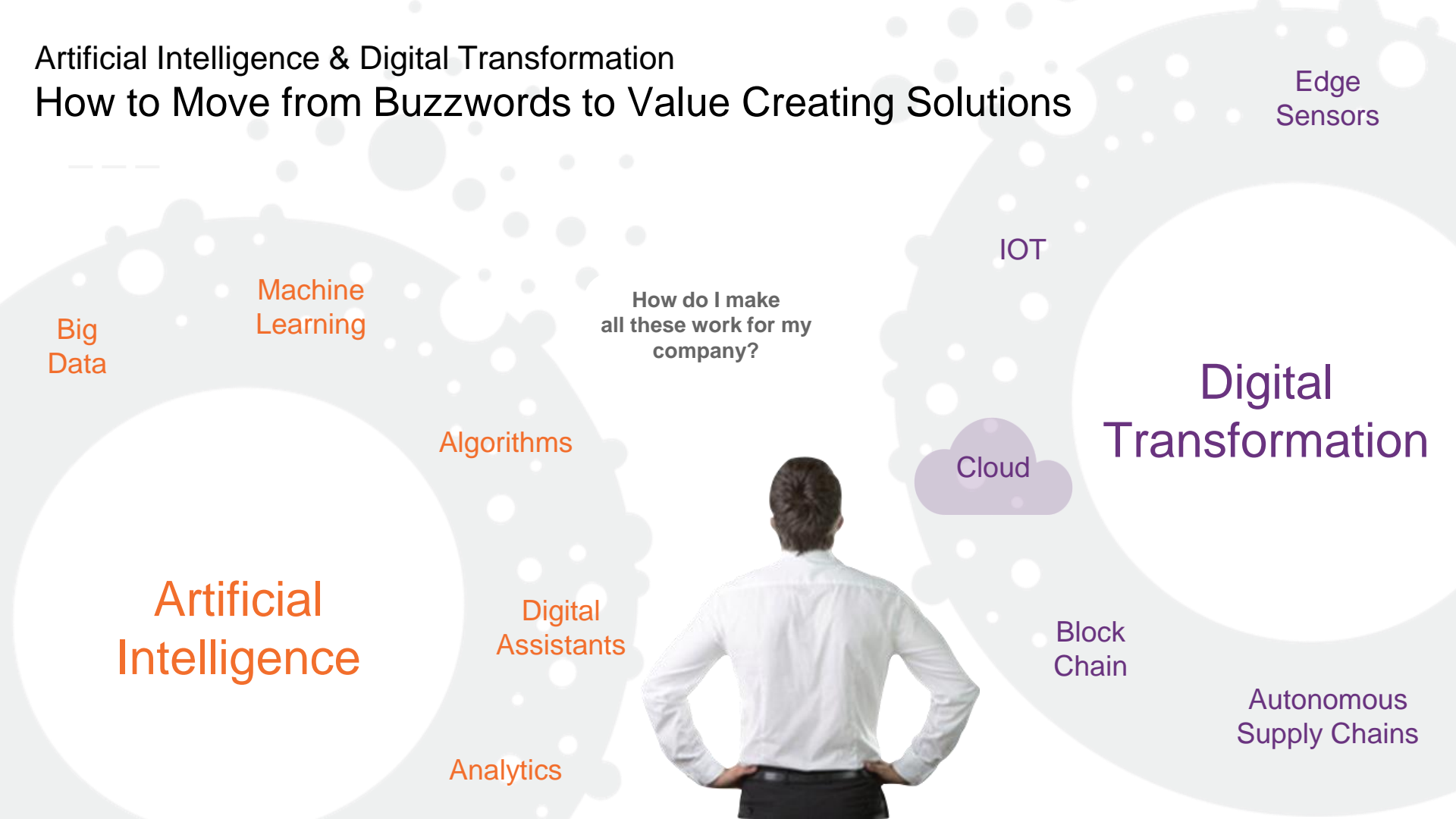# AI Enabled Integrated Business Planning

Fred Baumann, vice president, industry strategy

Artificial Intelligence & Digital Transformation
How to Move from Buzzwords to Value Creating Solutions

What is Digital Transformation of Integrated Planning & Operations?

