
LTIMindtree
Enterprise AI
Case Study Bouquet

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Foreword

In the dynamic realm of Enterprise Artificial Intelligence, the pursuit of innovation remains unyielding. As organizations around the world harness the might of data, AI, and various applications, the key to success lies in an infrastructure that is not only adaptable and scalable, but also impervious to threats.

Our Enterprise AI solutions encapsulate these pivotal qualities, equipping us with the capabilities to deliver stunning results for our clients.

LTIMindtree is thrilled to present you with a series of compelling case studies that narrate our collaborative journey in the realm of Enterprise AI. These studies offer a visual representation of how we empower our clients to unlock the immense possibilities of Generative AI technology.

But these case studies are more than mere stories. They are tangible proof of our unwavering commitment to assisting organizations in expediting their business growth exponentially.

We invite you to delve into these intriguing narratives and witness how we foster business augmentation with AI.

Happy delving!
Let’s get to the future, faster together.

Optimizing Assortment Strategies

How a Global FMCG Leader Achieved a **30%** Boost in Inventory Accuracy

Client Background

A British multinational fast-moving consumer goods company, founded in 1929, is organized into five business groups: Beauty & Wellbeing, Personal Care, Home Care, Nutrition, and Ice Cream. Facing the challenge of optimizing product assortment across various channels, geographies, and outlets of different sizes, the company needed a new approach to improve on-shelf availability, reduce stock-outs, and enhance its assortment strategy.

Challenges

Several challenges necessitated the development of a predictive model:

- Building a predictive model to maintain and grow the assortment
- Identifying the optimal quantity to be sold by outlet and SKU
- Predicting SKUs likely to go out of stock
- Maintaining on-shelf availability (OSA)
- Identifying new sales opportunities by SKU and outlet
- Ensuring the solution's applicability across channels, geographies, and outlets of varied sizes
- Creating perfect stores by improving on-shelf availability, reducing stock-outs, and enhancing assortment

Our Work

- Used internal data and geo-tagging data to build machine learning models that could predict out-of-stock (OOS) situations on time, recommend must-sell SKUs, and identify outlets not currently selling certain SKUs to suggest potential additions
- The solution employed Random Forest, collaborative filtering, and deep learning algorithms to generate these recommendations
- It was scaled for the India market and 26 other countries including those in Asia, Africa, and Brazil
- The end-to-end solution utilized Spark ML, Azure SQL Database, Azure Analysis Services, and Power BI for visualization
- It was developed as a cloud-native application on Azure, with the storage layer housed in Azure Data Lake Store (ADLS)

Tools & Technologies

ML | Azure | AWS | Data bricks | Python | Spot fleet instances

Business Benefits

- Achieved a **~10%** increase in year-over-year assortment growth, with a **1-3%** increase in assortment width and depth
- Optimized replenishment recommendations by **30%,** leading to a **300** basis points increase in replenishment efficiency
- Improved the duration of monthly churn analysis recommendations from one week to five hours
- Reduced development costs by **50%** when extending the algorithm to new countries

Transforming Fund Ratings

How Advanced AI Models Boosted Report Generation Efficiency by **80%** for a Global Consulting Leader

Client Background

Established in 1945, an American consulting firm offers a range of consulting services, specializing in human resources and financial solutions tailored to its clientele. As the demand for faster and more accurate financial assessments grew, the firm recognized the need to leverage AI and ML technologies to streamline its processes and enhance efficiency.

Challenges

- Fund managers relied on rating agencies to assess their funds
- Researchers at rating agencies spend significant time and resources finalizing fund ratings
- A need to automate the fund rating process was needed to reduce human intervention and improve efficiency

Our Work

- Implemented AI and ML solutions to reduce manual efforts by 50%, freeing up valuable time for researchers to focus on other critical tasks
- Achieved an 80% improvement in rating prediction accuracy, enhancing the overall efficiency of final report generation
- Incorporated additional attributes like performance metrics to further refine and enhance the accuracy of the rating models

Tools & Technologies

SQL | Python

Business Benefits

- Developed multiclass classification models to predict fund ratings, significantly reducing the time and effort required by researchers.
- Provided an explainable AI solution, enabling clients to understand which features contributed to the expected fund ratings.
- The solution utilized the Random Forest Classifier and SHAP (SHapley Additive exPlanations) to achieve accurate results

Automating Content Creation Success

Improved Marketing Content Effectiveness Using Gen AI for a Fortune **500** Manufacturing Leader

Client Background

An American multinational specializing in heating, ventilation, air conditioning, refrigeration, and fire and security equipment. To stay competitive in a digital-first world, the company needed to automate and optimize its marketing content creation across various platforms, including email, LinkedIn, and blogs.

