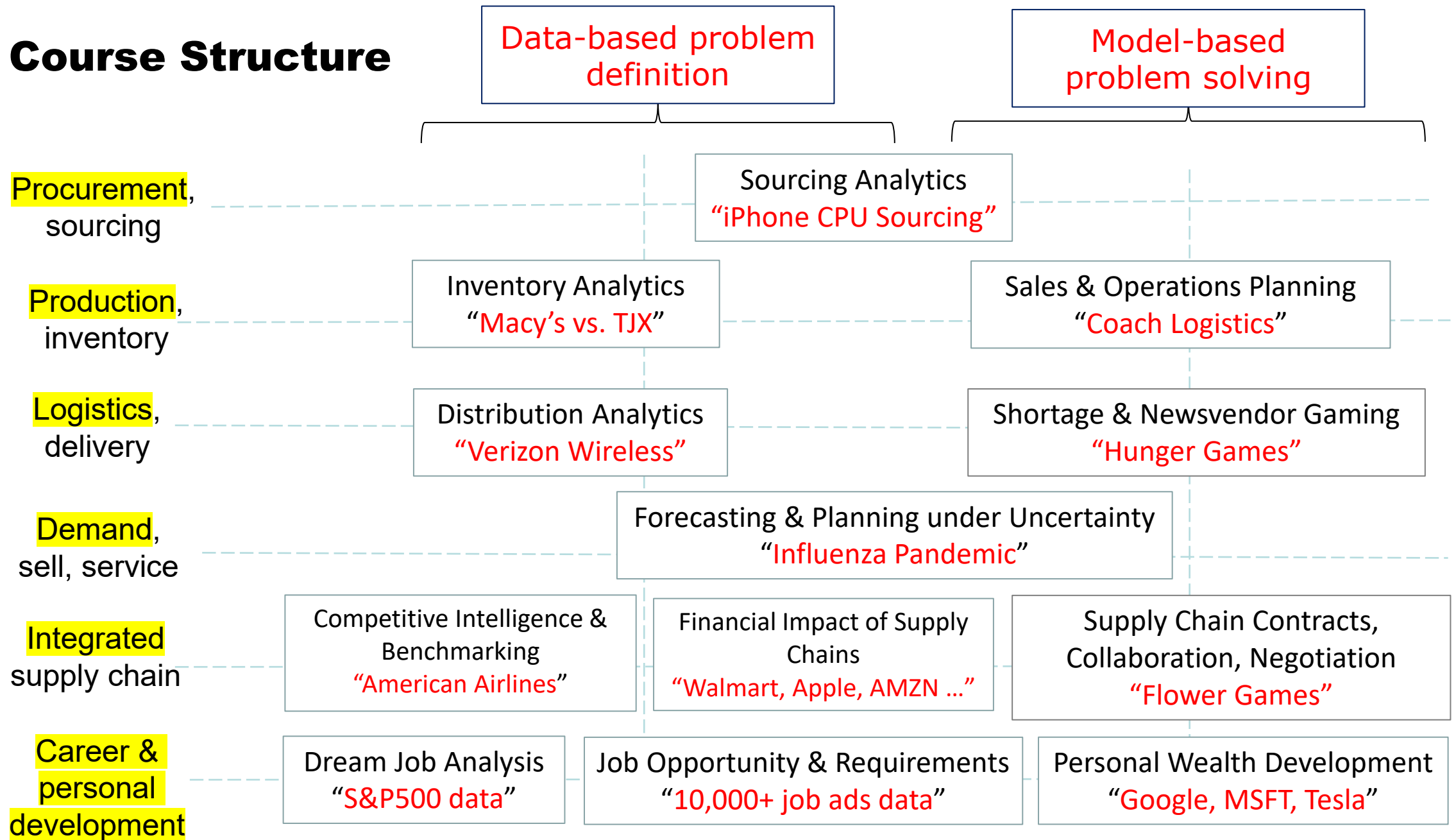


Forges parts into whole picture



Be Compatible with AI Not Replaceable by AI

Course Structure



Dream Job Analysis

- A dream job: Something you like to do and make you tons of \$ without tons of effort!
- Learning objectives:
 - Experience the power of data analytics and story-telling.
 - Aid students in the career development.
- Data: **US S&P 500 companies**
- Lecture time: 30-60 mins
- Homework: students define their dream jobs by region, industry and company.



