

Case Studies

The Centralized Agentic AI Framework
A Case Study On Building Scalable, Autonomous Intelligence Systems.

Global Logistics & Freight Forwarding



How an Agentic AI Eliminated Millions in Demurrage Fees by Predicting Port Congestion

The Problem Statement

A top-tier freight forwarder was facing a **profit-eating crisis**: **unpredictable demurrage and detention fees** at major ports. Their operational picture was **dangerously fragmented**. Their Transportation Management System (TMS) showed shipment ETAs, but the port authority and terminal operator systems had **the real-time data** on vessel berthing and container availability.

Meanwhile, their drayage and warehousing teams used **separate platforms** for scheduling. A two-day delay at port, communicated too late, would cause a **cascade of scheduling failures**, leaving containers sitting for days and **incurring millions in fees** they couldn't pass on to clients. Their teams weren't just tracking data; they were in a **constant state of reactive crisis management**.



The Agentic AI Solution:

A Proactive Port Operations Analyst

Swabhav built and deployed an Agentic AI solution that acted as a **central intelligence hub** for port operations. This agent was designed to:

Continuously Analyze real-time data streams from the TMS, live carrier vessel tracking, and public port terminal APIs.

Correlate Disparate Information by understanding the relationship between a specific container, the vessel it was on, the assigned terminal, and the scheduled drayage pickup.

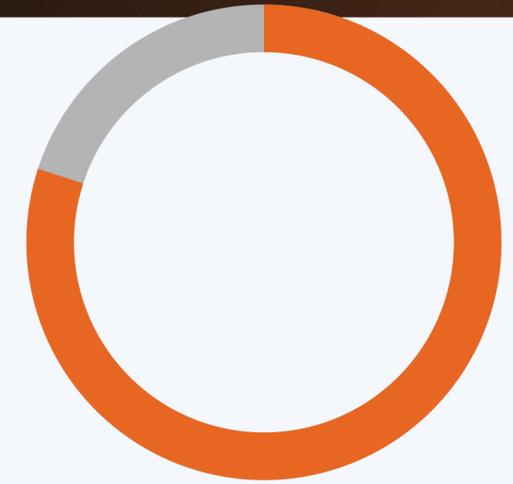
Predict Bottlenecks by identifying early warning signs of congestion or delays and forecasting the likely "available for pickup" date, not just the ETA.

Execute Proactive Alerts by automatically notifying the drayage and warehouse teams of a predicted delay via Slack and suggesting a new, **optimized pickup appointment** before fees could be incurred.

Impact

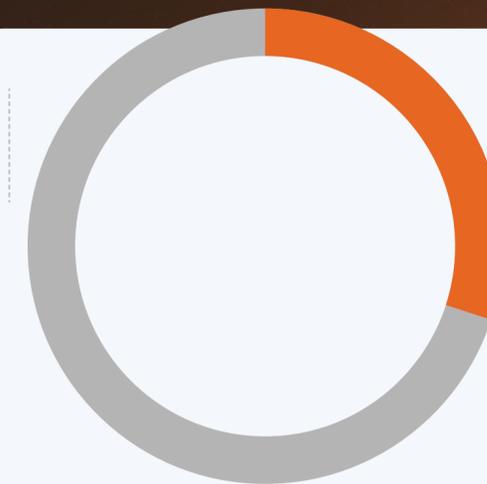
85%

Reduction in unexpected demurrage and detention fees.



30%

Improvement in drayage asset utilization by eliminating wasted trips.



