



CASE STUDY

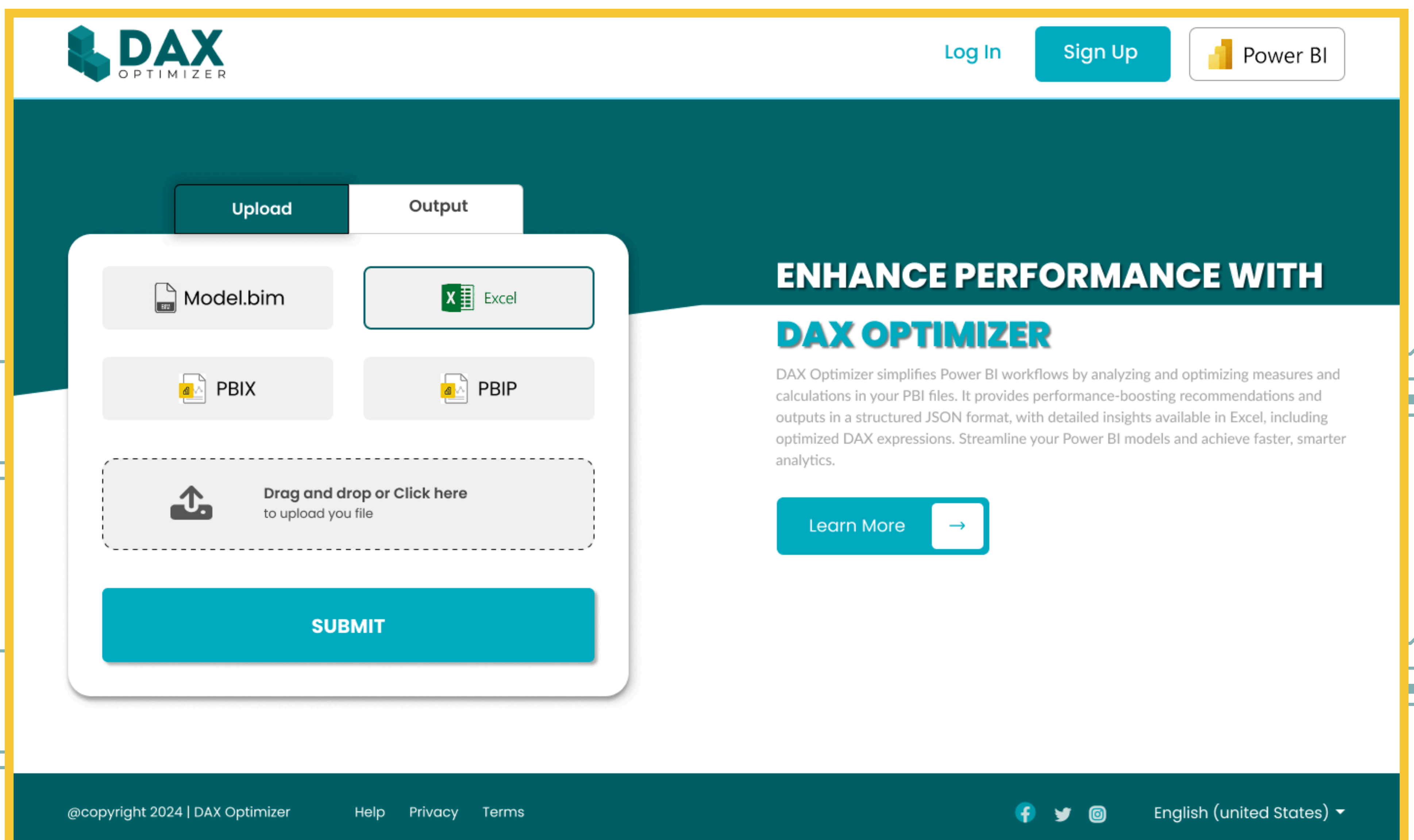
Enhancing Power BI Performance with DAX Optimizer

Background and Business Problem

A multinational retail corporation relied on Power BI for real-time analytics, but slow report performance hindered decision-making. Complex DAX (Data Analysis Expressions) queries caused significant delays, with dashboards taking several minutes to load. As the data volume grew, the inefficiencies in DAX calculations led to high memory consumption and CPU usage.

Business Challenges

- Slow Performance – DAX queries were inefficient, causing report refresh delays.
- High Resource Consumption – Increased memory and CPU usage impacted overall system performance.
- Complex Query Structures – Poorly written DAX expressions led to bottlenecks in Power BI reports.
- Scalability Issues – As data volume grew, performance continued to degrade



The screenshot displays the DAX Optimizer web application interface. At the top left is the logo for DAX OPTIMIZER. On the top right, there are links for 'Log In', 'Sign Up', and a 'Power BI' icon. The main content area is divided into two sections: 'Upload' and 'Output'. The 'Upload' section features four file type selection buttons: 'Model.bim', 'Excel', 'PBIX', and 'PBIP'. Below these is a dashed box with an upload icon and the text 'Drag and drop or Click here to upload you file'. A large teal 'SUBMIT' button is positioned at the bottom of the upload section. The 'Output' section is currently empty. To the right of the upload section, there is a heading 'ENHANCE PERFORMANCE WITH DAX OPTIMIZER' followed by a descriptive paragraph: 'DAX Optimizer simplifies Power BI workflows by analyzing and optimizing measures and calculations in your PBI files. It provides performance-boosting recommendations and outputs in a structured JSON format, with detailed insights available in Excel, including optimized DAX expressions. Streamline your Power BI models and achieve faster, smarter analytics.' Below this text is a 'Learn More' button with a right-pointing arrow. The footer contains copyright information '@copyright 2024 | DAX Optimizer', links for 'Help', 'Privacy', and 'Terms', social media icons for Facebook, Twitter, and Instagram, and a language dropdown menu set to 'English (united States)'.



Solution

- Office Solution implemented DAX Optimizer, an AI-powered tool designed to:
- Analyze and Optimize DAX queries for improved efficiency.
- Reduce Execution Time by identifying and resolving bottlenecks.
- Enhance Performance through advanced query rewriting techniques.
- Provide Actionable Insights with optimization recommendations for best practices.



Approach and Outcomes

- Initial Assessment – Identified performance bottlenecks using the DAX Optimizer.
- Query Optimization – Automated restructuring of inefficient DAX expressions.
- Performance Testing – Measured improvements in report loading and resource usage.
- Deployment & Monitoring – Integrated the optimized DAX queries into Power BI reports.



Value

- Power BI – Report visualization, performance analysis, and dashboard development.
- DAX Optimizer – AI-powered query optimization tool.
- Azure – Cloud-based infrastructure for scalable data processing.
- SQL Server – Backend data management and query execution.
- Power BI Performance Analyzer – Used for benchmarking report performance

The screenshot shows the 'Upload' and 'Output' sections of the DAX Optimizer interface. The 'Upload' section contains buttons for 'Model.bim', 'PBIX', and 'PBIP', along with a dashed box for 'Drag and drop or Click here to upload your file'. The 'Output' section contains a button for 'Excel'. A large blue 'SUBMIT' button is at the bottom.

