**AI Agent Tool & Use Case Requirements**

AI Agent Use Cases

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| Use Case | Summary | Tools Required |
| 1. Full Replenishment Engine | Calculates reorder quantities per SKU per branch, based on min/max, allocates quantities dynamically based on warehouse stock, prepares transfer orders, flags LPO needs for items with less warehouse stocks, prepares LPO, sends LPO | Python, Pandas, openpyxl, Streamlit, LangChain, Excel integration |
| 2. Branch Responsibility Tracker | Monitors branch-level daily responsibilities (receiving, returns, merchandising, order prep). Flags delays and tracks completion. | Python, Streamlit, Excel Automation, Schedule |
| 3. Supplier Deal Monitoring Agent | Monitors purchase value against targets, identifies remaining amounts, suggests items to order based on sales in order to achieve the target, and tracks milestone alert based on the timetable. | Playwright, Pandas, LangChain, Schedule |
| 4. Expiry Management Agent | Detects near-expiry stock in branches and warehouse. Suggests inter-branch transfers, supplier return initiation, and tracks compensation status. | Pandas, openpyxl, Mapbox, Schedule |
| 5. Driver & Branch Delivery Performance Tracker | Logs driver performance, delivery SLAs, branch delivery flow, and sends real-time alerts. Generates summaries per shift. | Mapbox, Pandas, FastAPI, Streamlit |
| 6. Internal Q&A Agent | AI assistant that answers questions using internal Excel sheets, reports, and documents via RAG and vector search. | LangChain, FAISS/Chroma, Streamlit, OpenAI |
| 7. Sales Forecasting & Ordering Agent | Generates demand forecasts based on sales, compares with current min/max levels, and creates recommended updates to the min/max to avoid out-of-stock. | Prophet, Pandas, openpyxl, Streamlit |
| 8. KPI Monitoring Agent | Tracks predefined KPIs across branches, generates daily/weekly reports, and flags gaps or outliers. | Streamlit, FastAPI, GitHub, Logging |
| 9. Automated Stock Redistribution Agent | Balances inventory across branches by analyzing surplus and shortfall against min/max. Generates branch transfer suggestions. | Pandas, openpyxl, Streamlit, LangChain |
| 10. Bonus Scheme Tracker | Matches LPO quantities against bonus schemes (e.g. 12+1), validates eligibility, and generates bonus order summary. | Pandas, Excel logic, LangChain |
| 11. Expensive Items Monitor | Monitors high-value SKUs, tracks movement, creates separate summaries, and flags special approval SKUs. | Pandas, openpyxl, Excel tagging, Streamlit |

Compact Tool Checklist

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| Category | Mandatory Tools | Alternative Tools |
| Core Language & Frameworks | Python, LangChain | None |
| Frontend | Streamlit | Gradio, Dash |
| Backend / API | FastAPI | Flask, Django |
| Document Parsing | Tesseract, PyMuPDF | Adobe PDF Services, pdfplumber |
| Data Handling | Pandas, openpyxl | Polars, xlwings |
| Search & Retrieval | FAISS, Chroma | Weaviate, Pinecone |
| LLM / Reasoning | OpenAI GPT-4, LangChain Agents | Claude, Llama2, Mistral |
| Mapping & Routing | Mapbox API | Google Maps API |
| Web Scraping | Playwright | Selenium, BeautifulSoup |
| Forecasting | Prophet | ARIMA, NeuralProphet |
| Task Scheduling | cron, schedule | Celery, Airflow |
| Notification & Automation | Email Automation, Streamlit Forms | Twilio, Telegram Bots |
| DevOps & Versioning | GitHub | GitLab, Bitbucket |