Automation Trends, New Market Entrants, and 2025 Job Counts

📂 ASK

Case Study Objective:

This case study is designed to present a clear, evidence-based analysis of how technology is reshaping job growth in the United States, with a focus on identifying whether emerging tools—particularly AI and automation—are creating new opportunities, transforming existing roles, or contributing to workforce reductions.

Key Focal Points:

How is technology impacting job growth in the United States?

Are Small, Mid-sized, Large Cap companies still hiring or laying off employees?

Are unemployment ratings increasing or decreasing?

Deliverables:

I will examine hiring and layoff patterns across small, mid-sized, and large-cap companies to understand how organizations of different scales are responding to economic pressures and technological change. Finally, the study will evaluate current unemployment trends to determine whether national joblessness is rising or stabilizing.

📂 PREPARE

To build a reliable foundation for this case study, I combine publicly available datasets from Kaggle with authoritative labor statistics from Census.gov. Kaggle provides large, structured datasets covering job postings, industry shifts, company hiring patterns, and technology-driven workforce changes. These files are imported, cleaned, and standardized so they can be sorted, filtered, and merged with official government indicators. Census.gov contributes verified national and regional employment metrics, including unemployment rates, labor force participation, and demographic breakdowns.

Data Source:
https://www.bls.gov/charts/employment-situation/civilian-unemployment-rate.htm#

Data Source: https://www.kaggle.com/datasets/khushikyad001/ai-impact-on-jobs-2030

Data Source: https://data.census.gov/

📂 PROCESS

By integrating three data sources, I created a unified dataset that allows for precise comparisons across industries, company sizes, and time periods. This blended approach ensures that the analysis of current unemployment trends is both data-rich and statistically grounded, enabling a clear assessment of whether national joblessness is rising, stabilizing, or shifting in response to technological change.

```
SELECT
Job_Title,
    Education_Level,
    Risk_Category,
    Automation_Probability_2030,
    -- 1. Categorize Salaries into Tiers
    CASE
        WHEN Average_Salary < 50000 THEN '1. Under $50k'
        WHEN Average_Salary BETWEEN 50000 AND 100000 THEN '2. $50k -
$100k'
        WHEN Average_Salary BETWEEN 100001 AND 150000 THEN '3. $100k -
$150k'
        ELSE '4. Over $150k'
    END AS Salary_Tier,
    -- 2. Categorize Experience into Brackets
    CASE
        WHEN Years_Experience <= 2 THEN 'Entry (0-2 yrs)'
        WHEN Years_Experience BETWEEN 3 AND 10 THEN 'Mid (3-10 yrs)'
        ELSE 'Senior (11+ yrs)'
    END AS Experience_Bracket,
    -- 3. Calculate Automation Risk Percentiles (Optional but helpful)
    CASE
        WHEN Automation_Probability_2030 > 0.70 THEN 'High
Vulnerability'
        WHEN Automation_Probability_2030 BETWEEN 0.30 AND 0.70 THEN
'Moderate'
        ELSE 'Low/Secure'
    END AS Automation_Impact_Status



FROM `resonant-augury-484701-q6.merit_america_data_project.AI Jobs`
LIMIT 1000
```

1. Load and Filter data in Google Sheets
2. Sorted data in Google Cloud (Power Query) in which I created additional visuals for the data
3. Utilized basic formulas to account for percentages results and metrics of industry growth or decline

📂 ANALYZE

To understand how automation is reshaping the U.S. labor market, I analyze three complementary datasets that together reveal which job titles are most vulnerable to technological transition and how these shifts align with new business formation.

The first dataset focuses on job titles, skills, and task-level descriptions, allowing me to identify roles with high automation exposure—such as those involving repetitive tasks, predictable workflows, or AI-replaceable functions. The second dataset tracks new company registrations and market entrants, which I sort by industry, size, and year-over-year growth. Comparing these two datasets highlights whether industries experiencing higher automation risk are simultaneously seeing an influx of new companies, signaling innovation, restructuring, or sector expansion.

The third dataset comes from the 2025 Census employment reports, which provide verified counts of total jobs across industries, along with sector-specific and monthly employment statistics. I merge this data with the automation and business-entry datasets to quantify how many jobs

exist today, how many are shifting due to automation, and whether new companies are offsetting potential job displacement.

This integrated approach allows me to evaluate labor supply, industry health, and national employment stability with precision—ultimately determining whether job creation, automation, or new business growth is driving current workforce trends.

📂 SHARE

Google Sheets was selected as the primary platform for this dashboard because it offers the ideal balance of accessibility, flexibility, and analytical power needed for a multi-dataset workforce study. Working with Kaggle datasets, Census.gov employment statistics, and automation-related job data requires a tool that can handle large tables, support rapid filtering and sorting, and allow for seamless data cleaning.

Its cloud-based structure also makes it easy to merge datasets, track revisions, and maintain a single source of truth as new data is added or updated. Features like pivot tables, data validation, conditional formatting, and built-in charts allow for fast iteration and visual exploration—critical when comparing automation-exposed job titles, new business formation trends, and 2025 Census job counts.

📂 ACT | Final Conclusion

In 2025, a total of 5,670,590 new businesses were established across the United States, marking an 8% increase in applications compared to 2024. Of these, 35% reported an intent to hire new employees, signaling a robust appetite for workforce expansion—particularly among small and mid-sized companies. This surge in entrepreneurial activity suggests a dynamic shift in labor demand, even as large-cap corporations continue to reduce headcount in response to economic pressures and automation adoption.

Sector-specific analysis reveals that customer service, retail, and security roles are increasingly exposed to automation, with many tasks now being streamlined through AI and robotics. While this trend may reduce demand for certain job titles, it also opens pathways for reskilling and redeployment in tech-enabled roles. The contrast between large-cap downsizing and small-to-mid cap hiring underscores a decentralized recovery, where emerging businesses are driving job creation and absorbing displaced talent.