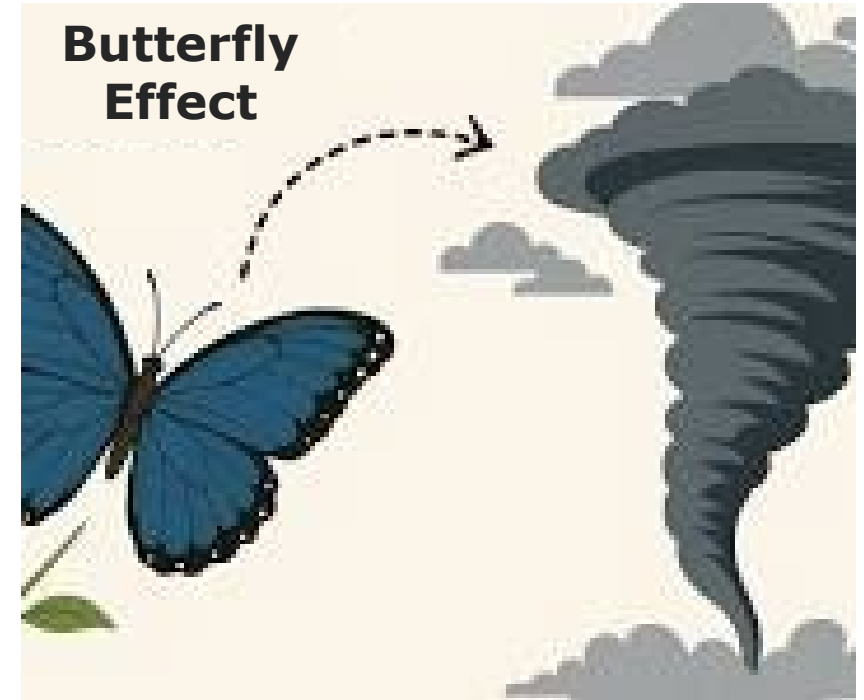
Region
(where to locate)

Industry
(which industry to enter)

Company
(which company to work for)

Supply Chain **Butterfly** Effect

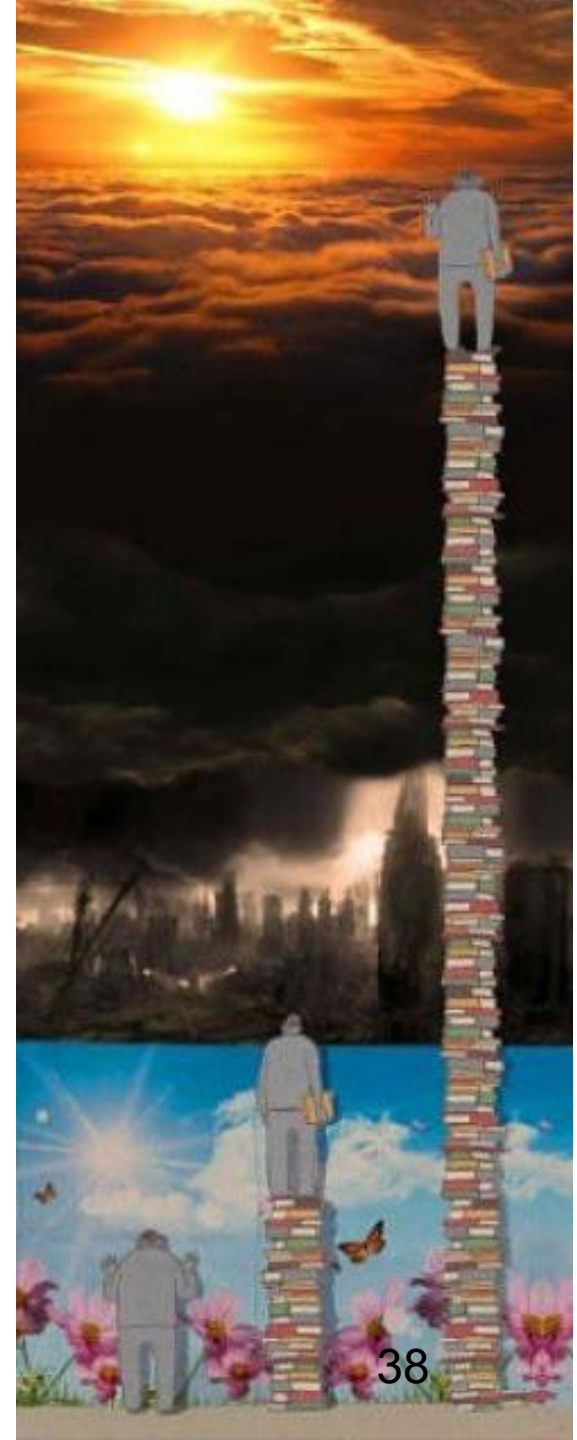
- Teaching objectives
 - Supply chains are not just operational cost centers but hidden drivers of market value.
 - Diagnosis tool to measure supply chain potential in financial terms.
- Homework: students study the impact of supply chains on industries & companies of their interest.
- Discussion: students share homework insights and learn from each other