Challenges

- Leveraging Gen AI to automate the creation of marketing content tailored for different platforms
- Developing best practices for marketing content to ensure alignment with each platform's specific requirements and nuances
- Fine-tuning the Gen AI model to optimize key elements of marketing content such as title, tone and style, structure, and length
- Aligning Gen AI output with platform-specific best practices to ensure content effectiveness and resonance with the target audience

Our Work

- Designed and developed an end-to-end application for generating marketing content based on user inputs
- Implemented an automated Q&A generation module to collect relevant information, enhancing content context
- Utilized Prompt Engineering techniques to customize Large Language Models for optimal performance across different mediums
- Applied Retrieval-Augmented Generation (RAG) to extract additional information from user-uploaded documents

Tools & Technologies

AWS Lambda | AWS Bedrock | AWS S3 bucket | AWS ECR | DynamoDB

Business Benefits

- Achieved approximately a **40%** reduction in writing costs compared to traditional methods due to faster automated content creation
- Increased platform traffic by around **10%** across email, LinkedIn, and blogs with higher quality content
- Improved alignment with brand guidelines and strategy

Speeding Up Modernization

Achieving **33%** Faster Build and Unit Testing with Gen AI for a Global Leader in Assurance, Tax, Transaction and Advisory Services

Client Background

As one of the Big Four accounting firms, the client is a global leader in assurance, tax, transaction, and advisory services. To remain competitive and up-to-date, the company needed to modernize its audit platform by transitioning its web front from outdated Angular technology to the more current React framework.

Challenges

- The client wanted to modernize the web front end of their audit platform swiftly and cost-effectively by shifting from Angular to React
- The goal was to find an efficient method that could handle this significant update without extensive manual effort or extended timelines

Our Work

- Proposed a proof-of-concept using Gen AI with Microsoft GitHub Copilot to address the transition challenge
- Created application context by utilizing existing artifacts such as test cases and API specifications, and generated code-level documentation using open-source libraries
- Developed technical context by mapping components from the source technology (Angular) to equivalent components in the target technology (React)
- Implemented a validation process with a human-in-the-loop to verify the accuracy and functionality of the generated code

Tools & Technologies

GitHub Copilot | NodeJS | Compodoc

Business Benefits

- Reduced the time to market for build and unit testing by **33%** compared to the manual approach
- Enabled the client to propose scaling this approach for the entire modernization program based on the successful proof-of-concept outcomes

Streamlining Underwriting Processes

Enhanced Efficiency with Automated Insight Generation for a Global Assurance Leader

Client Background

An American multinational property, casualty, and life/health assurance company offering a range of reinsurance products and services. The client sought to enhance efficiency in their underwriting process, which was becoming increasingly cumbersome due to the manual effort required in document review and insights generation.

Challenges

- Underwriters spent considerable time manually reviewing documents and extracting insights to help rate submissions
- The need to search through multiple documents to find specific topics or answers was impacting their efficiency and productivity, leading to delays in the underwriting process

Our Work

- Developed an Outlook plug-in to automatically fetch documents from emails, process them, and generate insights, eliminating the need for manual download and upload
- Enabled insights to be downloaded as PDFs and emailed directly to underwriters for seamless integration into the underwriting system
- Implemented a conversational chatbot to address any questions underwriters had about the uploaded documents

Tools & Technologies

Azure OpenAI GPT 3.5 / 4

Business Benefits

- The automated processes have the potential to reduce manual effort and save **30-35%** of the time underwriters spend on document review and insight generation. A complete pilot will determine the exact value
- The conversational chatbot ensures that underwriters have quick access to accurate information, reducing the likelihood of errors

Transforming Test Data Generation

Gen AI Delivers Seamless Solutions for a Leading Digital Tech Giant

Client Background

The client, an American multinational digital communications technology conglomerate, develops, manufactures, and sells networking hardware, software, telecommunications equipment, and other high-tech products. They needed a unified testing solution to streamline processes across their disparate ERP and eCommerce systems.

Challenges

- The client faced difficulties due to the presence of multiple disparate ERP and eCommerce systems, which led to compatibility issues
- Manual interventions were required at various stages, including data transfer, test execution, and result verification
- The testing processes were time-consuming because of the unique features and configurations of each individual system

Our Work

- Utilized UiPath to create a wrapper around the various testing solutions, resulting in a unified testing interface
- Integrated Gen AI to generate synthetic data for testing, enhancing the efficiency and accuracy of the process

Tools & Technologies

UIPath I LLaMA 2 - LLM

Business Benefits

- Accelerated the testing cycle by **30%**
- Enabled seamless test data generation with AI, reducing manual effort and increasing testing efficiency

From Queries to Clarity

50% Faster Insights with Gen AI for a Leading British FMCG Company

Client Background

A British multinational fast-moving consumer goods (FMCG) company, founded in 1929, operates across five business groups: Beauty & Wellbeing, Personal Care, Home Care, Nutrition, and Ice Cream. To enhance data-driven decision-making, the company sought a solution that could provide instant, actionable insights from their extensive databases.

Challenges

- The company needed an AI-based assistant that could understand and respond to queries in simple English
- They required instant insights on key performance indicators (KPIs) related to growth, value and volume share, competitors, and the average price index of different product brands
- The goal was to streamline data access and analysis for better decision-making.

