

ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

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Team Size : 4

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1. Project Title

ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

2. Introduction

The toy manufacturing industry plays an important role in the economy and reflects trends in consumer demand, regional industrial growth, and market development. Understanding how the number of toy manufacturers changes over time and across different states helps in identifying growth patterns, regional concentration, and industry evolution.

This project focuses on analyzing the US toy manufacturers dataset (2005–2016) and generating meaningful insights using Tableau dashboards and stories. The goal is to provide a data-driven approach to help analysts and decision-makers understand industry trends, state-wise distribution, and top-performing regions in the toy manufacturing sector.

3. Problem Statement

Stakeholders in the toy manufacturing industry face challenges in analyzing large historical datasets using traditional methods such as spreadsheets or static reports. It becomes difficult to identify trends, regional concentration,

and top-performing states due to the volume of data and lack of visual clarity. Therefore, a visualization-based solution is required to analyze toy manufacturer data and clearly present insights related to year-wise trends and state-wise distribution using interactive dashboards and stories.

4. Objectives

The main objectives of this project are:

- To analyze the year-wise trend of toy manufacturers in the United States.
- To study the state-wise distribution of toy manufacturers.
- To identify the top states in terms of number of toy manufacturers.
- To understand regional concentration and industry spread across the US.
- To visualize trends and comparisons using interactive charts and maps.
- To create a Tableau Dashboard and Story for interactive insights.
- To publish the dashboard and story using Tableau Public.
- To embed the dashboard and story into a Flask web application for easy access.

5. Dataset Description

The dataset contains historical records of toy manufacturers in the United States from 2005 to 2016. The data is collected from Kaggle and provides information about the number of manufacturers across different states and years.

Dataset Link:

<https://www.kaggle.com/datasets/thedevastator/toy-manufacturers-in-us-states>

Important Attributes:

- State – The US state where toy manufacturers are located
- Year – The year of record
- Number of Manufacturers – Total toy manufacturers in that state and year
- Index – Record identifier

6. Tools and Technologies Used

Tableau Desktop / Tableau Public

- Used to create data visualizations
- Used to build Dashboard and Story

Tableau Public

- Used to publish and share the dashboard and story online

Flask Framework

- Used to create a web application to embed Tableau dashboard and story

Python

- Used for Flask server-side integration

HTML, CSS

- Used to design the web user interface pages

7. System Requirements

Hardware Requirements

- Minimum 4GB RAM (Recommended 8GB+)
- Intel i3 processor or higher
- At least 10GB free storage

Software Requirements

- Windows OS
- Tableau Desktop / Tableau Public
- Tableau Public Account
- Python 3.x
- Flask Framework
- Web Browser (Chrome / Edge)

8. Methodology / Project Workflow

The project was completed using the following steps:

1. Dataset collection from Kaggle and initial inspection
2. Importing the dataset into Tableau
3. Data cleaning and preparation (data types, null values, renaming fields)

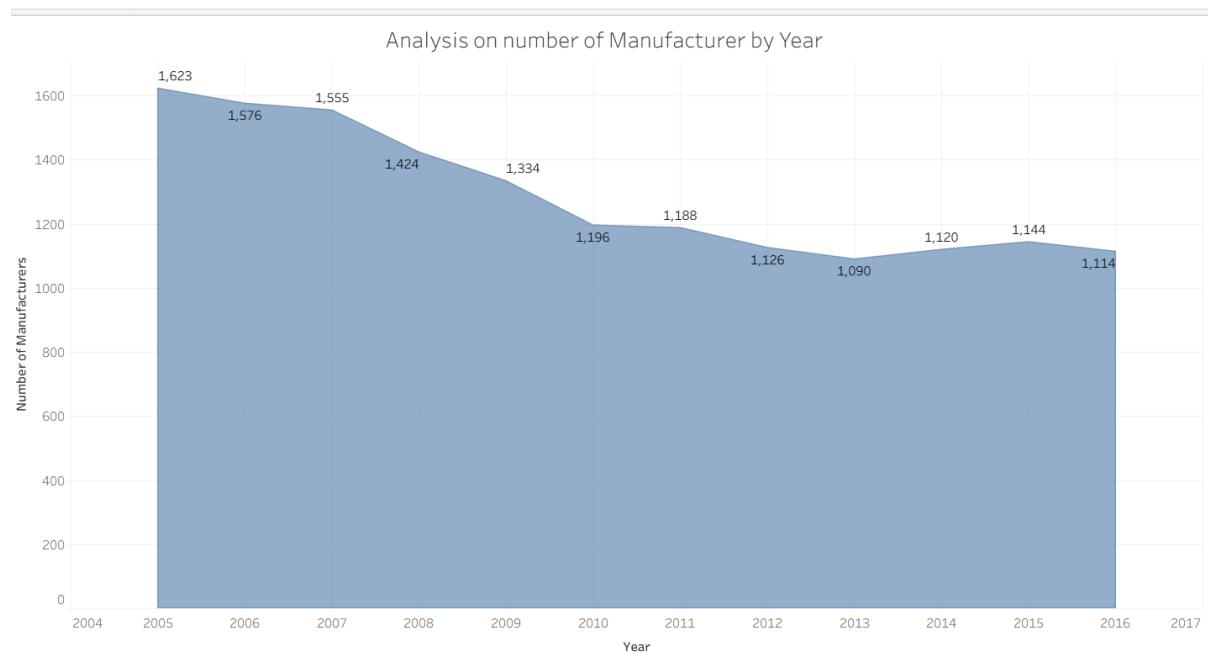
4. Creating visualizations (line charts, bar charts, maps, pie charts, etc.)
5. Designing the dashboard layout
6. Adding interactive filters (Year, State)
7. Creating story points to present insights step-by-step
8. Publishing the dashboard and story on Tableau Public
9. Embedding the dashboard and story into a Flask web application
10. Testing, validation, and documentation

