

JOB OUTLOOK

Talent Crisis

Demand-to-supply ratio
of supply chain jobs:

6 to 1



Without analytics, it is a pile of numbers!

Demand for SCA Talents Continues to Grow

COVID 19 Pandemic



Russia-Ukraine Conflict



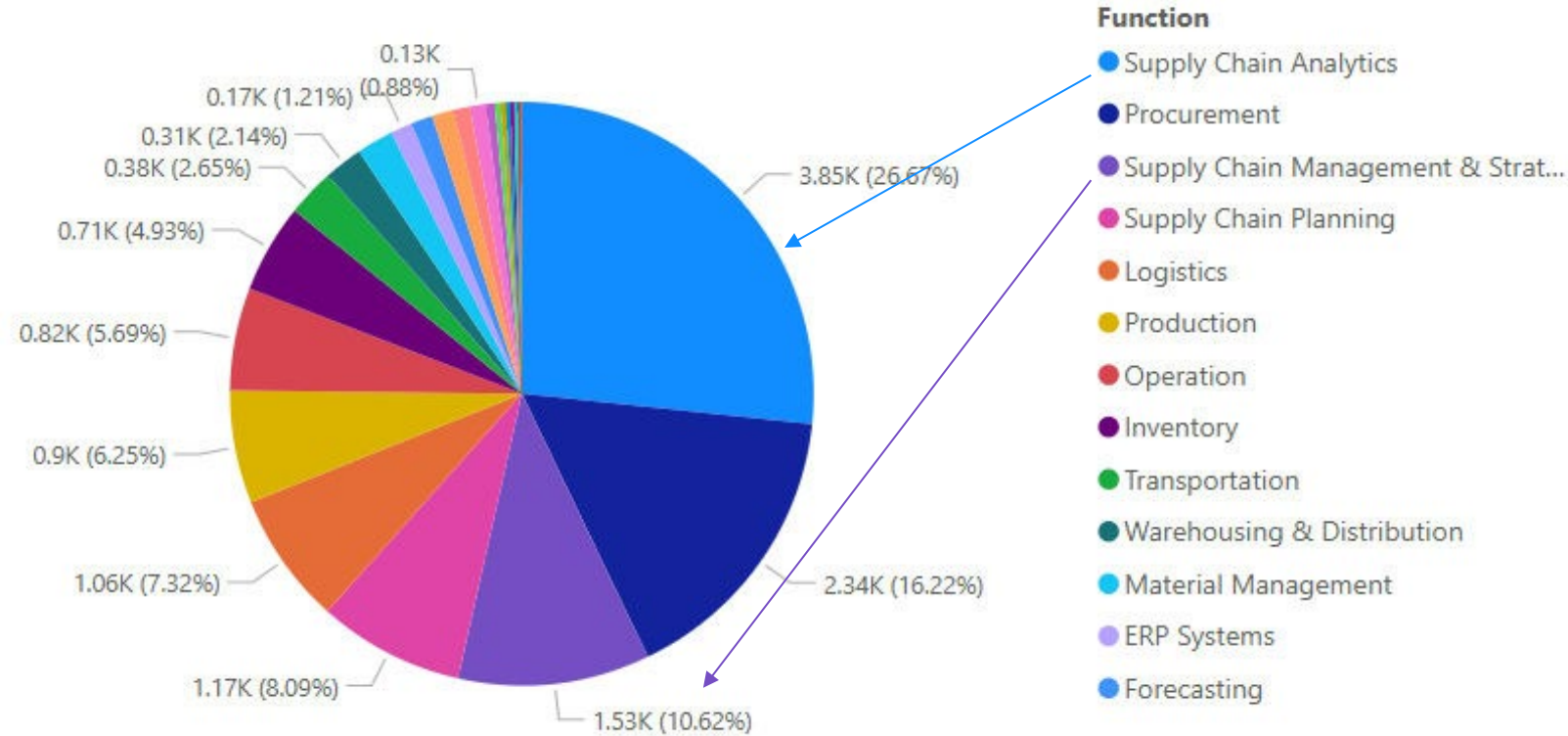
Tariff Wars ...



Global supply chain is changing rapidly, SCA talents are needed!

