

## Appendix: Case Materials

### Document A: Memorandum from the Chief Operating Officer

TO: Project Teams, AI in Business Initiative

FROM: Maria Chen, Chief Operating Officer (COO), Innovate Inc.

DATE: 8/29/2025

SUBJECT: Urgent Need for an Automated Employee Provisioning System

Team,

Innovate Inc. is growing at an unprecedented rate. While this growth is exciting, our manual onboarding process for technology provisioning is failing. We are seeing costly errors, significant delays, and inconsistent packages for new hires. The time spent by IT and HR managers on these repetitive decisions is unsustainable.

Your team has been tasked with developing a prototype for an expert system that can automate this process. We need a system that codifies the expertise of our department heads to ensure new hires get the right equipment on day one.

Please review the attached documents detailing our current process, expert knowledge, and available assets. Your goal is to translate this information into a working set of rules within the provided Python-based framework.

This project is critical for our operational efficiency and employee satisfaction. I look forward to seeing your results.

### Document B: Current Process Analysis

#### Current Manual Process:

When a new employee is hired, an HR generalist sends an email to the IT helpdesk with the employee's name, role, and department. An IT manager then has to:

- Find and interview the new employee's hiring manager to understand their specific needs
- Check the department's budget with the finance department
- Manually create purchase orders for equipment

#### Identified Pain Points:

- Delays: The process takes an average of 7 business days. Some engineers have waited two weeks for a proper laptop
- Errors: Sales hires have been given generic laptops without CRM access. A marketing intern was accidentally given a \$3,500 developer-grade machine
- Inconsistency: Two employees with the same role in the same department often end up with different equipment based on which IT manager handled their request
- Resource Drain: IT managers spend approximately 15 hours per week on provisioning decisions

#### Document C: Expert Knowledge Base

##### Interview Summary - David Kim, Head of Sales:

"My team lives on the road. They need lightweight, powerful Windows laptops with long battery life—the Dell XPS 13 is perfect. Everyone must have the 'Pro' version of our CRM software and a company-paid cell phone. No exceptions. Speed is everything for us."

##### Interview Summary - Priya Patel, Head of Engineering:

"My engineers build the product. They need power. All of them, from junior to principal, must have the 16-inch MacBook Pro. They also require the 'Ultimate Developer Suite' software package. For new hires working on our new AI team, they also need an 'Advanced GPU License'."

##### Interview Summary - Sarah Thompson, Head of Finance:

"We have to control costs. I've established clear budget tiers:

Tier 1 (Junior roles): Total package cost cannot exceed \$2,000

Tier 2 (Senior roles): Total package cost cannot exceed \$3,000

Tier 3 (Executive roles): No fixed budget, but they get premium everything

Also, only employees in 'Executive' or client-facing roles (like Sales) are approved for a company-paid cell phone. Others can get a \$40/month stipend."

#### Document D: Technology Asset Catalog

Item — Type — Cost (\$) — Notes

Dell XPS 13 — Laptop — 1,600 — Windows, lightweight, 12-hour battery

Lenovo ThinkPad L14 — Laptop — 1,200 — Standard business laptop

MacBook Pro 16-inch — Laptop — 2,800 — High-performance, preferred by developers

Standard Software Pkg — Software — 300 — Office suite, communication tools

Pro CRM Software — Software — 500 — Advanced customer management features

Ultimate Developer Suite — Software — 700 — IDEs, version control, testing tools

Advanced GPU License — Software — 450 — Cloud GPU access for AI/ML work

Company-Paid Phone Plan — Phone — 800 — Annual cost, unlimited data

Mobile Phone Stipend — Phone — 480 — Annual cost, \$40/month

Standard Monitor — Accessory — 250 — 24-inch, 1080p

Noise-Cancelling Headset — Accessory — 200 — For calls and focus work