Pharmaceutical Manufacturing

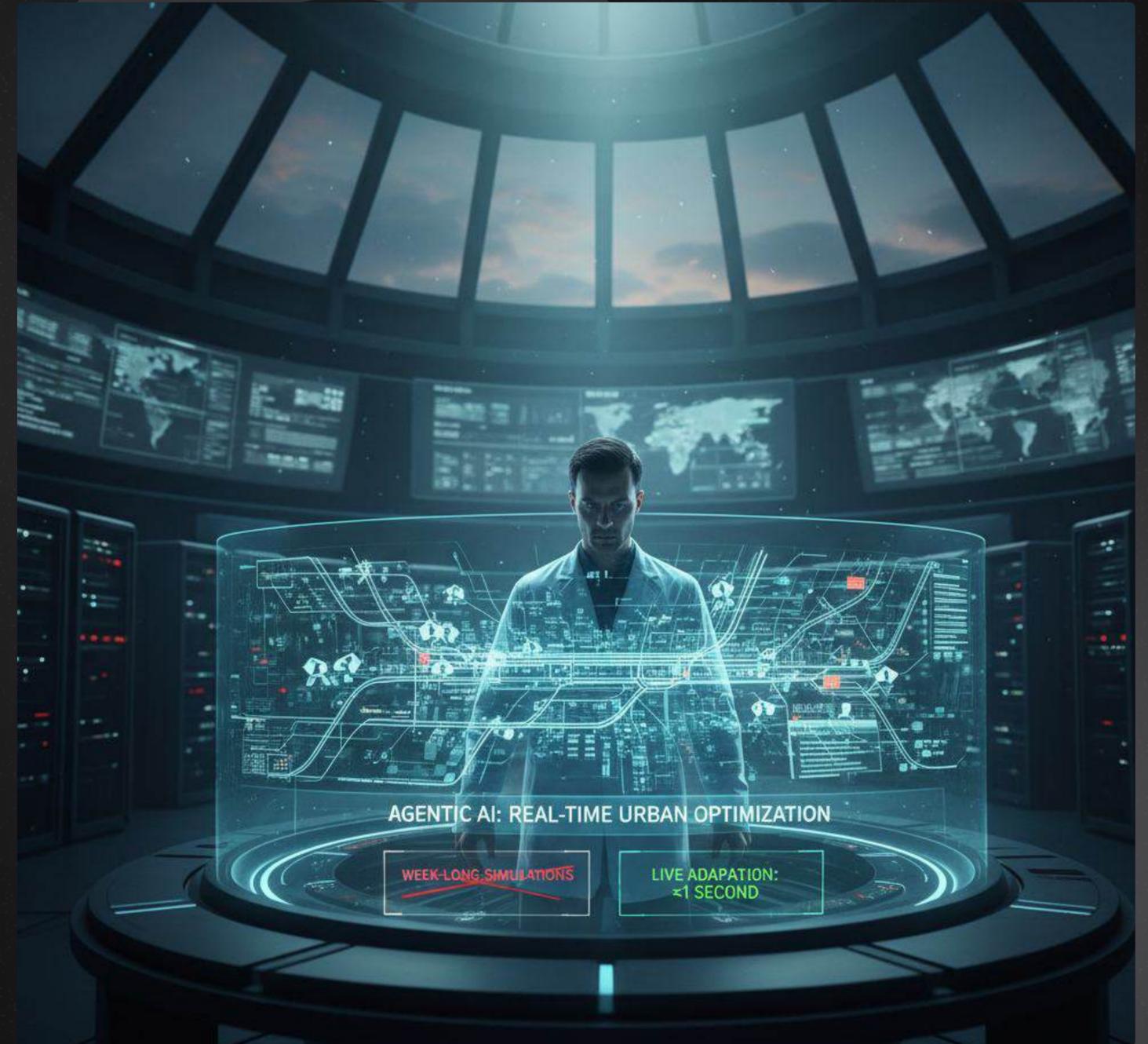
A dimly lit pharmaceutical manufacturing laboratory. In the center, a scientist in a white lab coat and hairnet stands next to a large piece of equipment, possibly a cleanroom workstation. To the right, two other scientists in white lab coats and hairnets are looking at tablets. The background shows various pieces of laboratory equipment, including what appears to be a large incubator or bioreactor. The overall atmosphere is professional and focused.

How an Agentic AI Turned Weeks of Batch Genealogy Investigation into a 5-Minute Query

The Problem Statement

For a **leading biologics manufacturer**, ensuring **process consistency** is paramount. Their "**golden batch**" parameters were the standard, but proving every production run adhered to them was a **nightmare of disconnected systems**. Data for a single batch was spread across their **Manufacturing Execution System (MES)** for process steps.

Their **Laboratory Information Management System (LIMS)** for quality samples, environmental sensors for room conditions, and their **ERP** for raw material lot numbers. When a **minor deviation** occurred, they faced a **critical question from regulators**: "Did this affect any other batches?" Answering this required a **week-long, manual investigation** by senior engineers, **halting product release** and putting **millions in revenue on hold**.