Supply Chain Job Market Shift

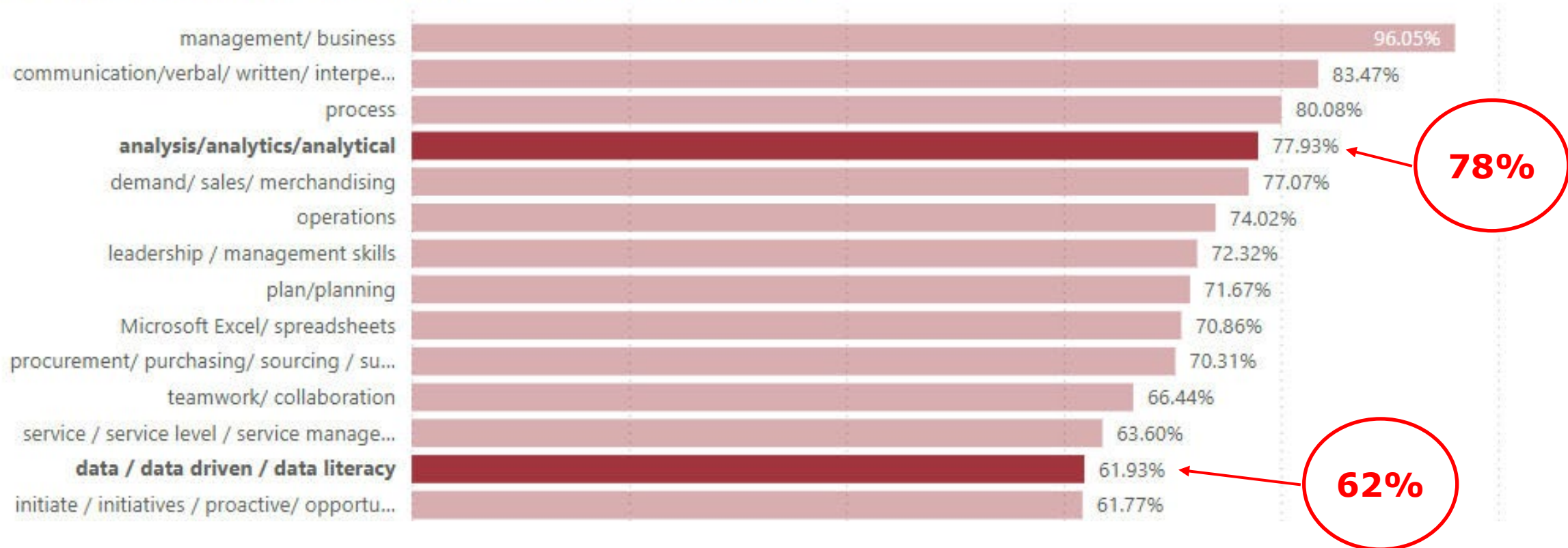
Count of Job ID by Function



Supply Chain Management & Strategies → Supply Chain Analytics

Strong Requirements on Analytics and Data

Required knowledge, skills and software - occurrence of keywords

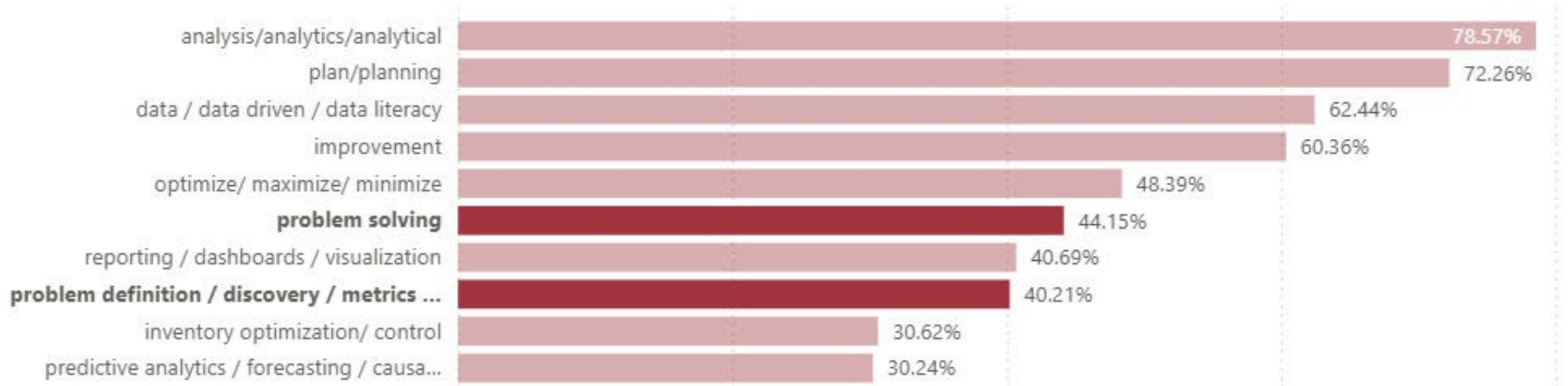


Data Analytics \neq Statistics

- **Data analytics** = { data reporting / dashboards / visualization, data interpretation / story-telling / insights, investigate / diagnose / root cause, data integrity / management / manipulation, data collection / cleaning / preparation, **statistics**, ... }



Not Only Problem Solving But Also Problem Definition



No Puppets who have to be **TOLD** to do things.

Yes People who can take initiatives to define and solve problems.



Ideal Job Candidate

“We don’t need more data weenies and we don’t need more strategic marketing planners. What we really need are more people with **a foot in each camp** who can make some sense of all of this new technology.”

–Don E. Schlutz

Source: *Big Data: Prospects and Challenges*.