Connecting your customers, channel partners, suppliers, planning processes and business operations with AI and Digital technology powered Management Systems that provide your organization a new set of super powers necessary for high performance in the digital age.

Super Visibility
See Risks & Opportunities Earlier

Super Intelligence
Knowledge Driven Algorithms

Super Process
Collaboration, Decision Making, Execution

Super Productivity
Automation, Digital Assistants

Digital Transformation Reality

Happening fast in our personal lives, but **enterprise systems are still lagging behind**. Challenge & opportunity in S&OP/IBP!

Consumer Systems	Consumer Systems Experience	Planning & Operations System Reality
Google Bing	Fingertip visibility to all information across the world	Tough time getting access to data within the enterprise
Social Twitter	Real-Time Collaboration	Information is stuck in Silos, Meetings galore for alignment
Maps bing	Real-Time Visibility & Prescriptive Systems	Plan Misses, Poor early warnings, blame games between silos
amazon NETFLIX	Learning Systems	Tribal Knowledge, heavy human biases in decision making
airbnb Uber	Real-Time Demand-Supply Match, Dynamic Pricing	Slow Demand/Supply Match, Fire fighting vs. Shaping Demand
	Digital Assistants	Spreadsheets, PowerPoints, Email

Amazon's Digital Operating Model Advantage

Digital <u>customer</u> and <u>supplier</u> engagement connected to a "Knowledge & Analytics" powered planning capability

Real Time, Deep
Supplier Knowledge

- ‣ New Product Ideas
- ‣ Reliability
- ‣ Quality
- ‣ Capacities
- ‣ Costs
- ‣ Alternate suppliers

Real Time, Deep
Customer Knowledge

- ‣ Purchase Intent
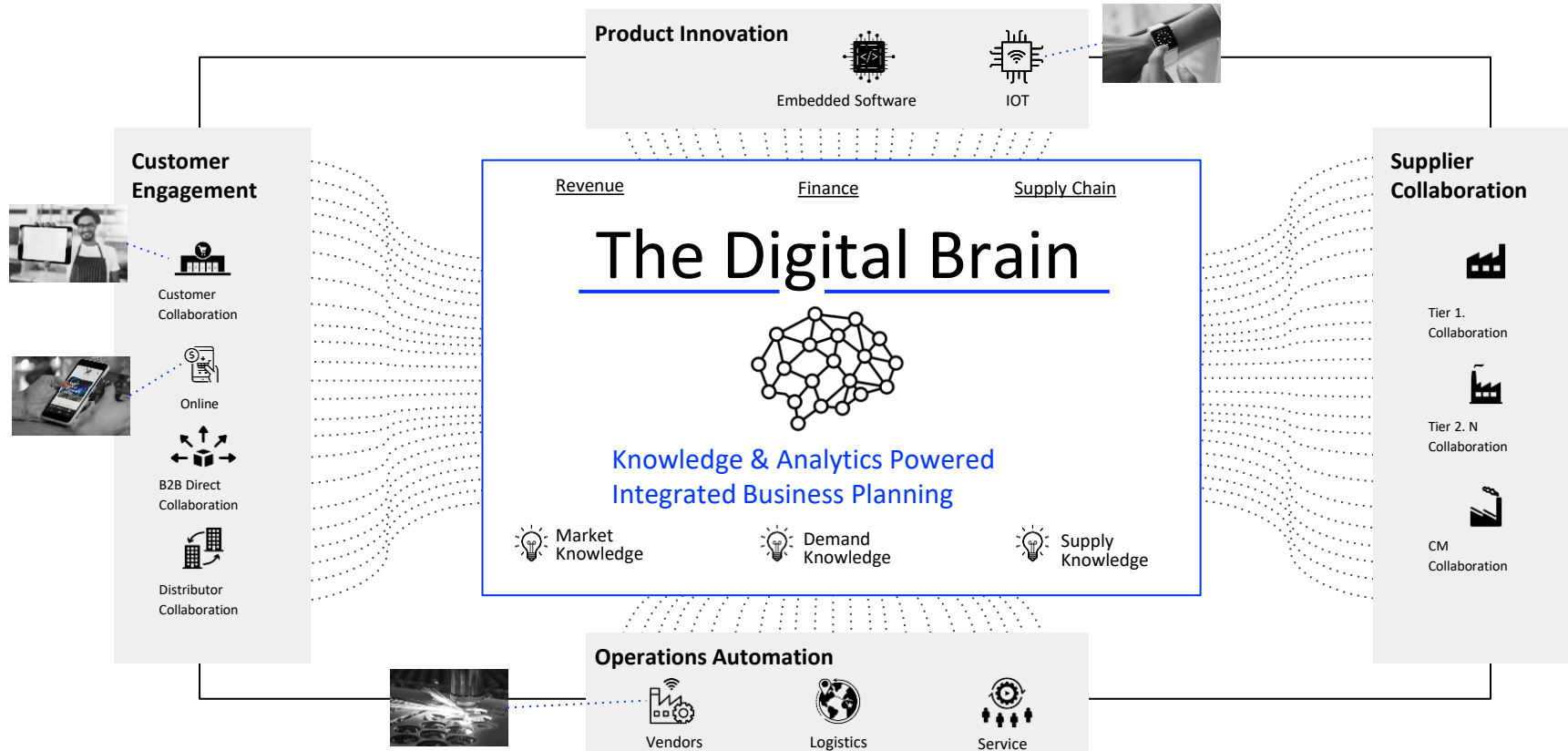- ‣ Demand Lever Sensitivity
- ‣ Product Feedback