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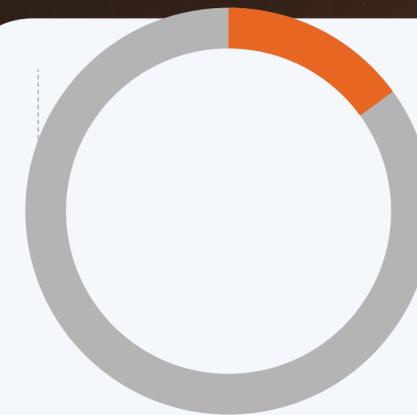
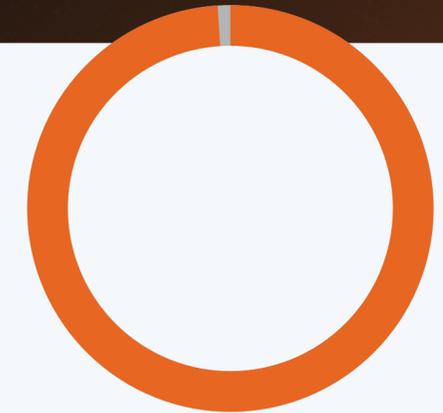
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Impact

99%

of time Reduced deviation investigation (from 1 week to under 5 minutes).



15%

Acceleration in product release cycles. improving cash flow.

Empowered engineers to focus on process improvement instead of manual data archeology

Commercial Real Estate (REIT)

How an Agentic AI Increased Portfolio NOI by Optimizing CapEx Decisions

The Problem Statement

The Problem: The Disconnected Capital Expenditure Dilemma

A large **Real Estate Investment Trust (REIT)** was struggling to make intelligent, **data-driven decisions** about **capital expenditures (CapEx)**. Their **Property Management system (Yardi)** held data on **maintenance requests** and **operating costs**.

Their **Financial Modeling tool (Argus)** had **pro-forma projections**. And **tenant satisfaction surveys** and **lease expiration schedules** were stored in **unstructured formats** on a shared drive.

The **CapEx committee** was **flying blind**, forced to decide between funding a **\$2M HVAC upgrade** in one building versus a **\$500k lobby renovation** in another without a clear understanding of **which project would best prevent tenant churn** and **maximize Net Operating Income (NOI)**.



The Agentic AI Solution:

A Portfolio Strategy & Risk Analyst

Swabhav designed an **Agentic AI solution** that acted as a **strategic advisor** to the asset management team. This agent was engineered to:

Ingest and Structure data from **Yardi, Argus**, and even scan **tenant surveys** for sentiment.

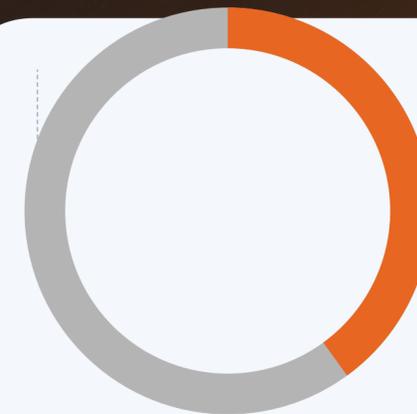
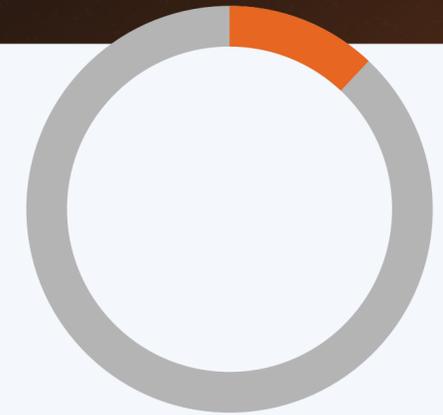
Analyze the Interplay between **maintenance trends, tenant satisfaction, lease terms, and financial forecasts**.

Model the ROI of Competing Decisions by simulating the likely impact of different **CapEx projects** on **tenant retention** and **future rent growth**.

Impact

12%

Increase in portfolio-wide NOI within the first year.



40%

More accurate CapEx budgeting and forecasting.

Empowered the leadership team with the centralized intelligence to make confident, multi-million dollar investment decisions.