Source: https://www.researchgate.net/publication/275035912_Big_Data_Prospects_and_Challenges

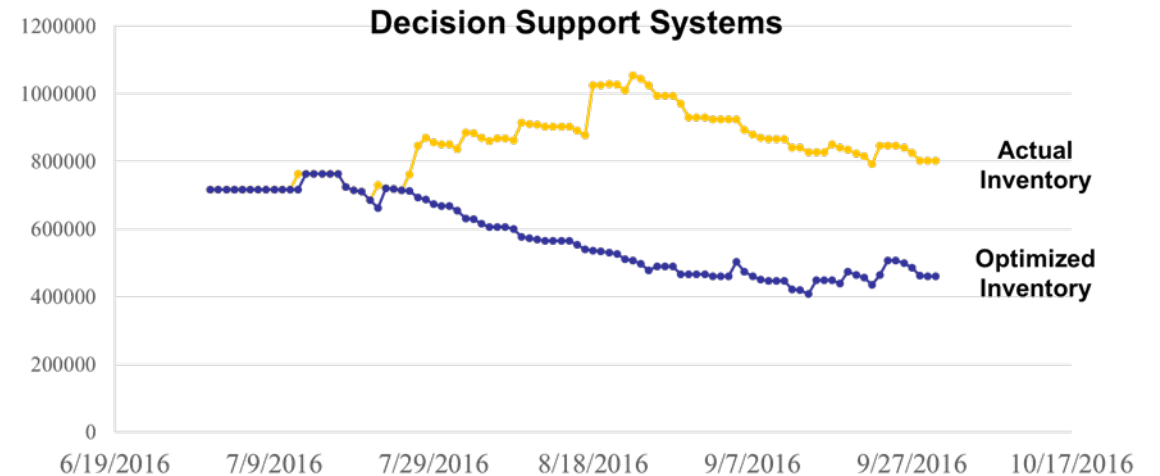
A Sample Job

- **Business Analyst - Supply Chain Data and Analytics**
- **Benefits:** Highly competitive salaries, bonus programs, world-class benefits
- **Job Overview:** Dell is **driven by data**. Our business is built on the understanding that **data creates value and drives progress**. So we take the stewardship of our data very seriously. That's the vital role played by Business Intelligence teams within Business Support. Internal clients across Dell rely on us to **analyze, test, validate and maintain** the integrity of data. We make use of leading-edge software and tools to collect, mine and interpret data and the statistical analyses and reports **we produce informed decisions with a global impact**

Premium Jobs with High Impact



Business intelligence for problem discovery



Decision support for problem solving

To Prepare for Job Market, You Need to Know

- Job opportunities and salary stats.
- The required knowledge, skills, and software.
- Job responsibilities.
- How to prepare for them.