A butterfly flapping its wings can cause a major storm

Competitive Intelligence & Benchmarking

- Identify and prioritize problems as a consultant
 - Industry analysis to assess industry potential and risk.
 - Competition positioning to position a company in the competitive landscape.
 - Enterprise diagnosis to discover and prioritize problems.
- Case / data: **American Airlines** in the US airline industry
- Lecture time: 60 mins
- Homework: students practice on companies & industries of their choice.



Forecasting & Planning Under Uncertainty

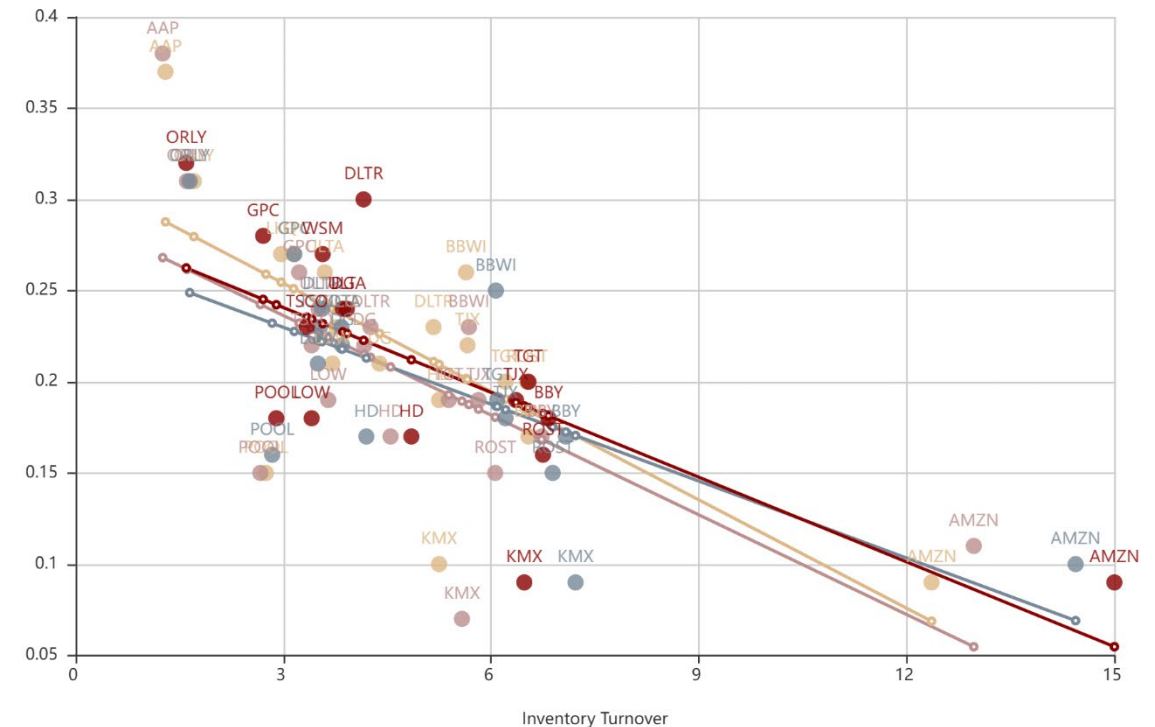
- Learning objectives
 - Predict rare but disastrous events
 - Decision making under uncertainty
 - Companies want to make money (JIT), governments want to save lives (JIC); how to align commerce with public health?
- Case: **Pandemic Influenza – Just-in-Time vs Just-in-Case Strategies.**
- Lecture time: 3 hours
- Homework: students to design incentive schemes to align the conflicting interests between commerce and public health.



