**Project Title: Global AI Tool Adoption Across Industries**

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**Summary:**

This project analysed the adoption patterns of AI tools across countries, industries, company sizes, and user demographics using Python-based exploratory analysis and dashboard creation. The dataset spanned two years (2023–2024) and included over 145,000 records capturing global AI usage trends.

**Dataset Overview**

The dataset included the following key fields:

* Country, Industry, Company Size, User Age Group
* AI Tool Used, Adoption Rate (%), Daily Active Users
* Year (2023 & 2024)

**Exploratory Analysis Questions for AI Tool Adoption (2023–2024)**

1. How many total records are in the dataset?
2. What is the average adoption rate of AI tools globally?
3. Which AI tool has the highest average daily active users?
4. Which country uses each AI tool the most?
5. Which country has the highest average AI tool adoption rate?

1. Which industry shows the highest AI adoption rate?

1. What is the most used AI tool in each industry?
2. How has AI tool adoption changed from 2023 to 2024?
3. What are the top 5 countries with the fastest AI adoption growth?
4. What is the average AI adoption rate by company size (Startup, SME, Enterprise)?
5. Which age group shows the highest AI tool usage?
6. What is the distribution of company sizes using AI tools?

1. Which AI tools are growing in adoption over the years?
2. Which country or region is lagging in AI adoption?

1. How does AI adoption differ between SMEs and Enterprises?

**Key Analyses Performed**

**1. Total Record Count:** Determined the total number of data entries to validate dataset size and ensure robust analysis.

**2. Global Average AI Adoption:** Calculated the **average AI adoption rate globally**, providing a benchmark for tool uptake across regions.

**3. Top AI Tool by Usage:** Identified **ChatGPT** as the tool with the **highest average daily active users**, establishing its dominance in the market.

**4. Most Active Country per AI Tool:** Mapped each AI tool to the country with the highest usage, revealing regional preferences (e.g., Bard in India, Claude in France).

**5. Top Country by Adoption Rate:** Highlighted **Singapore** as the country with the highest average AI adoption rate, signaling advanced digital maturity.

**6. Top-Adopting Industry:** Found the **Technology sector** to have the **highest AI adoption**, consistent with its innovation-driven nature.

**7. Tool Preference by Industry:** Analysed which AI tool was most used in each industry (e.g., Claude in Legal, DALL·E in Design), aligning tool strengths with industry needs.

**8. Adoption Change Over Time (2023 vs 2024):** Tracked year-over-year growth in adoption, showing positive trends for tools like Gemini and ChatGPT.

**9. Fastest Growing Countries:** Identified **India, Brazil, Nigeria, Indonesia, and Mexico** as the top 5 countries with the fastest AI adoption growth.

**10. Adoption by Company Size:** Compared adoption rates across **Startups, SMEs, and Enterprises**, finding that **Enterprises** had the highest average adoption.

**11. Age Group Usage Analysis:** Highlighted the **25–34 age group** as the most active in AI tool usage, reflecting young professionals’ affinity for AI integration.

**12. Company Size Distribution:** Showed that **SMEs** made up the largest proportion of AI adopters, indicating widespread accessibility of AI tools.

**13. AI Tools with Rising Adoption:** Identified fast-growing tools over time such as **Gemini and Claude**, highlighting their increasing market relevance.

**14. Lagging Countries:** Flagged regions with low AI adoption (e.g., parts of Africa and Eastern Europe), showing the digital divide across economies.

**15. SME vs Enterprise Comparison:** Found that while **Enterprises lead in adoption**, **SMEs are catching up fast**, showing a more dynamic rate of growth.

**Tools Used**

* **Python Libraries**: Pandas, Seaborn, Matplotlib, Plotly
* **Visual Outputs**: Bar Charts, Line Graphs, Pie Charts, Box Plots, Stacked Bars, Choropleth Maps