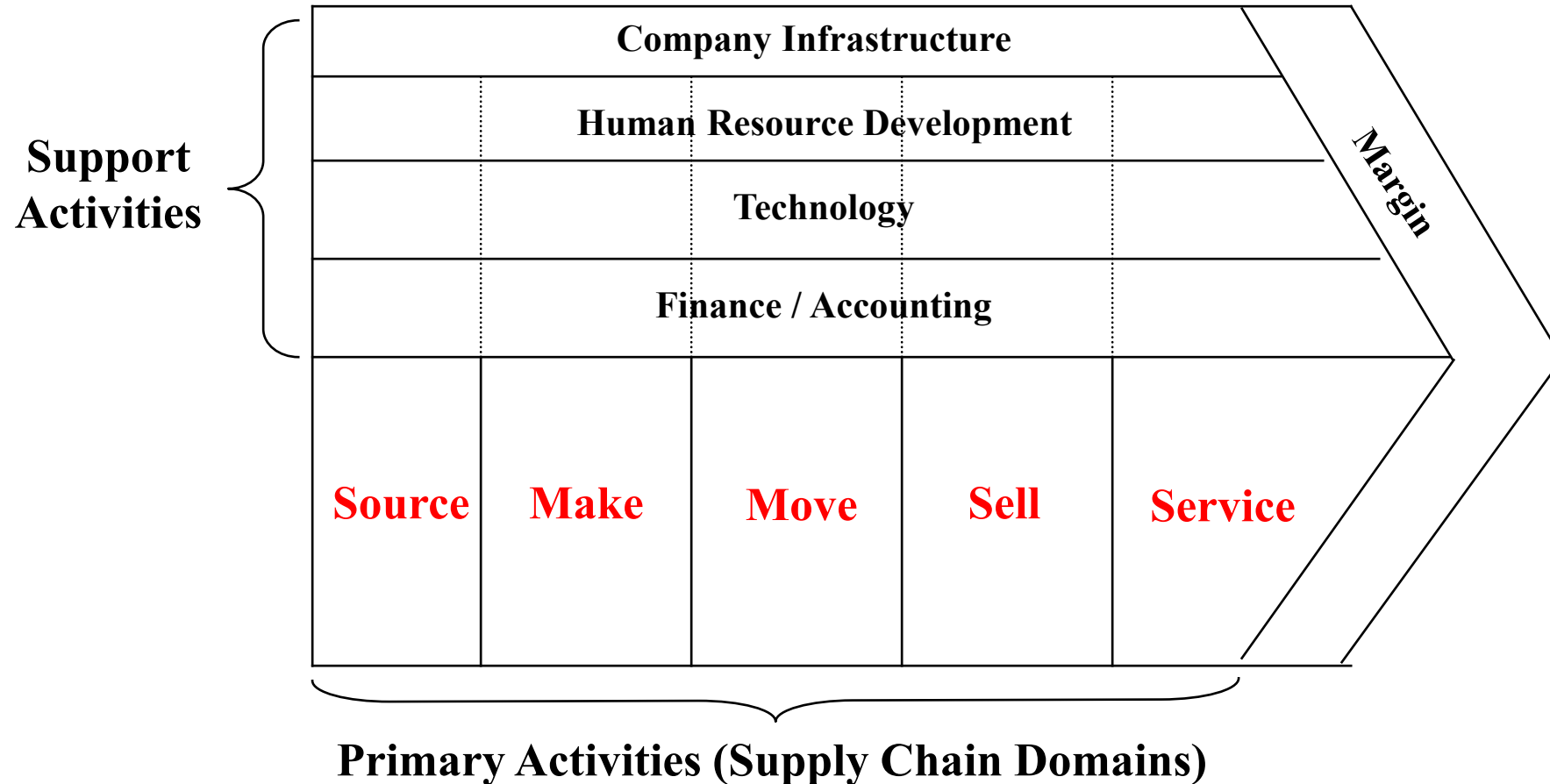
To be covered in the “**Supply Chain Job Opportunity**” module