9. Visualizations Created

The following sheets were created in Tableau:

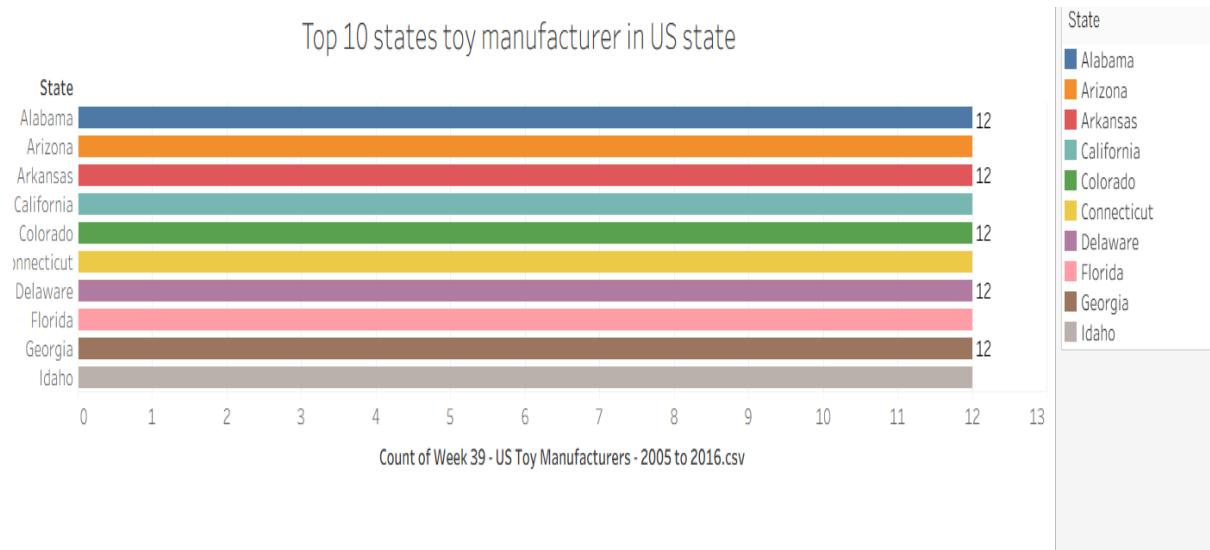
Sheet 1: Number of Manufacturers by Year

- Line chart showing the year-wise trend of toy manufacturers in the United States.



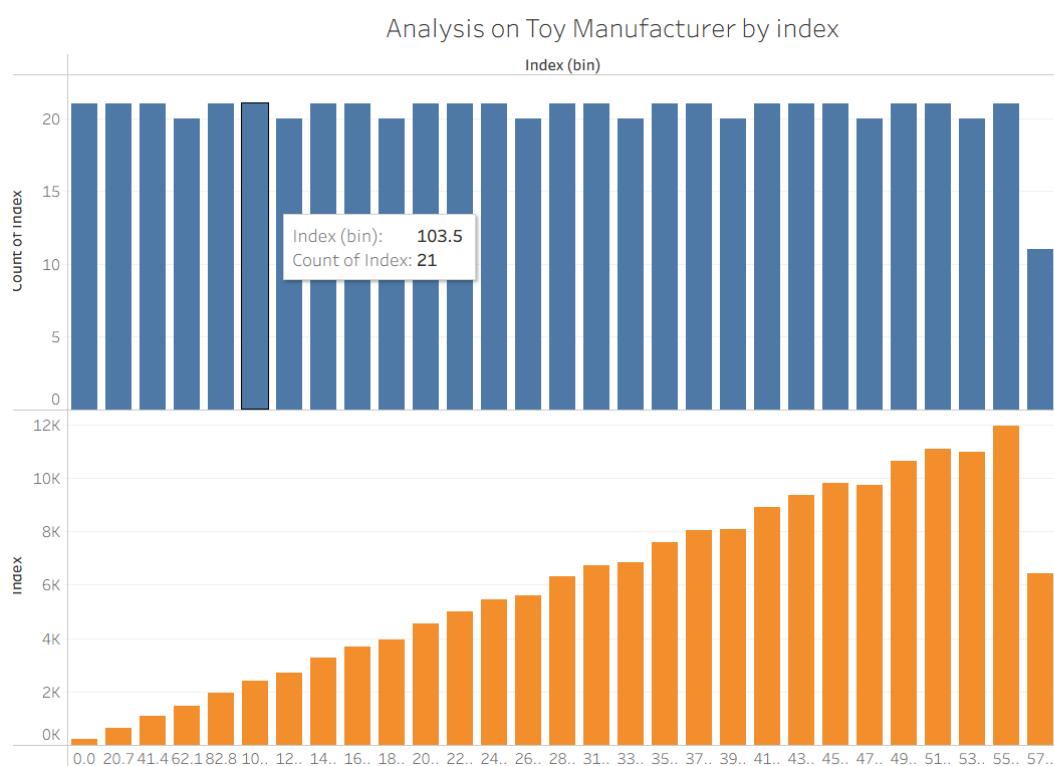
Sheet 2: Top 10 States by Number of Manufacturers

