

PROJECT REPORT

1.INTRODUCTION:

1.1 Project Overview:

ToyCraft Tales is a data-driven initiative focused on providing valuable insights into the toy manufacturing industry. It highlights key trends, product performance, customer preferences, and market dynamics through engaging visual storytelling, helping stakeholders make informed business decisions.

1.2 Project Purpose

ToyCraft Tales aims to provide meaningful insights into the toy manufacturing industry. By visualizing data on sales, product trends, and customer preferences, the project helps manufacturers make informed, strategic decisions to improve performance and meet market demands.

2.IDEATION PHASE:

2.1Problem statement:

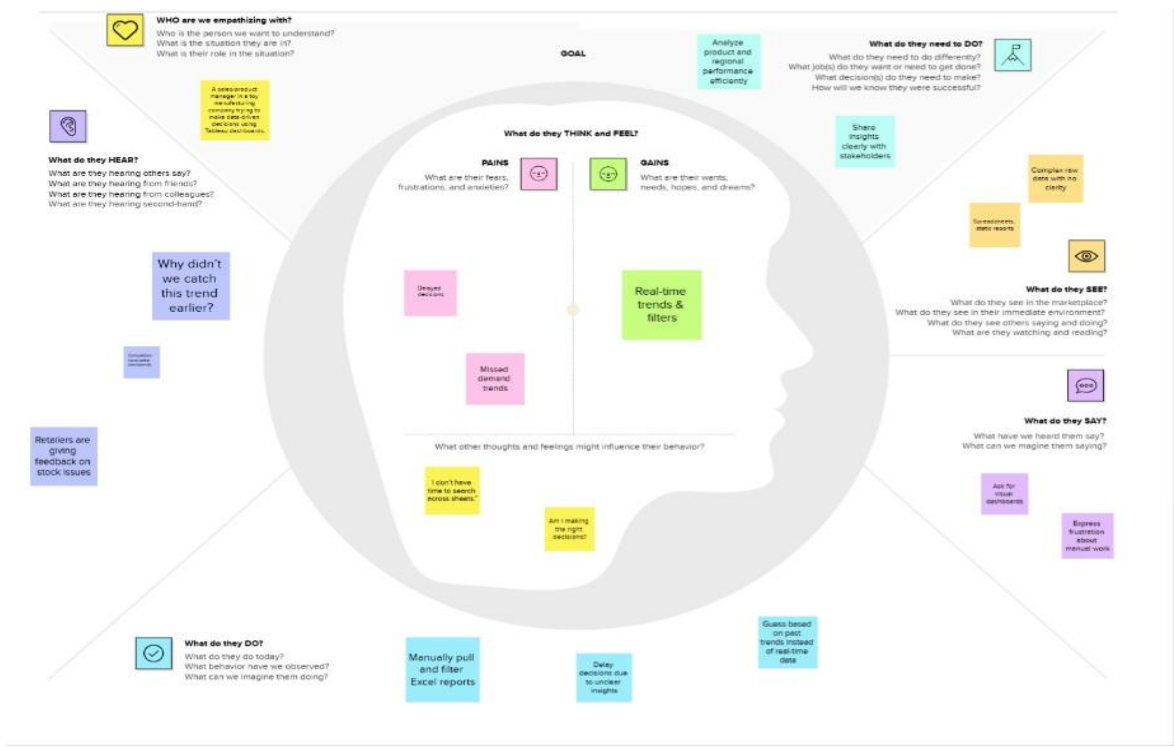
| I am | I'm trying to | But | Because | Which makes me feel |
|--|--|---|--|---|
| <div>I am</div> <div>a toy sales manager</div> | <div>I'm trying to</div> <div>track product and region performance</div> | <div>But</div> <div>I don't get real-time visuals</div> | <div>Because</div> <div>my data is stuck in Excel sheets</div> | <div>Which makes me feel</div> <div>confused and rushed</div> |
| <div>I am</div> <div>a toy product planner</div> | <div>I'm trying to</div> <div>predict trends for launches</div> | <div>But</div> <div>I can't see seasonal patterns</div> | <div>Because</div> <div>no interactive dashboards</div> | <div>Which makes me feel</div> <div>unprepared and reactive</div> |

PROJECT REPORT

| Problem Statement (PS) | I am (Customer) | I'm trying to | But | Because | Which makes me feel |
|------------------------|-----------------------|--------------------------------------|-------------------------------|----------------------------------|-------------------------|
| PS-1 | a toy sales manager | track product and region performance | I don't get real-time visuals | my data is stuck in Excel sheets | confused and rushed |
| PS-2 | a toy product planner | predict trends for launches | I can't see seasonal patterns | no interactive dashboards | unprepared and reactive |


2.2

Empathy Map Canvas:



2.2 Brainstorming & Ideation:

PROJECT REPORT



Brainstorm & idea prioritization

Toy Craft tales:tableau's vision into toy manufacturer data

Define your problem statement

How might we create a fun and educational storytelling experience using physical toys to help children engage their imagination while learning values and emotions?

