# Problem Statement

- Organizations and industries globally are increasingly adopting AI tools, but insights into adoption trends by country, age group, industry, and company size remain fragmented.

- Stakeholders need a clear, data-driven view of AI tool usage (e.g., ChatGPT, Bard, Midjourney) to make informed decisions on investments, training, and resource planning.

- The project aims to address:

  - Which AI tools have the highest adoption?

  - Which demographics and industries are adopting AI most actively?

  - How adoption trends are evolving year-over-year.

# Tools Used

- **Power BI Desktop – For building dynamic, interactive dashboards with visual storytelling.**

- **Power Query Editor – To clean, transform, and model raw data efficiently.**

- **DAX (Data Analysis Expressions) – Used to calculate key metrics like DAU totals, average adoption rates, and YoY growth.**

# Project Brief

The project focused on analytics the global adoption of AI tools across countries, industries, age groups, and company sizes.

**Scope of Work:**

- **Data Collection & Cleaning:**
  Gathered raw data on AI tool adoption from multiple sources, cleaned inconsistencies, and prepared the dataset for analysis.

- **Dashboard Development:**
  Designed a fully interactive Power BI dashboard featuring KPIs like Total DAU, Avg. Adoption %, Year-over-Year (YoY) growth, and visualizations categorized by:

  - Country
  - Industry
  - Age group
  - Company size
  - AI tools

- **Segmentation Analysis:**
  Evaluated adoption patterns across demographics (e.g., 18–24, 25–34) and company profiles (e.g., startups, SMEs, enterprises) to uncover emerging trends.

- **Performance Tracking:**
  Highlighted top AI tools (e.g., ChatGPT, Midjourney) based on DAU and growth rate, and analytics their performance over time.

- **Comparative Insights:**
  Compared AI adoption across different industries and countries to understand market penetration and readiness.

- **User-Focused Reporting:**
  Delivered insights through clean visuals and user-friendly filters to help stakeholders explore the data by themselves.

# Dashboard Overview

- **Key Metrics Displayed:**

  o Total DAU: 6M

  o Average Adoption Rate: 49.09%

  o YoY DAU Growth: From 1.8M (2023) to 4.4M (2024)

- **Top Tools by DAU:**

  o ChatGPT (2.5M), Midjourney (1.94M), Stable Diffusion (0.88M)
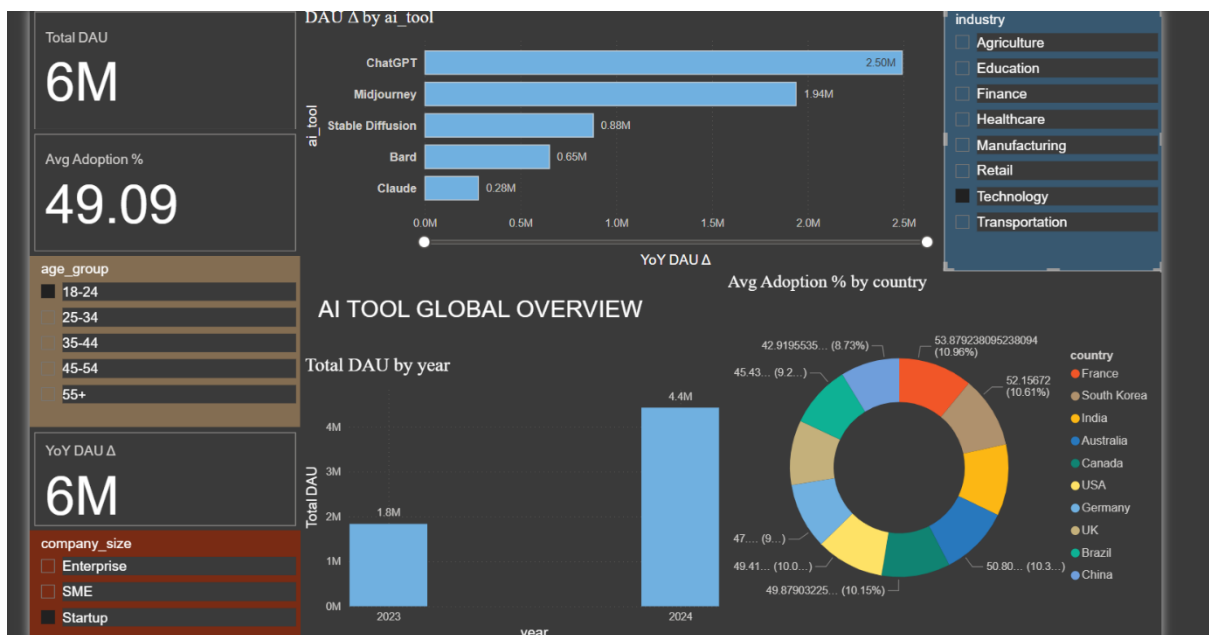
- **Top Industries by Average Adoption:**