Inventory Analytics

- Learning objectives:
 - For which industries is inventory relevant and important?
 - How may inventory drive a firm's financial performance?
 - How do I know if I have an inventory problem?
 - How to prioritize & manage different types of Inventory?
- Cases: **Macy's, TJX, Ross Stores.**
- Lecture time: 60 mins.
- Homework: students practice on companies & industries of their choice.

Sales General Admin Cost / Total Revenue



Faster inventory turn reduces SG&A for US retailing

Sourcing Analytics

- Learning objectives:
 - **Supplier intelligence**: Explore & select suppliers globally.
 - **Bargaining power analysis**: Measure leverage & negotiation power.
 - **Supplier benchmarking**: Compare suppliers' pricing, risk and capacity.
- Case: **iPhone CPU Sourcing** to replicate Apple's actual decision.
- Lecture time: 60 mins.
- Homework: students practice on companies & components of their choice.

	Intel	Qualcomm	Global Foundries	TSMC	Samsung Electronics
Innovative, technological / engineering capability	Excellent	Excellent	?	Excellent	Excellent
Manufacturing capacity / quality	Excellent	Good	Excellent	Excellent	Excellent
Pricing	Fair	Poor	Excellent	Excellent	Excellent
Profitability	Excellent	Good	Poor	Excellent	Good
Bargain power	Poor	Poor	Excellent	Fair	Fair
Financially healthy / robust	Excellent	Good	Good	Excellent	Excellent
Reliable / flexible / responsive	Good	Good	Good	Excellent	Excellent
Leaks & competition	Excellent	Fair	Excellent	Good	Poor

Sales & Operations Planning (S&OP)

- Learning objectives
 - Production planning, staff scheduling, transportation planning, resource allocation, logistics network design.
 - Prescriptive analytics: Linear and integer programming, solvers, sensitivity analysis.
- Case: **COACH Handbags Inc.**
- Lecture time: 6 hours
- Homework: Redesign Coach's logistics network to reduce cost and improve customer service.



Distribution Analytics

- Learning objectives
 - Integrated inventory, transportation and warehouse planning in distribution and logistics
 - Distribution strategies: push vs. pull models
- Case: **VASTA Wireless – Push vs. Pull Distribution Strategies (1st prize INFORM case writing competition 2014)**
- Lecture time: 1-2 hours
- Homework: Help a major US wireless carrier evaluate and transition from “push” to “pull” in distribution and saved \$1 billion in inventory.



Hunger Chain – Shortage and Newsvendor Gaming

- Play the Hunger Chain simulation to learn:
 - Shortage gaming (panic order, hoarding) & bullwhip effect.
 - Competition (the Prisoner's Dilemma) and the value of information.
 - Supply rationing for efficiency and fairness.
 - The Newsvendor model.
- Game: **Hunger Chain simulation (Best DSJIE Teaching Brief Award 2021)**
- Lecture time: 1-3 hours



Mummy bird only has one worm, whom to give it to?