Digital Supplier Engagement

Knowledge, Analytics Powered
Integrated Planning

| SUPPLY CHAIN | M/L FORECASTING | MERCHANDISE & COMMERCIAL |

Digital Customer Engagement

- ‣ Volume Commits
- ‣ Reliable Forecasts
- ‣ Orders
- ‣ Inventory visibility
- ‣ Supplier Scorecards

- ‣ Search
- ‣ Catalog
- ‣ Page Placement
- ‣ Reviews
- ‣ Pricing
- ‣ Promotions
- ‣ Cross & Up-Sell,
- ‣ Order Lead Times

Digital Operating Model

Transaction Management

Physical Supply Chain

Real Time, Effective
Supplier Collaboration

Real Time
Demand Shaping Plans

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o9 The core engine of your digital transformation

Product Innovation

Embedded Software

IOT

Customer Engagement

Customer Collaboration

Online

B2B Direct Collaboration

Distributor Collaboration

Supplier Collaboration

Tier 1. Collaboration

Tier 2. N Collaboration

CM Collaboration

Revenue   Finance   Supply Chain

The Digital Brain

Knowledge & Analytics Powered
Integrated Business Planning

Market Knowledge   Demand Knowledge   Supply Knowledge

Operations Automation

Vendors   Logistics   Service

High Value Capabilities of the Digital Brain
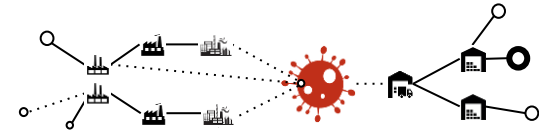
1   **Real Time Market Knowledge**
Leading Indicators of Demand, External and Internal Data, Connecting the Dots

2   **ML/AI Powered Forecasting**
Leading Indicator Driven, Greater Accuracy, Less Bias, Collaboration around Risks & Opportunities

3   **Synchronized Planning**
Integrated Commercial, Supply Chain & Finance Plans, Real-time Scenario Planning, Simulate Impact of Commercial Initiatives, Analyze Supply Chain Feasibility and Cost

4   **Digital Collaboration**
Customers, Suppliers, Operations, Real-time communication of plans and feedback, Knowledge powered Digital Assistants

5   **Continuous Learning**
Plan vs Execution Post Game Analytics, Self-Tuning Models, Process Improvements