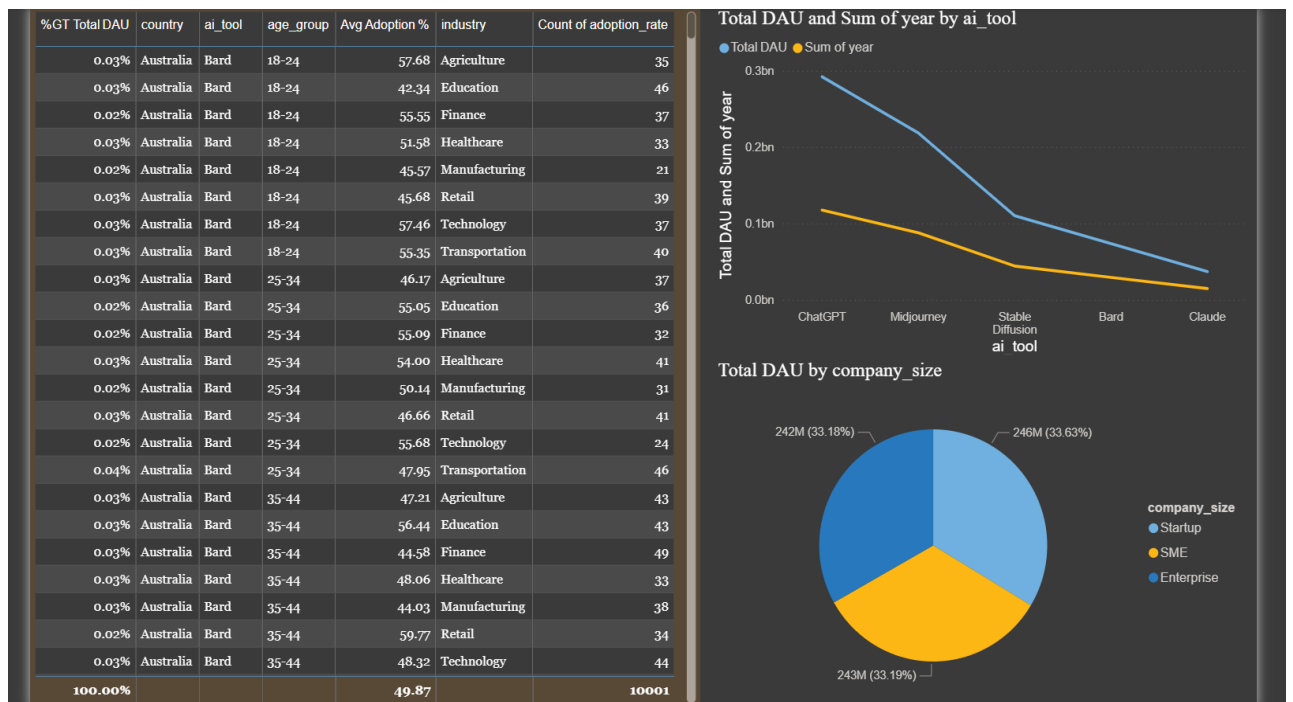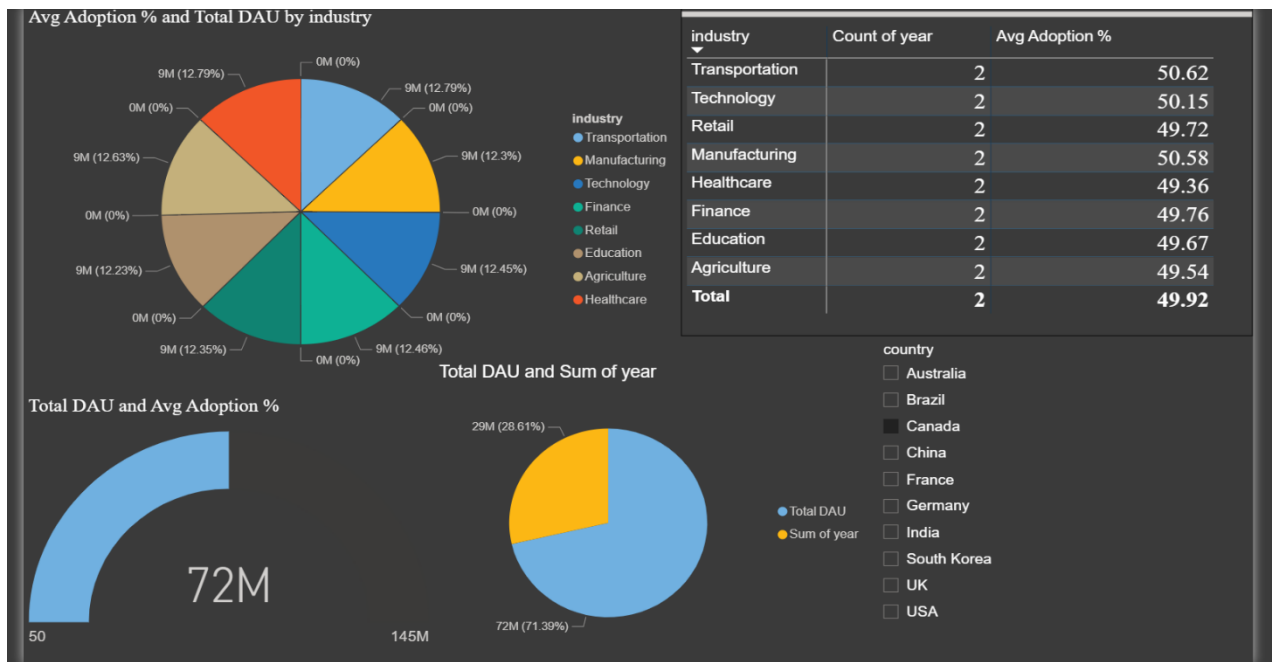  o Transportation (50.62%), Manufacturing (50.58%), Technology (50.15%)