- Bar chart highlighting the top 10 states with the highest number of toy manufacturers.



Sheet 3: Distribution by Index / Measure

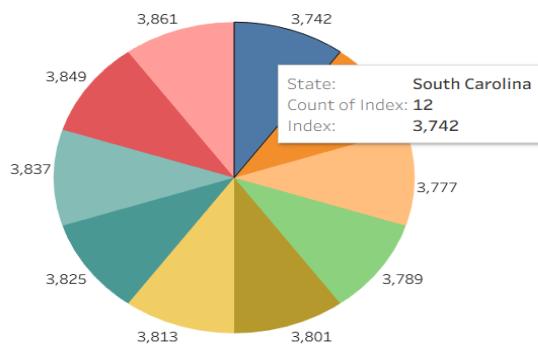
- Pie chart showing the proportional distribution based on the selected measure (e.g., Index or Number of Manufacturers).



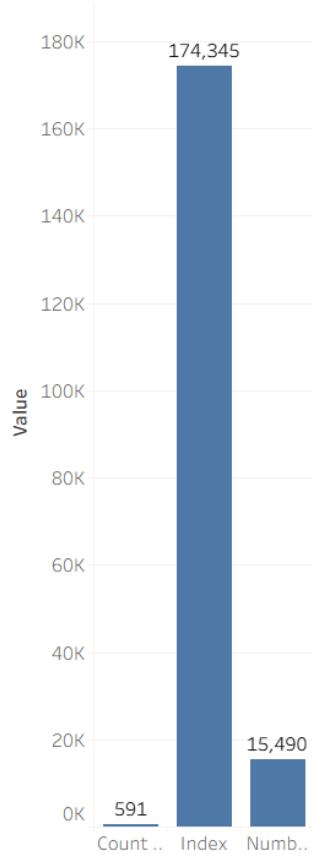
Sheet 4: Year-wise Comparison by Selected States

- Filter-based view to compare trends of selected states over different years.

Analysis on toy Manufacturer in US state By Index



Analysis on toy Manufacturers



10. Dashboard Description

A dashboard titled “**ToyCraft Tales – Toy Manufacturer Analysis Dashboard**” was created by combining all the important sheets.