Reality of Planning

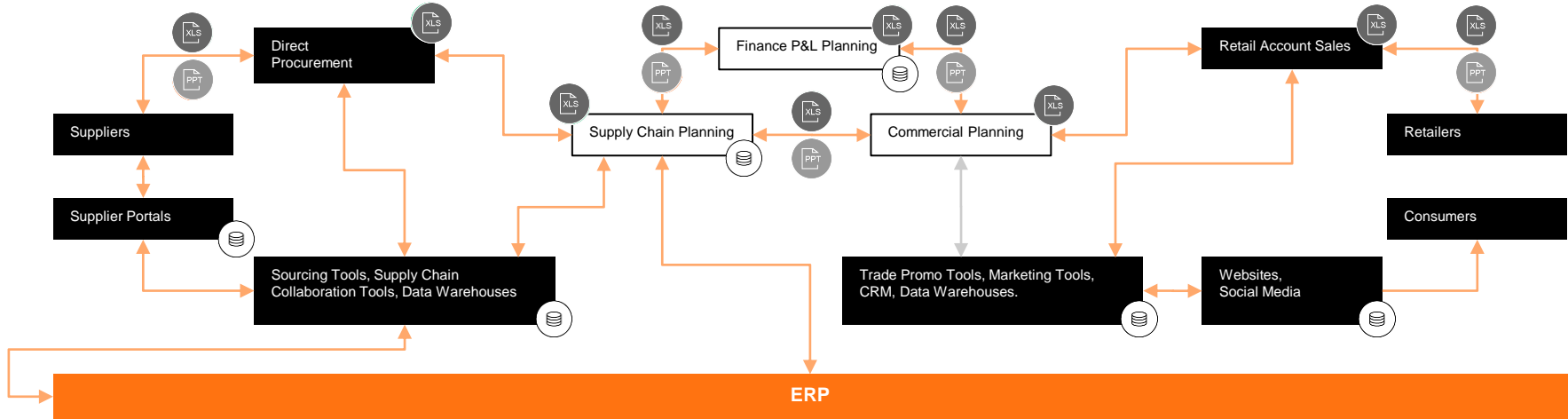- Plan vs. Forecast Gaps

- Demand Surprises

- Supply Issues

- Why didn't we know earlier?

- Why didn't we act faster?

- Why were supply chain plans uncoordinated with sales plans?

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Reality of planning and operations today
Far from the ideal state

- The majority of planning, collaboration and decision making is actually happening in Excel, PPT, Email.

Slow, siloed, spreadsheets vs. integrated planning, digital customer and supplier engagement

- Lots of data collected, but remains tribal vs. system knowledge.
- Forecast accuracy and accountability challenges across functions
- Slow, siloed-decisions, P&L impact not understood beforehand
- Time lag and alignment gap between Planning and Operations Execution

- **Multi-million $ value leakage**
  $10-$20 Million in Profit Potential per $1 Billion in Sales
  (Revenue, COGS, Inventory, People)

Integrated Business Planning

A Better Approach

1 ## On-System Meetings

Tracking of Risks, Opportunities and Assumption in the System, Process orchestration with task and calendar management, Structured and Unstructured data management, Natural Language Processing based navigation, Email integration with smart tagging, Connected Excel

2 ## Interactive Scenario Planning vs Static Dashboards

Real time evaluation of scenarios enabling cross functional collaboration and decision making, breaking down silos

3 ## Financial Plan vs Operational Forecasts, Post Game, and Gap Closure Insights

Profit based decision making Vs units, Integrated Units, Revenue, COGS, Gross Profit measurements