Multi-State Hospital Network

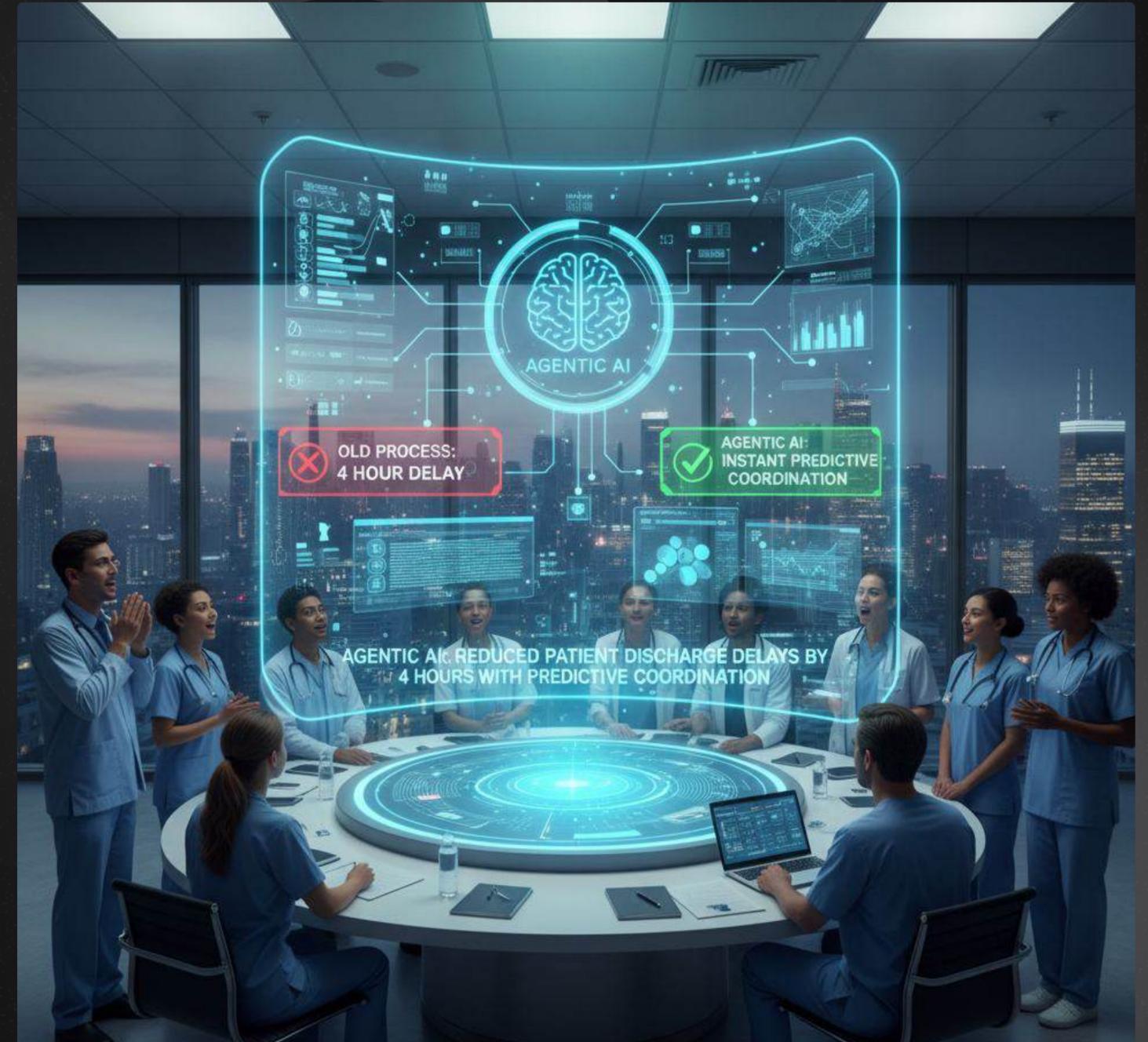
How an Agentic AI Reduced Patient Discharge Delays by 4 Hours with Predictive Coordination

The Problem Statement

The Patient Flow Bottleneck

A major hospital network was struggling with **inefficient patient** flow, leading to **ED overcrowding** and **delayed surgeries**. The core issue was the **discharge process**. A patient's readiness for discharge depended on a dozen **disconnected factors** across multiple systems: final lab results in the **LIS**, **radiology reports** in the **PACS**, physician's discharge order in the **EHR**, and **post-acute care placement** status in a separate case management tool.

The discharge planner spent their entire morning making phone calls, acting as a human router to get a complete picture. This **communication lag** meant a **clinically-ready patient** could wait an average of **4-6 hours** for the discharge process to be physically completed.



The Agentic AI Solution:

A Patient Flow & Discharge Coordinator

We deployed a **HIPAA-compliant Agentic AI** solution that served as a real-time, central coordinator. The agent was built to:

Monitor All Relevant Systems Simultaneously in real-time.