COURSE STRUCTURE & TOPICS COVERED

Supply Chain Analytics Course Design Principles

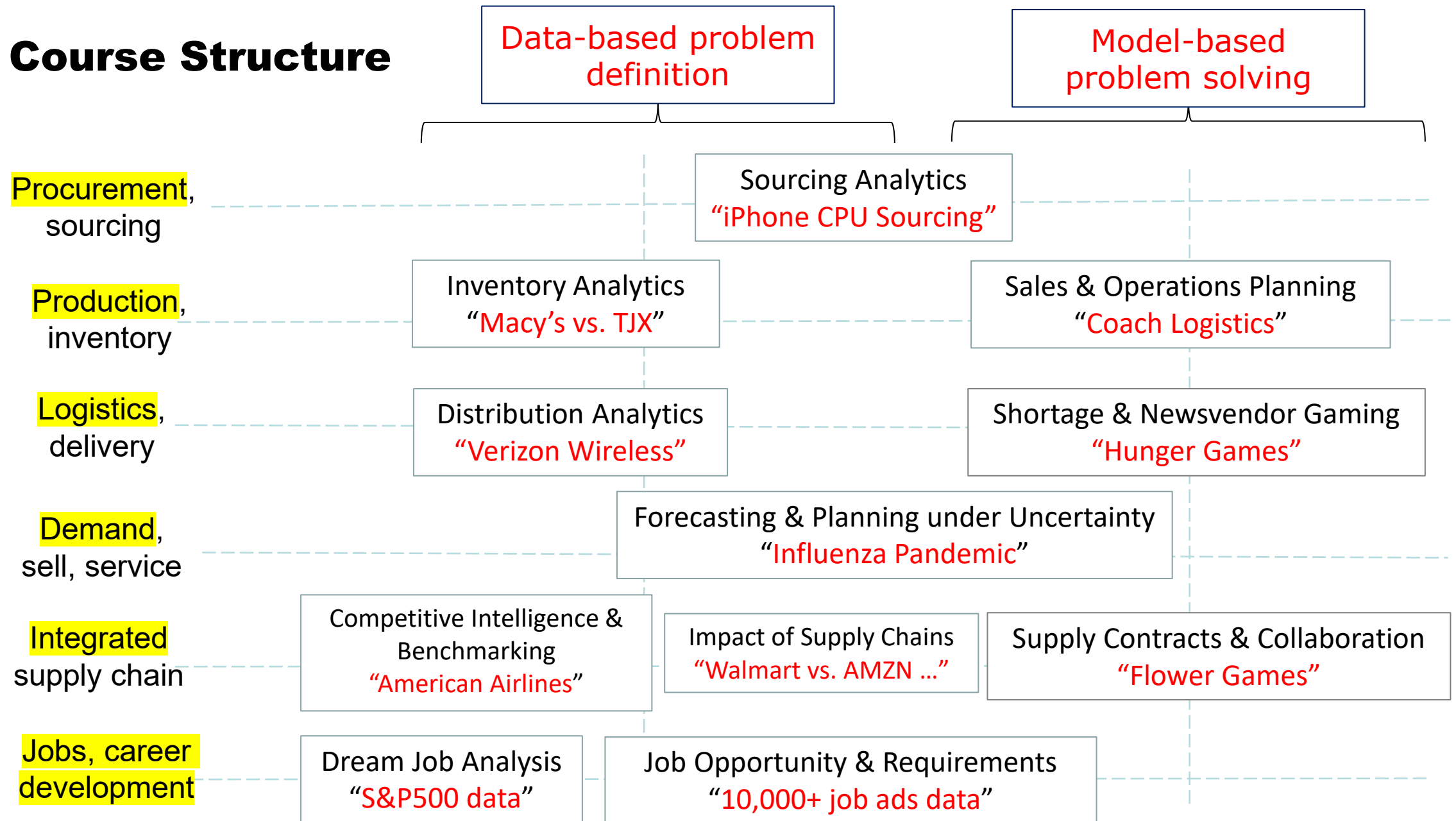
- Balance “problem solving” vs. “problem definition”.
- Selling points:
 - Realistic applications, data rich, integrated with analytics.
 - Take students through the process of defining and solving the right problems.
 - Develop the capability of explaining analytics in a non-technical way: story-telling.

Supply Chain Domains – Manufacturing / Trade



Each domain requires specific analytics, see “Topics Covered” for details.