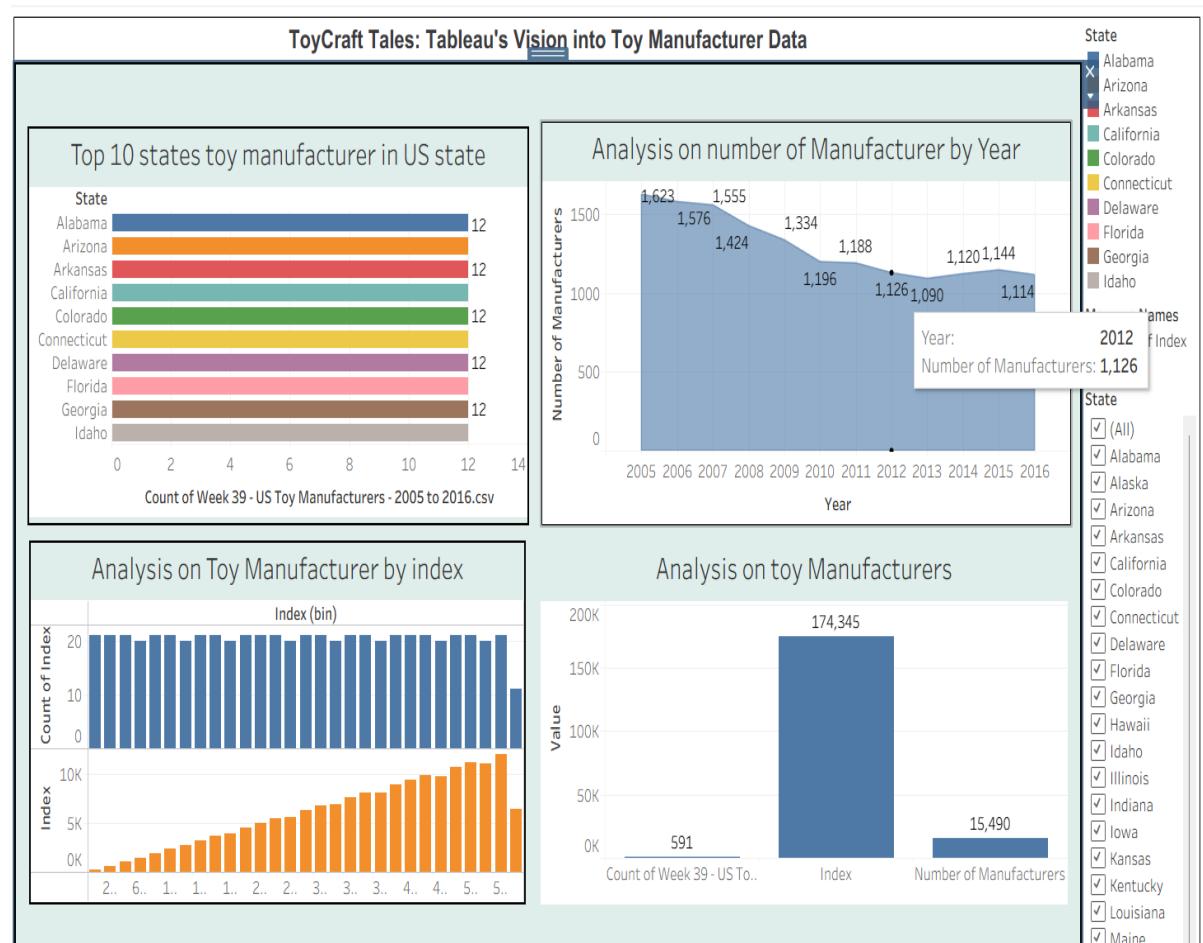
The dashboard provides a complete overview of:

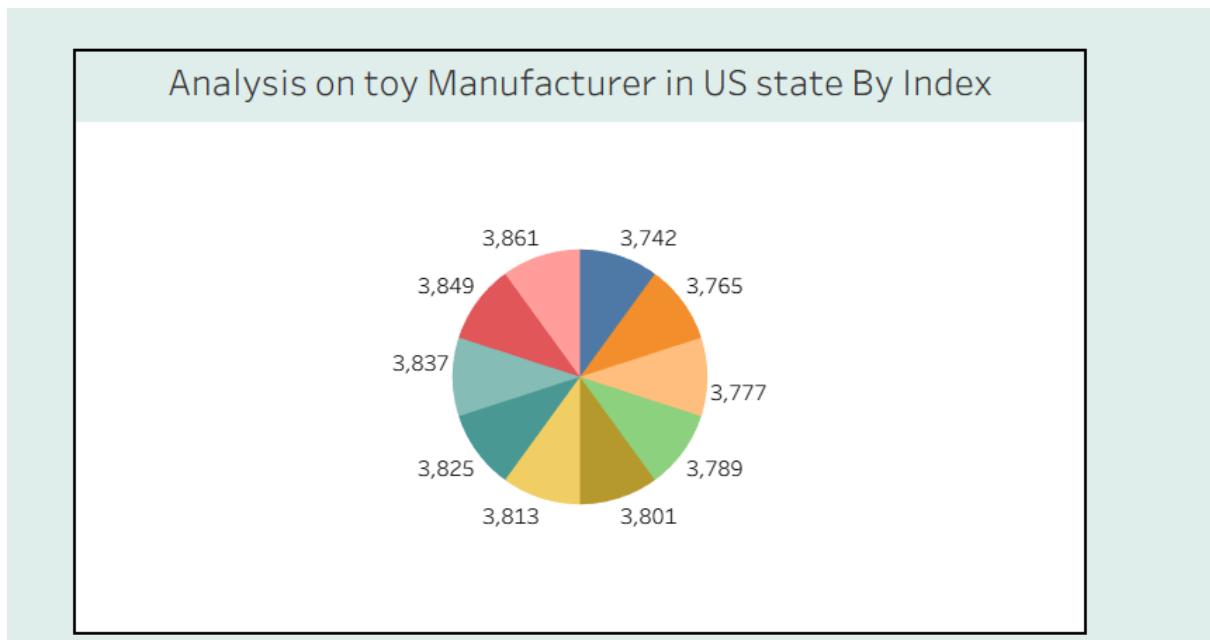
- Year-wise trends of toy manufacturers,
- State-wise distribution,
- Top 10 states with highest number of manufacturers,
- Geographic spread of the industry across the US, and
- Comparative analysis using filters.

Interactive filters were added for:

- Year
- State

These filters allow users to dynamically explore the data and gain deeper insights.