Synthesize a "Discharge Readiness Score" by analyzing clinical markers, physician orders, and administrative tasks.

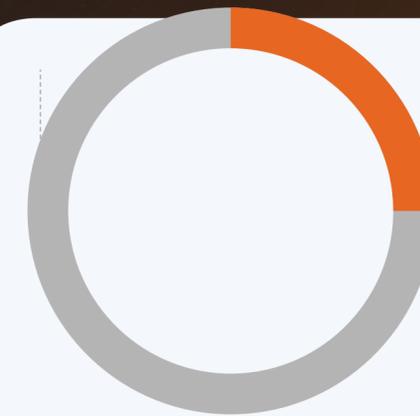
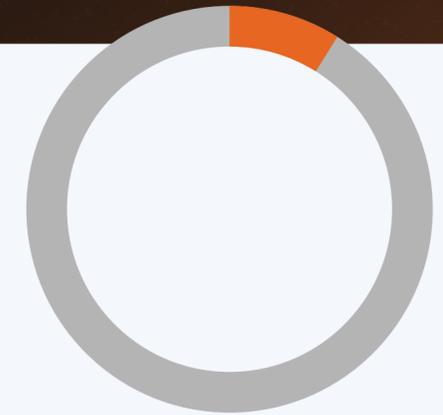
Predict an Accurate Discharge Time and **proactively alert** the entire care team (nurses, physicians, transport, pharmacy) of the patient's readiness.

Automate Post-Acute Care Queries by checking **bed availability** at preferred facilities.

Impact

4.5

Hours of Reduced average discharge time freeing up beds faster.



25%

Increase in Emergency Department throughput by reducing boarding times.

Empowered clinicians and planners with the centralized intelligence to stop chasing information and start coordinating care.

How an Agentic AI Boosted Margin by 18% with Intelligent Inventory Rebalancing

The Problem Statement

An **omni-channel fashion retailer** was **eroding its own profits**. A winter coat wasn't selling in their sunny California stores, so the regional manager would initiate a **40% markdown** to clear inventory. Meanwhile, the same coat was **sold out** in their Chicago stores, leading to **missed full-price sales**.

Their **intelligence was siloed**: the **Point-of-Sale (POS) system** showed store-level sales, Shopify showed **e-commerce trends**, and their **ERP** held overall inventory, but no system could provide a **centralized, profit-driven recommendation**. They lacked the intelligence to decide if it was **more profitable to transfer the inventory** from California to Chicago **instead of marking it down**.



The Agentic AI Solution:

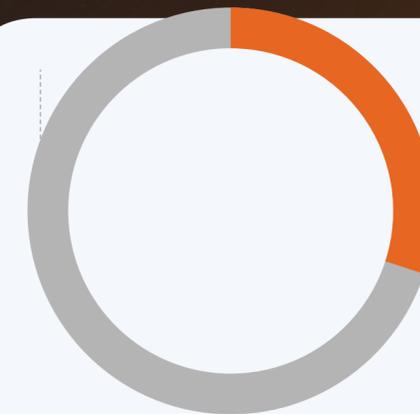
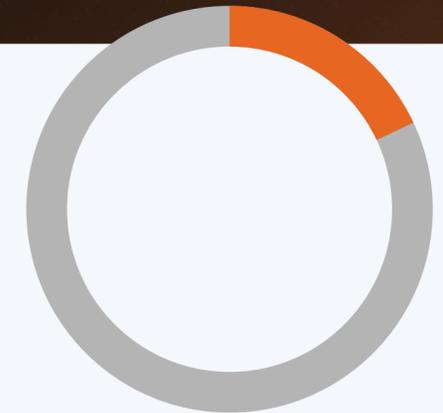
Swabhav delivered an **Agentic AI solution** that acted as a **central merchandising brain**. This agent was designed to:

- **Analyze Sales Velocity and Inventory Levels** across every store and channel in **real-time**.
- **Calculate the Profitability of Key Decisions** by modeling the cost of an **inventory transfer** against the **margin loss** of a markdown.
- **Execute Proactive Recommendations** by sending an **alert to regional managers**.

Impact

18%

Increase in gross margin by avoiding unnecessary markdowns.



30%

Reduction in terminal stock (unsellable items) at the end of the season.

Empowered merchandising teams to make smart, centralized decisions that maximized profitability for the entire enterprise.



Thank You