Course Structure



Dream Job Analysis

- A dream job: Something you like to do and make tons of \$ without tons of effort!
- Learning objectives:
 - Experience the power of data analytics and story-telling.
 - Aid students in the career development.
- Case: **US S&P500 companies**
- 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)

Financial Impact of Supply Chains

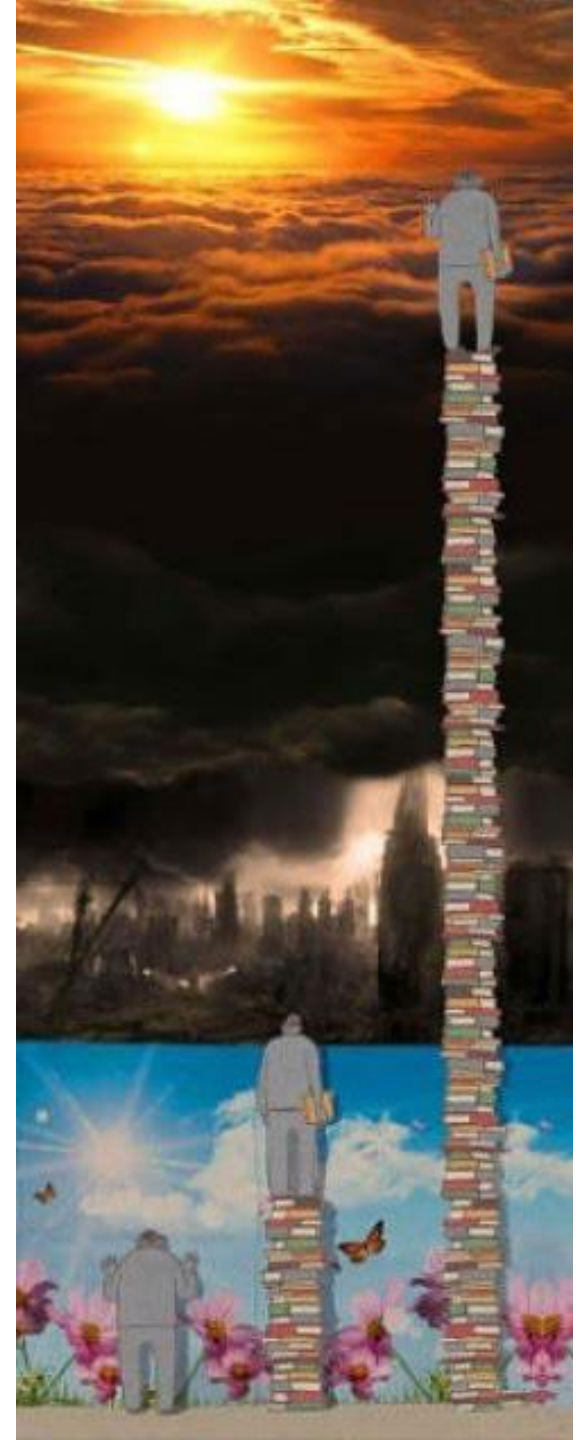
- Learning objectives
 - SCM & analytics for competitive advantage
 - Simple analytics skills to quantify the financial impact of supply chains.
- Cases: **K-Mart vs. Walmart, Compaq vs. Dell, Walmart vs. Amazon**
- Homework: students practice on companies & industries of their choice



Small change big impact

Competitive Intelligence & Benchmarking

- Discover problems & diagnose causes as a mgmt. consultant
 - Industry analysis (concentration & competition intensity, industry trend, value chain analysis) to assess industry potential and risk.
 - Competition positioning (profit comparison, enterprise ranking, KPI examination) to position a company in the competitive landscape.
 - Enterprise diagnosis (strengths & weaknesses, value driver analysis, breakdown analysis) to discover problems and diagnose causes.
- Case: **American Airlines**
- Homework: students practice on companies & industries of their choice.