- **Country-wise Insights:**

  o Most engaged users from USA, India, and Germany

- **Filters Used:**

  o Age group, company size, industry, and AI tool selection for drill-down analysis.

## Avg Adoption % and Total DAU by industry



| industry | Count of year | Avg Adoption % |
|---|---|---|
| Transportation | 2 | 50.62 |
| Technology | 2 | 50.15 |
| Retail | 2 | 49.72 |
| Manufacturing | 2 | 50.58 |
| Healthcare | 2 | 49.36 |
| Finance | 2 | 49.76 |
| Education | 2 | 49.67 |
| Agriculture | 2 | 49.54 |
| **Total** | **2** | **49.92** |

### Total DAU and Avg Adoption %



72M

50     145M

### Total DAU and Sum of year



- Total DAU
- Sum of year

29M (28.61%)

72M (71.39%)

**country**

- ☐ Australia
- ☐ Brazil
- ☒ Canada
- ☐ China
- ☐ France
- ☐ Germany
- ☐ India
- ☐ South Korea
- ☐ UK
- ☐ USA

| %GT Total DAU | country | ai_tool | age_group | Avg Adoption % | industry | Count of adoption_rate |
|---|---|---|---|---|---|---|
| 0.03% | Australia | Bard | 18-24 | 57.68 | Agriculture | 35 |
| 0.03% | Australia | Bard | 18-24 | 42.34 | Education | 46 |
| 0.02% | Australia | Bard | 18-24 | 55.55 | Finance | 37 |
| 0.03% | Australia | Bard | 18-24 | 51.58 | Healthcare | 33 |
| 0.02% | Australia | Bard | 18-24 | 45.57 | Manufacturing | 21 |
| 0.03% | Australia | Bard | 18-24 | 45.68 | Retail | 39 |
| 0.03% | Australia | Bard | 18-24 | 57.46 | Technology | 37 |
| 0.03% | Australia | Bard | 18-24 | 55.35 | Transportation | 40 |
| 0.03% | Australia | Bard | 25-34 | 46.17 | Agriculture | 37 |
| 0.02% | Australia | Bard | 25-34 | 55.05 | Education | 36 |
| 0.02% | Australia | Bard | 25-34 | 55.09 | Finance | 32 |
| 0.03% | Australia | Bard | 25-34 | 54.00 | Healthcare | 41 |
| 0.02% | Australia | Bard | 25-34 | 50.14 | Manufacturing | 31 |
| 0.03% | Australia | Bard | 25-34 | 46.66 | Retail | 41 |
| 0.02% | Australia | Bard | 25-34 | 55.68 | Technology | 24 |
| 0.04% | Australia | Bard | 25-34 | 47.95 | Transportation | 46 |
| 0.03% | Australia | Bard | 35-44 | 47.21 | Agriculture | 43 |
| 0.03% | Australia | Bard | 35-44 | 56.44 | Education | 43 |
| 0.03% | Australia | Bard | 35-44 | 44.58 | Finance | 49 |
| 0.03% | Australia | Bard | 35-44 | 48.06 | Healthcare | 33 |
| 0.03% | Australia | Bard | 35-44 | 44.03 | Manufacturing | 38 |
| 0.02% | Australia | Bard | 35-44 | 59.77 | Retail | 34 |
| 0.03% | Australia | Bard | 35-44 | 48.32 | Technology | 44 |
| **100.00%** | | | | **49.87** | | **10001** |

### Total DAU and Sum of year by ai_tool



- Total DAU
- Sum of year

### Total DAU by company_size



242M (33.18%)    246M (33.63%)

243M (33.19%)

**company_size**

- Startup
- SME
- Enterprise

# Problems Faced

- **Data Granularity & Inconsistency**

  - Some AI tools had complete data across all dimensions, while others were missing entries for certain countries, industries, or years.

  - Required assumptions and interpolation to maintain data consistency.

- **Segmentation Overlap**

  - Users often belonged to multiple categories (e.g., industry and age group), complicating analysis.

  - Required advanced filtering and DAX logic to prevent duplication and ensure accuracy.

- **Dashboard Layout Complexity**

  - Limited canvas space made it difficult to display all insights clearly.

  - Needed a clean layout strategy to avoid clutter while keeping visuals impactful.

- **Performance Issues**

  - Large datasets with millions of records led to slower loading and interaction.

  - Optimized visuals, minimized unnecessary filters, and improved DAX efficiency.

- **Challenges in YoY Growth Calculation**

  - Missing or partial data for previous years affected growth comparisons.

  - Required fallback logic and default values to ensure consistent metrics.

- **Company Size Classification**

  - Different definitions of company size across sources (e.g., employee count vs. revenue).

  - Manual standardization was needed to align categories across the dashboard.

# Project Outcome

- Successfully visualized global AI adoption trends with over 6M DAUs analyzed.

- Identified key user bases—startups and tech industries showed highest adoption rates.

- Provided stakeholders with an intuitive tool to track AI trends and plan outreach or product scaling strategies.

- Enabled year-over-year comparison to monitor growth of specific tools and demographic segments.

# Key Learnings

- **AI adoption is highly dynamic**, varying by industry, age group, and region—no single strategy fits all user segments.

- **Young professionals (18–34)** and **startups** lead in adopting emerging AI tools, making them key targets for future product development and outreach.

- **Interactive dashboards** allow stakeholders to explore data in real-time, improving decision-making over static reports.

- **DAX and data modeling** are essential for building accurate, high-performance dashboards, especially when handling overlapping segments.

- **Effective filtering and drill-downs** enhance usability, enabling users to gain insights quickly without technical knowledge.

- **Clean layout and visualization design** are critical to avoid overwhelming users, especially when dealing with multi-dimensional datasets.

- **Performance optimization** (reducing visuals, using efficient measures) is crucial when working with large-scale, detailed datasets.