Reference Link:

<https://public.tableau.com/app/profile/chalamalasetti.gopi/viz/SmartBridge/ToyCraftTalesTableausVisionintoToyManufacturerData>

11. Story Description

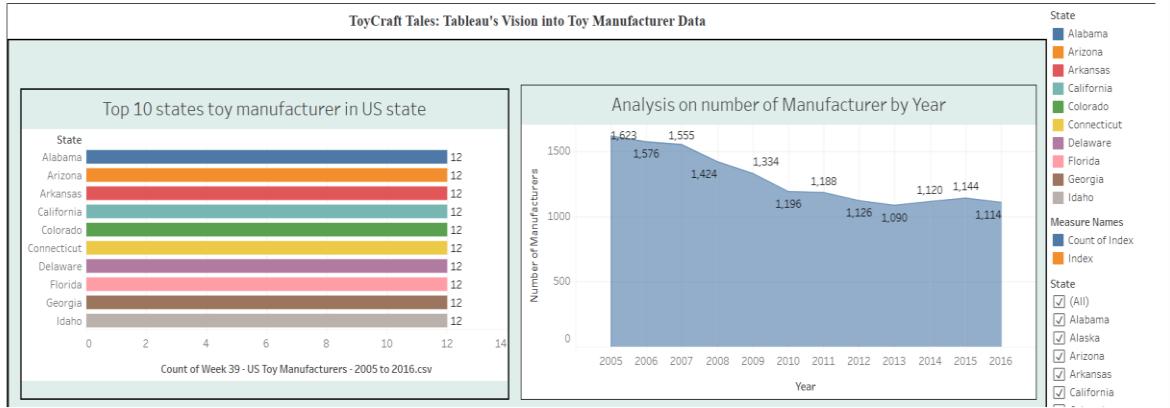
A Tableau Story titled “**ToyCraft Tales – Toy Manufacturer Analysis Story**” was created with multiple story points to explain insights step-by-step.

The story helps in understanding:

- How the number of toy manufacturers changes over the years,
- How toy manufacturers are distributed across different states,
- Which states dominate the toy manufacturing industry, and
- The overall conclusions and key insights from the analysis.

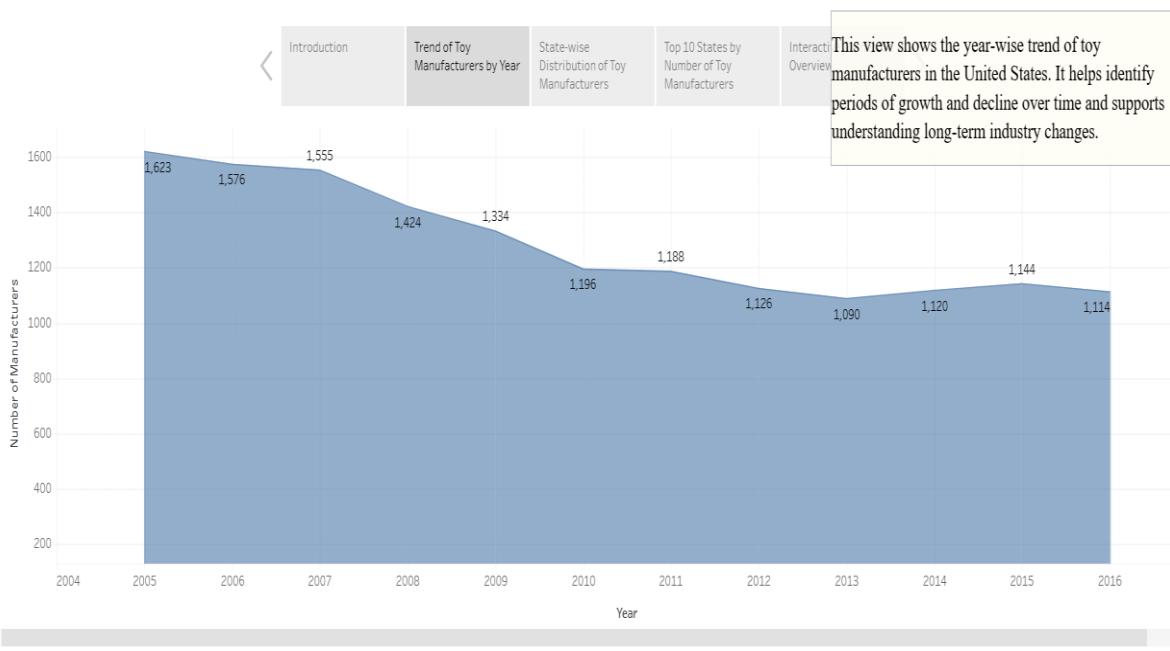
ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

Introduction Trend of Toy Manufacturers by Year State-wise Distribution of Toy Manufacturers Top 10 States by Number of Toy Manufacturers Interactive Dashboard Overview



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ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