Forecasting & Planning Under Uncertainty

- Align commerce with public health
- Learning objectives
 - Predict rare but disastrous events
 - Decision making under uncertainty
 - Companies want to make money, governments want to save lives; how to align the mismatched interests?
- Case: **Pandemic Influenza – Just-in-Time vs Just-in-Case Strategies.**



Distribution Analytics

- A major US wireless carrier changed its supply chain model from “push” to “pull” and saved \$1 billion in inventory.
- Learning objectives
 - Distribution strategies: push vs. pull models
 - Integrating inventory, transportation and warehouse planning in distribution and logistics
- Case: **VASTA Wireless – Push vs. Pull Distribution Strategies (1st prize INFORM case writing competition 2014)**



Sales & Operations Planning

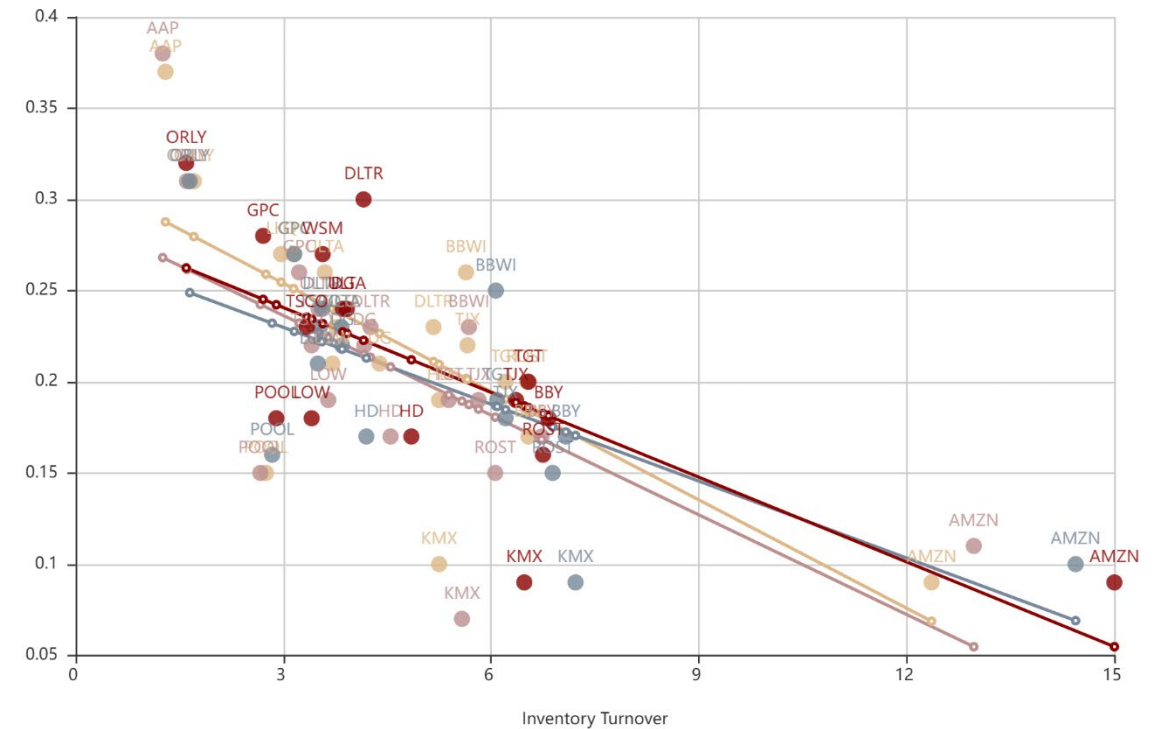
- Redesign Coach's logistics network to reduce cost and improve customer satisfaction.
- Learning objectives
 - Production planning, staff scheduling, transportation planning, resource allocation, logistics network design.
 - Prescriptive analytics: Linear and integer programming, solvers.
- Case: **Distribution Network Design – COACH Handbags Inc.**



Inventory Analytics

- Learning objectives:
 - For which countries / 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.**
- 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 sourcing decision.
- 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

Shortage and Newsvendor Gaming

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



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

Supply Chain Collaboration & Contracts

- Play the FloraPark simulation (flower games) to learn:
 - Supply chain collaboration via contracts
 - Supply chain marketing interfaces
 - Supply chain competition
 - Negotiation
- Game: **Flora-Park simulation.**

*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, Requirements & Preparation

- Learning objectives
 - Most demanded / highest paid jobs?
 - Most demanded knowledge, skills (soft, technical) & software tools?
 - Job responsibilities / preparation
- Dataset, dashboards & visuals
 - 10,000+ job ads of 2024-25
 - Power BI dashboards
- Homework: job data research
- Discussion: share insights and learn