Flower Game – Supply Chain Collaboration & Contracts

- Play the FloraPark simulation (flower game) to learn:
 - Supply chain collaboration via contracts
 - Supply chain marketing interfaces
 - Supply chain competitive strategies
 - International supply chains
 - Negotiation & teamwork
- Game: **Flora-Park simulation.**
- Lecture time: 6 hours

*Flora***PARK**¹

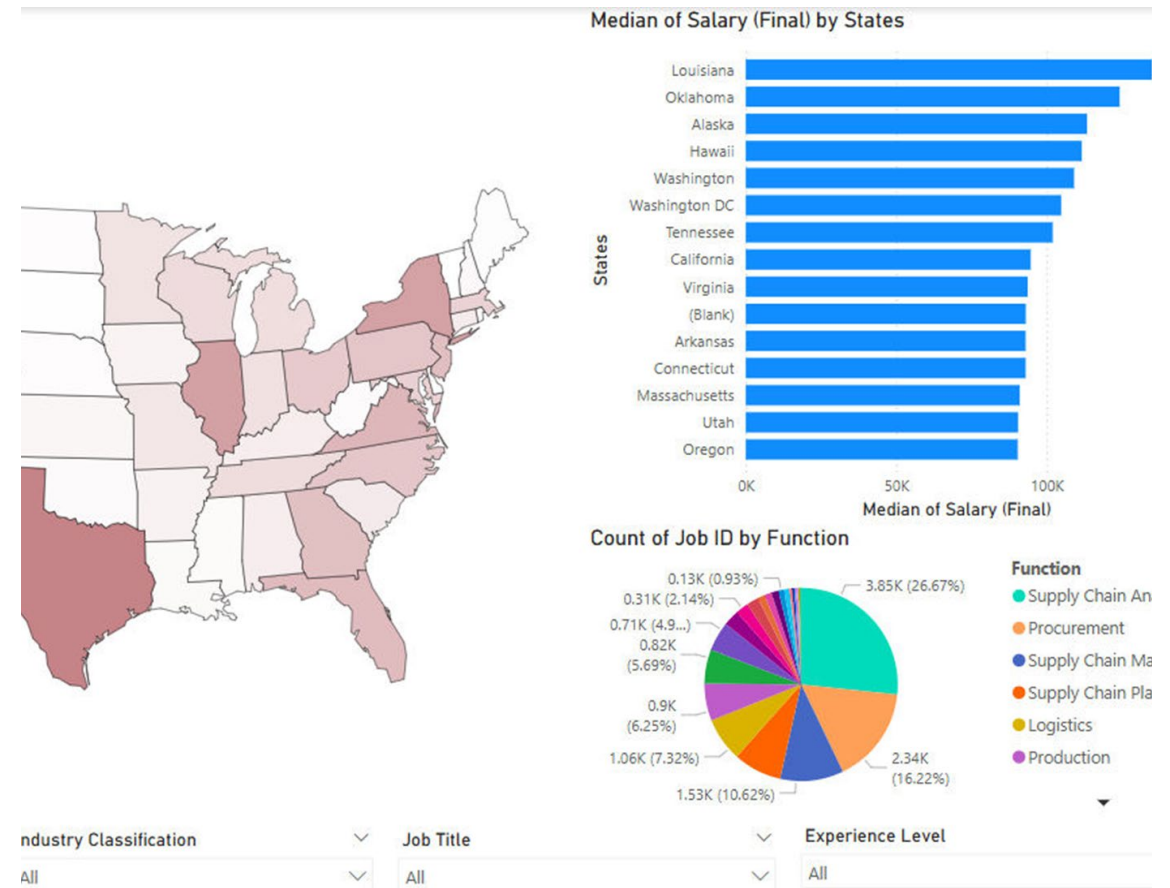
How to beat up other supply chains
while defending yourself against the
“worst” enemy: your partner?