Our Work

- **Recognized KPI queries:** By using embedding techniques, we identified KPIs like growth, value, and competitors from user queries
- **Generated insights instantly:** Prompt engineering created SQL queries, providing immediate access to data
- **Simplified decision-making:** Gen AI summarized SQL data into clear, actionable insights

Tools & Technologies

Azure Open AI GPT 3.5 Turbo | Prompt Engineering | Langchain | Node JS

Business Benefits

- Users received specific answers in easy-to-understand language
- Offered more adaptable insights compared to rigid dashboards
- Reduced time spent comprehending insights by at least **50%**
- Delivered actionable recommendations aligned with user queries

Spotting Defects Before They Strike

Cost Savings for a Major UK Broadcaster

Client Background

A British public service broadcaster headquartered in London, England, and established in 1922. As the oldest and largest local and global broadcaster, the client faced challenges due to the growing volume of defects and incidents impacting their operations.

Challenges

- Analyzing a large volume of defects, incidents, and tickets was time-consuming
- Identifying specific contributors to defects proved difficult with existing tools
- There was a dependency on resources and expertise for detailed analysis
- The system was plagued by a high number of duplicate and similar defects

Our Work

- Identified key issues responsible for most defects and pinpointed affected applications and modules
- Prioritized regression testing to ensure comprehensive coverage of frequent changes and rollouts
- Developed predictive models to forecast defect-prone builds and manage defect backlogs
- Enhanced the detection of top issues across different applications for improved test efficiency

Tools & Technologies

NodeJS | SprintBoot | Hibernate | Microservices | Angular | ReactJs

Business Benefits

- Shifted focus to high-risk areas, allowing for more strategic testing decisions
- Improved efficiency in prioritizing critical areas and identifying regression suites
- Reduced costs through early defect detection and more effective testing strategies

Optimized Airline Pricing with Advanced AI

Efficient Fare Strategies, Drive Revenue Growth for a Major Aviation Group Operating Globally

Client Background

The client is a major aviation group operating globally with 97,000 employees and serving approximately 123 million passengers annually. They lead the market in logistics, maintenance, repair, and catering services. Faced with unstable and complex demand forecasts, the client sought to improve their revenue management through more reliable analytical models.

Challenges

- The existing revenue management system relied on a single model to forecast demand volume and price elasticity. This approach led to forecasts with too many parameters, resulting in instability and inexplicable results due to sparse data
- The client needed to build a production-ready analytical model to generate accurate price elasticity curves and Buy Down Adjusted Fares (BDAFs) across their diverse markets
- There was a need to provide robust fare strategies through the Revenue Management Cockpit

Our Work

- We created a price elasticity estimator that calculates price elasticity and BDAFs, addressing the issue of inaccurate forecasts. The estimator uses a statistical model provided by the client, ensuring accurate and stable results
- These BDAFs are then used to deliver fare strategies through the Revenue Management Cockpit, providing robust fare recommendations to end users
- We also designed the application to be flexible and scalable, so it works smoothly across different markets, whether on-premises or in the cloud

Tools & Technologies

OpenR | Azure Spark & Azure Kubernetes Service | Azure CosmosDB | Azure Data Lake | Spring RestAPI

Business Benefits

- Revenue increased by **9%** across more than 1,000 routes
- Daily fare strategies were generated for over **670** markets
- The cockpit UI enabled real-time adjustments based on user influences, with responses in under one second
- The model scaled efficiently with near-zero downtime over the past year

Elevated Sales Productivity

AI Co-Pilot Transforms Lead Management for a Top Elevator Manufacturer

Client Background

An American company specializing in the development, manufacturing, and marketing of elevators, escalators, moving walkways, and related equipment. The company sought to enhance productivity and ensure consistency in how their sales professionals manage leads, prospects, and opportunities.

Challenges

- Sales professionals faced difficulties in maintaining productivity and uniformity in their responses to leads and opportunities
- The existing system lacked sophistication and consistency in handling sales communications, affecting overall efficiency

Our Work

- Implemented a Generative AI Co-Pilot for over 7,200 users to streamline responses and enhance productivity
- Customized the Co-Pilot to provide relevant information that sales executives frequently need
- Established a Center of Excellence (CoE) to explore future use cases and innovations with Generative AI

Tools & Technologies

Microsoft Dynamics 365 CRM | Sales Co-pilot

Business Benefits

- Provided quick, standardized responses to sales leads and opportunities, ensuring consistent communication across the team
- Enabled sales executives to prepare for meetings more efficiently and update meeting records in real time, improving overall productivity

Getting to the
future, faster.
Together.

For any queries and suggestions, please write to info@ltimindtree.com.

LTIMindtree is a global technology consulting and digital solutions company that enables enterprises across industries to reimagine business models, accelerate innovation, and maximize growth by harnessing digital technologies. As a digital transformation partner to more than 700 clients, LTIMindtree brings extensive domain and technology expertise to help drive superior competitive differentiation, customer experiences, and business outcomes in a converging world. Powered by 81,000+ talented and entrepreneurial professionals across more than 30 countries, LTIMindtree — a Larsen & Toubro Group company — solves the most complex business challenges and delivers transformation at scale. For more information, please visit https://www.ltimindtree.com/.