4 ## E-Digests, Alerts and Performance Scoreboards

Configurable alerts, dashboards and email digests

From S&OP to True IBP

Transform Commercial Planning with AI powered Insights into 3 Critical Questions

HISTORY ← | → FUTURE

WHAT ACTIONS TO TAKE?
Prescriptive Insight

Initiative Playbook
System Recommended Plays
Scenario Planning
Initiative & Resource Allocation Decisions
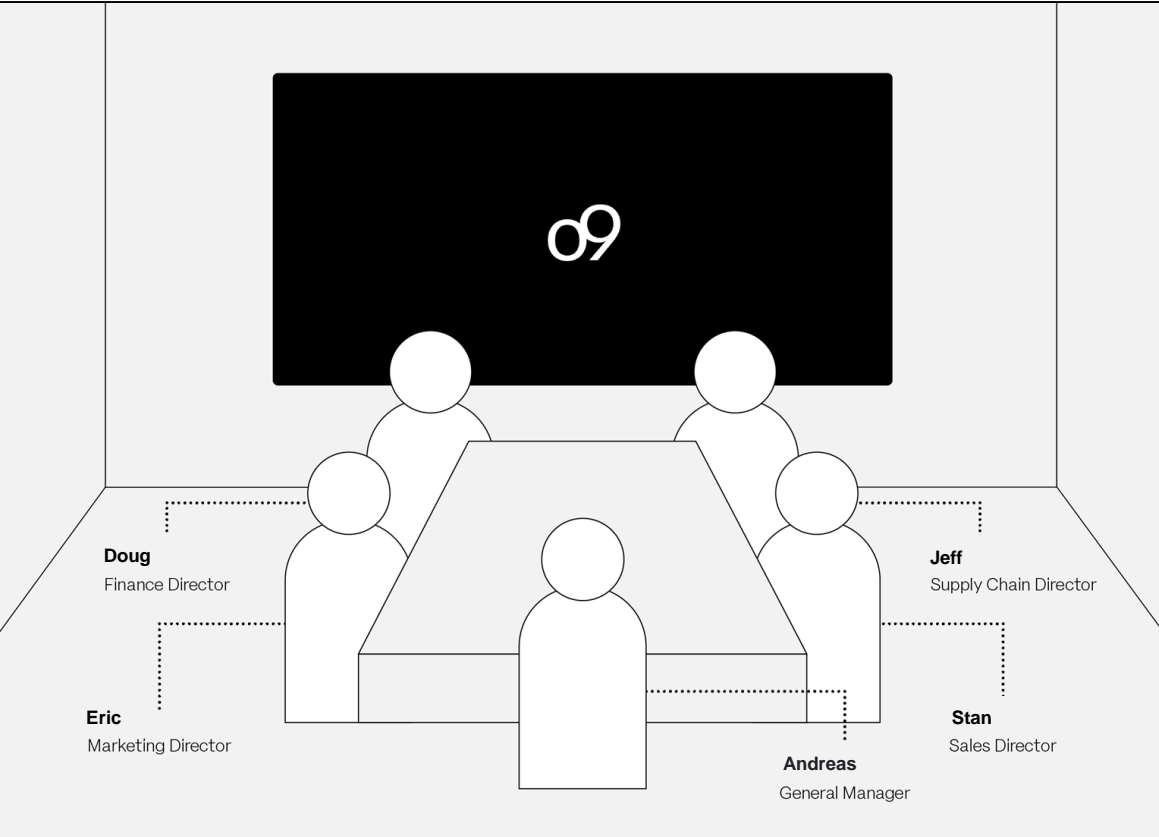
SCENARIO

WHAT HAPPENED?
Post Game Insight / Learning

Root Cause Analytics
Machine Learning Algorithms
Human Input
Post Game Stories

Gap

PLAN

ACTUALS

FORECAST

WHAT IS LIKELY TO HAPPEN?
Predictive Insight

Predictive Algorithms
Automated Forecasts
Assumptions Collaboration
Consensus Forecast

Demand Drivers

Revenue Control Tower

Commercial Budgets

Commercial Initiatives

IBP Meeting

IBP Meeting

Andreas (Business Leader):

- Team - how's the business doing, do we have any gaps?

Doug
Finance Director

Jeff
Supply Chain Director

Eric
Marketing Director

Stan
Sales Director

Andreas
General Manager

IBP Meeting

Stan (Sales leader)

- Yes, we are tracking below our financial plan but the good news is that Eric and I worked together on various initiatives (at brand and account level) to close the gaps.

Doug
Finance Director

Eric
Marketing Director

Andreas
General Manager

Jeff
Supply Chain Director

Stan
Sales Director

IBP Meeting

Eric (Marketing leader):

- Andreas, based on market intel we want to run a marketing campaign to push eco-friendly products. Estimated lift ~$2.3m.