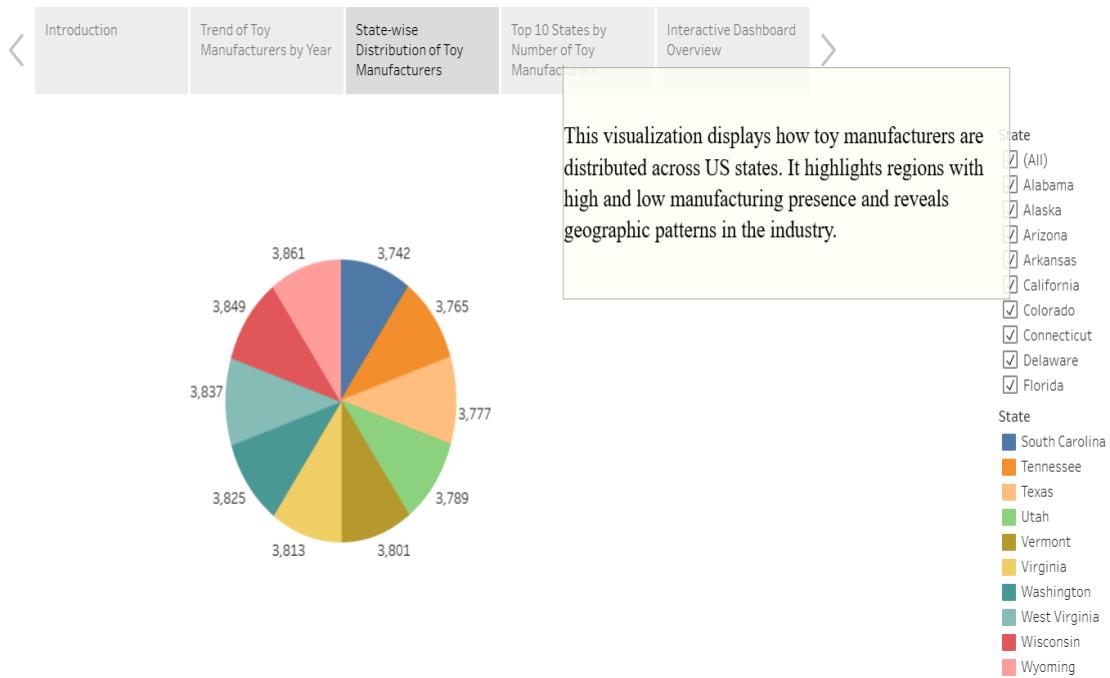


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ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data



Reference Link:

https://public.tableau.com/app/profile/chalamalasetti.gopi/viz/ToyCraft_Tales_17714794816330/ToyCraftTalesTableausVisionintoToyManufacturerData_1

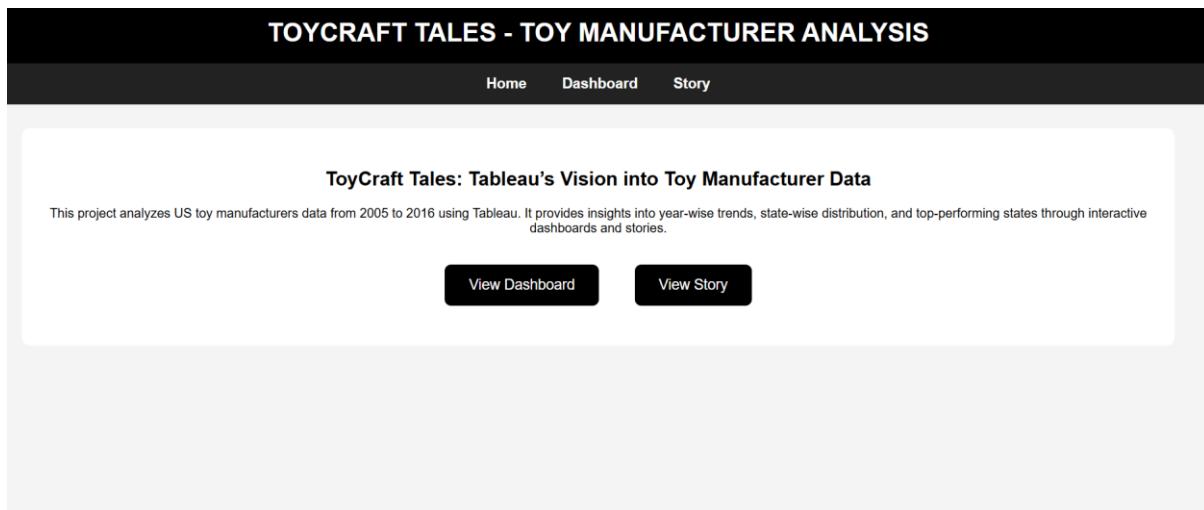
13. Deployment

The Tableau dashboard and story were published on **Tableau Public**. They were embedded into a **Flask web application** to display the analysis through a web browser.