A Supply Contracts Simulation

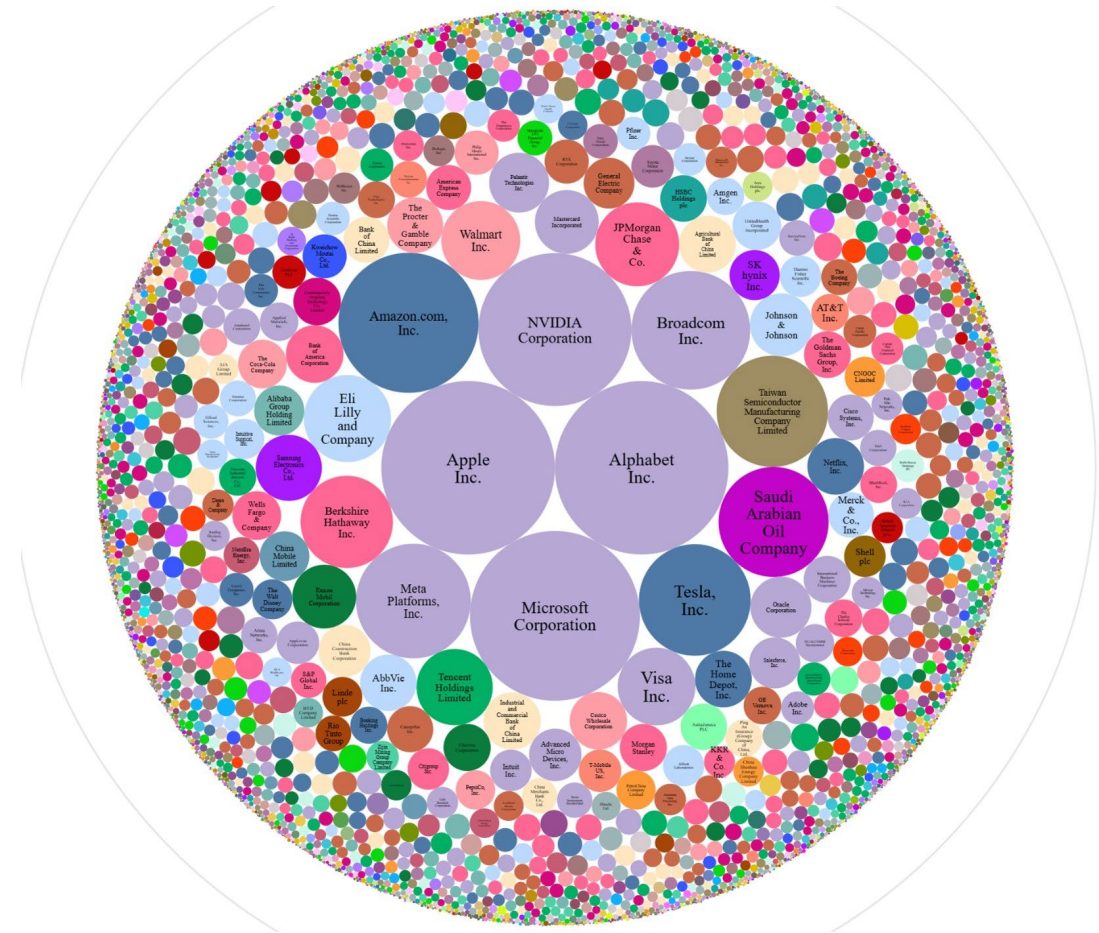
Supply Chain Job Opportunities and Requirements

- Learning objectives
 - Most demanded / highest paid jobs?
 - Required knowledge, skills (soft, technical) & software tools?
- Data, dashboards & visuals
 - 12,000+ job ads of 2026
 - Power BI dashboards
- Homework: job data research
- Discussion: share insights and learn



Personal Wealth Development

- Learning objectives
 - How does stock market behave statistically?
 - Market and industry analysis.
 - Individual stock analysis: price regression models, margin of safety analysis.
- Cases: S&P 500 index, Google, Microsoft, Tesla.
- Lecture time: 2-3 hours
- Homework: students analyze industries & companies of their interest
- Discussion: share insights and learn



Market Cap 2025