IBP Meeting

Stan (Sales Leader):

- Andreas, we learned that Lackly has supply issues and cannot take an important promo slot at Home Depot, suggest we take it and push Acmecide. Estimate lift ~8m.

IBP Meeting

Stan (Sales Director):

- Andreas, we used the advanced analytics engine of o9 and the ROI and uplift of the selected proposals is outstanding. We recommend going for it!

IBP Meeting
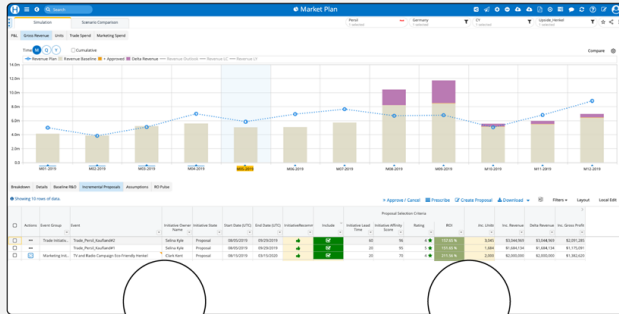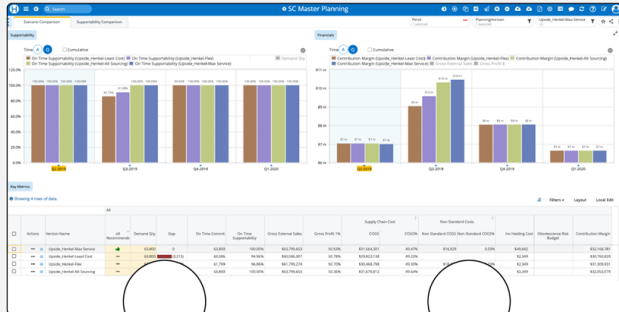
Doug
Finance Director

Eric
Marketing Director
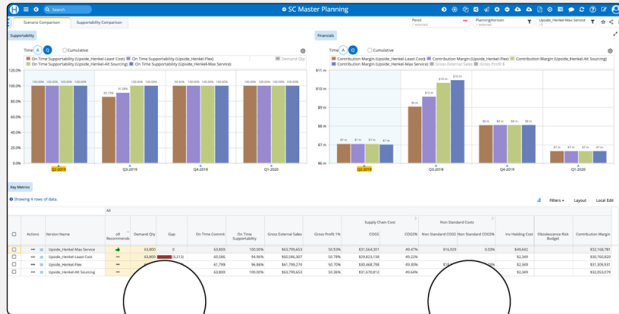
Jeff
Supply Chain Director

Stan
Sales Director

Andreas
General Manager

Jeff (Supply Chain Leader):

- Andreas, we created various supply scenarios from least cost (SC operating according to the standard operating model) to Max Service (SC operating with all flexibility such as the use of contract manufacturers, expedites, etc.) and in Max Service all demand can be supported, but only if we are willing to spend incremental costs and take an inventory risk position.

IBP Meeting

Andreas (Business Leader) :

- Team, hold for a moment please. Sounds too good to be true, will we make any profit?

IBP Meeting

Doug (Finance Leader):

- Great question Andreas, we evaluated the scenarios on revenue, gross margin, inventory, and contribution margin. The net drop in GM% is 2.50% but this still gives us a solid profit and allows us to take market share (+ $10m in revenues!)

IBP Meeting

Andreas (Business Leader):

- Very clear analysis team, thank you. We will decide to move forward with this proposal as I agree that capturing market share is offsetting the decrease in CM%.

Doug
Finance Director

Jeff
Supply Chain Director

Eric
Marketing Director

Stan
Sales Director

Andreas
General Manager

IBP Meeting

Andreas (Business Leader):

- Team, how you work together, use the tools and analytics and provide me with such great insights is a pleasure. I love it. Previously we were always discussing various different numbers and looking at Excel, this is a GREAT improvement. **Now we have some time left, shall we discuss some more growth opportunities?**

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CENTER FOR
LOGISTICS &
SUPPLY CHAIN
MANAGEMENT

Thank You

Fred Baumann, vice president, industry strategy