The Flask application provides navigation pages:

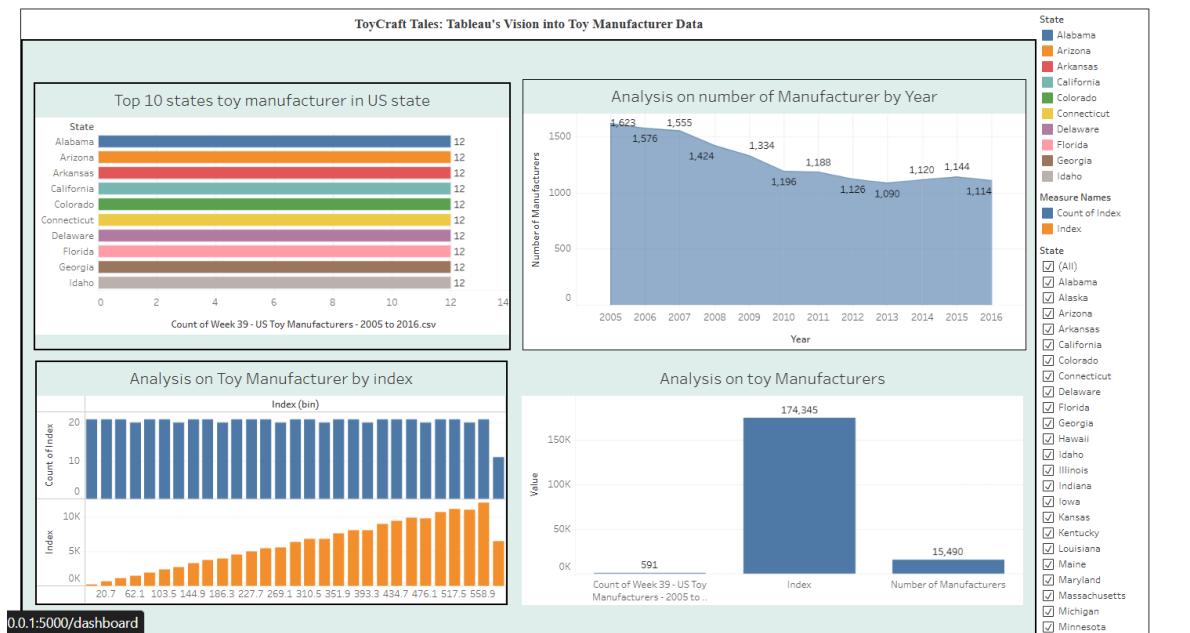
- Home Page
- Dashboard Page
- Story Page

This makes the project easily accessible and presentable through a web interface.



TOYCRAFT TALES - DASHBOARD

Home **Dashboard** Story



TOYCRAFT TALES - STORY

Home Dashboard Story

ToyCraft Tales: Tableau's Vision into Toy Manufacturer Data

Introduction

State	Count
Alabama	12
Arizona	12
Arkansas	12
California	12
Colorado	12
Connecticut	12
Delaware	12
Florida	12
Georgia	12
Idaho	12

Count of Week 39 - US Toy Manufacturers - 2005 to 2016.csv

Trend of Toy Manufacturers by Year

Year	Number of Manufacturers
2005	1,623
2006	1,555
2007	1,424
2008	1,334
2009	1,188
2010	1,196
2011	1,126
2012	1,090
2013	1,144
2014	1,120
2015	1,114
2016	1,114

Analysis on Toy Manufacturer by index

Index (bin)	Count of Index
0K	20.7
1K	62.1
2K	103.5
3K	144.5
4K	186.3
5K	227.7
6K	269.1
7K	310.5
8K	351.9
9K	393.3
10K	434.7
11K	476.1
12K	517.5
13K	558.9

Analysis on toy Manufacturers

Category	Value
Index	174,345
Number of Manufacturers	15,490

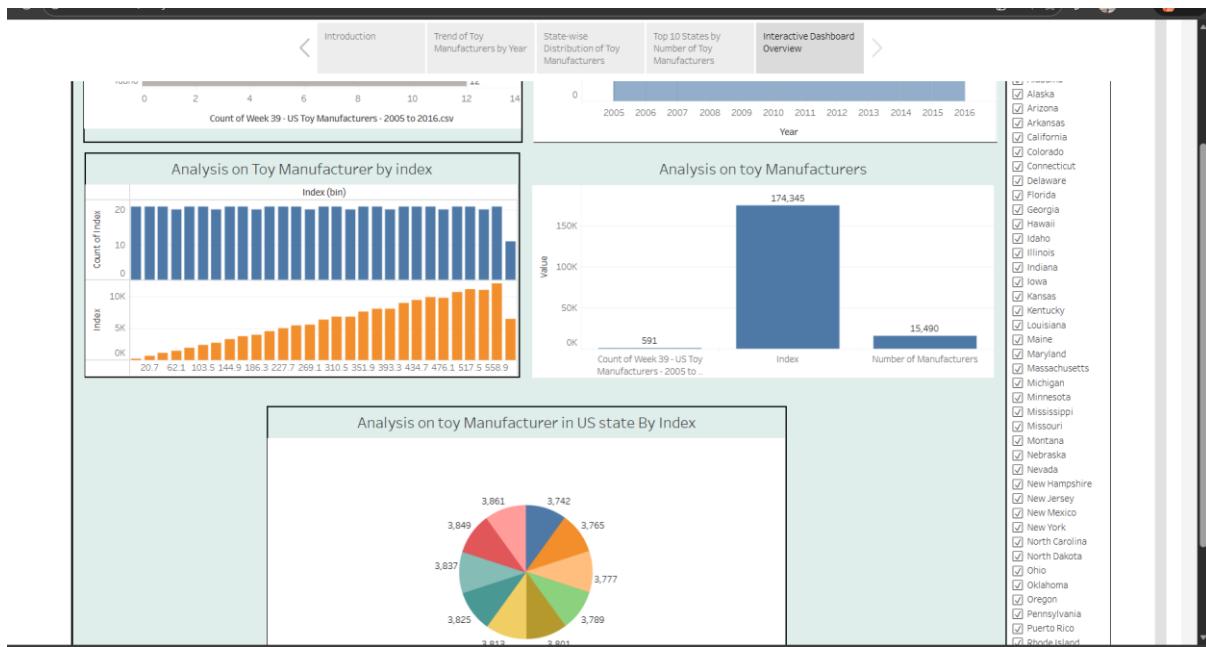
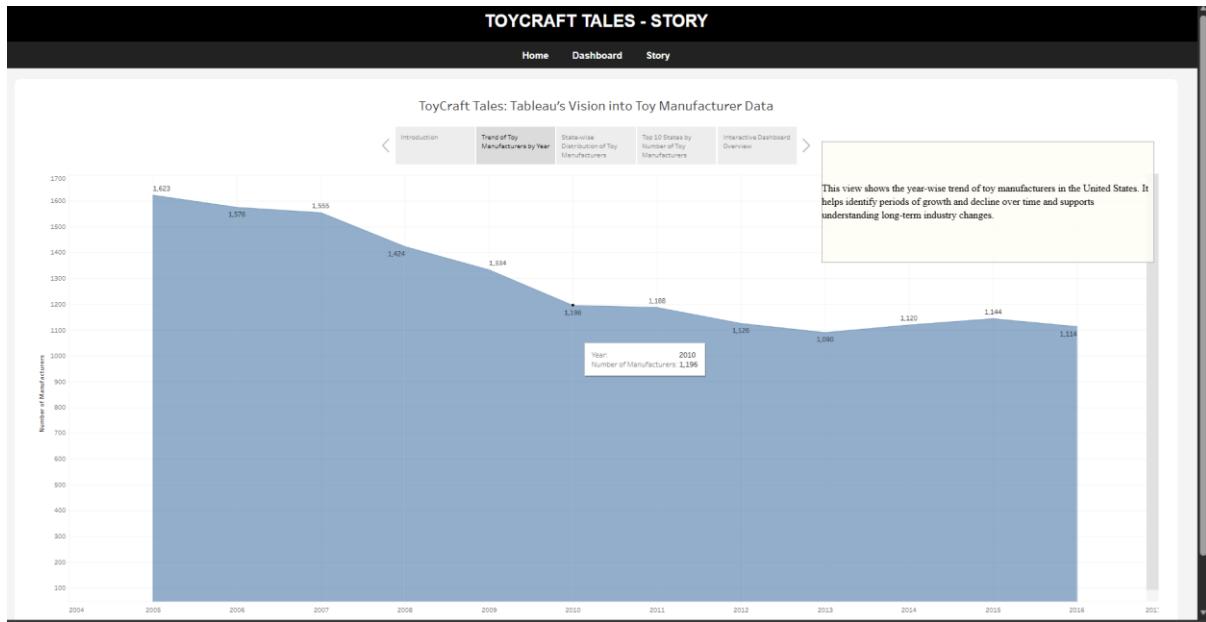
Analysis on toy Manufacturer in US state By Index

State	Count
Delaware	3,861
Florida	3,742
Georgia	3,765

Interactive Dashboard Overview

Category	Value
Index	174,345
Number of Manufacturers	15,490

State
 (All)
 Alabama
 Alaska
 Arizona
 Arkansas
 California
 Colorado
 Connecticut
 Delaware
 Florida
 Georgia
 Hawaii
 Idaho
 Illinois
 Indiana
 Iowa
 Kansas
 Kentucky
 Louisiana
 Maine
 Maryland
 Massachusetts
 Michigan
 Minnesota
 Missouri
 Montana
 Nebraska
 Nevada
 New Hampshire
 New Jersey
 New Mexico
 New York
 North Carolina



14. Conclusion

This project successfully analyzed the US toy manufacturers dataset using Tableau visualizations. The dashboard and story provide clear insights into year-wise trends, state-wise distribution, and top-performing states in the toy manufacturing industry.

The analysis shows that toy manufacturing activity is concentrated in certain states and varies over time. This solution helps stakeholders understand industry patterns, identify key regions, and support data-driven strategic planning. The integration with Flask further enhances accessibility and usability of the analysis.

Github Link:

<https://github.com/GopiSaiChalamalasetti/Toy-Manufacturer-Data-Analysis>

Project Demo:

https://drive.google.com/file/d/1nFwVW7jj9WfnH9XaeBbH6wK7lJaY3ZVB/view?usp=drive_link