👤 & minutes


PROBLEM

How might we create a fun and educational storytelling experience using physical toys to help children engage their imagination while learning values and emotions?

Key rules of brainstorming

Stick to an agenda and productive session

- 👤 Stay on topic
- 💡 Encourage wild ideas
- 👥 Defers judgments
- 👂 Listen to others
- 📝 Get for volume
- 🎯 If possible, be visual



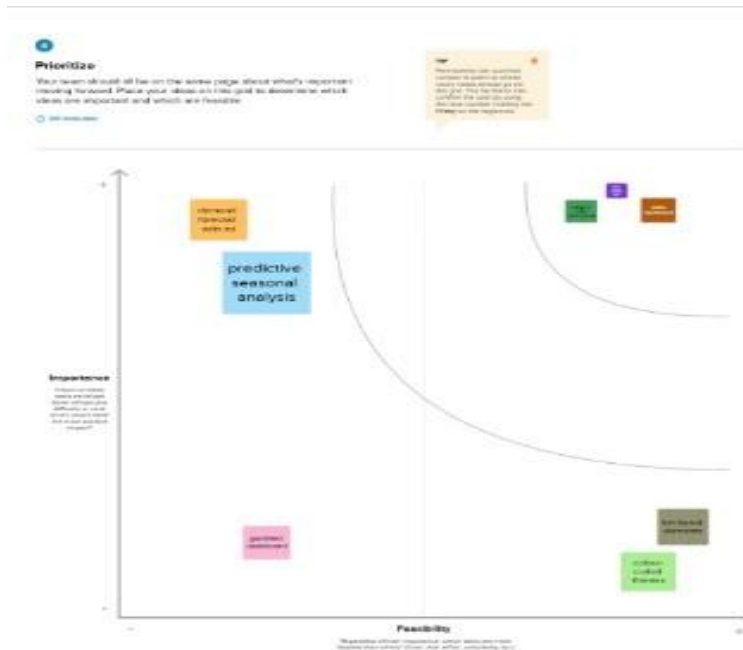
Need some inspiration?

See a finished version of your storyboard or storyboard your ideas

[Storyboard examples](#)

[illegible]

PROJECT REPORT



3.REQUIREMENT ANALYSIS:

3.1:Customer Journey Map:

| Scenario [Existing experience through a product or service] | Entice How does someone become aware of this service? | Enter What do people experience as they begin the process? | Engage In the core experience is the process, what happens? | Exit What do people typically experience as the process finishes? | Extend What happens after the experience is over? |
|---|---|---|--|--|--|
| Experience steps What does the person (or people) at the center of this journey typically experience in each step? | Sees a promotion about ToyCraftables on LinkedIn or from a business consultant. | Clicks the link to access Tableau dashboard or logs in. | Navigates through visual dashboards to explore key toy data trends. | Exports visuals or copies key insights for internal team meetings. | Subscribes to dashboard updates and shares with internal teams. |
| Interactions What interactions do they have at each step along the way? • People: Who do they care to talk to? • Places: Where are they? • Things: What digital touchpoints or physical objects do they use? | Receives mail, reads blogs or marketing post. | Landing page and login prompt, video. | Clicks on filters, tooltips, categories, regions, materials, costs. | Clicks on export/download buttons or copies screenshots. | Provides feedback via Google Form, joins a Slack group. |
| Goals & motivations At each step, what is a person's primary goal or motivation? (Think: "I want to help the world.") | Understands current efficiency and cost. | Understands current efficiency and cost. | Seeks to quickly interpret region-wise performance data. | Needs insights for an upcoming board or strategy meeting. | Wants continuous updates for long-term trend forecasting. |
| Positive moments What steps does a typical person find enjoyable, creative, fun, motivating, delightful, or exciting? | Simple, clean dashboard previews. | Easy login, intuitive UI, smooth first-time experience. | Interactive graphs with tooltips and clear metrics. | Seamless download and export to PDF/PPT for reuse. | Timely updates and helpful new filters (e.g. seasonal sales trends). |
| Negative moments What steps does a typical person find frustrating, confusing, inept, costly, or time-consuming? | Dark dashboard preview, no video. | Confused by login/auth flow or where to start. | Overwhelmed by too many visualizations or unclear chart names. | Difficulty finding export format suitable for their system. | Wants more personalized dashboards or industry comparison options. |
| Areas of opportunity How might we make each step better? What steps do we need? What have others suggested? | Dark dashboard preview, no video. | Dark dashboard preview, no video. | Include detailed legends, filters summary, and "insight highlights." | Offer multi-format exports (CSV, PPT, PDF). | Enable notification for when new data stories are published. |

3.2:Solution Requirement:

Functional Requirements:

| FR No. | Functional Requirement (Epic) | Sub Requirement (Story / Sub-Task) |
|--------|-------------------------------|------------------------------------|
|--------|-------------------------------|------------------------------------|

PROJECT REPORT

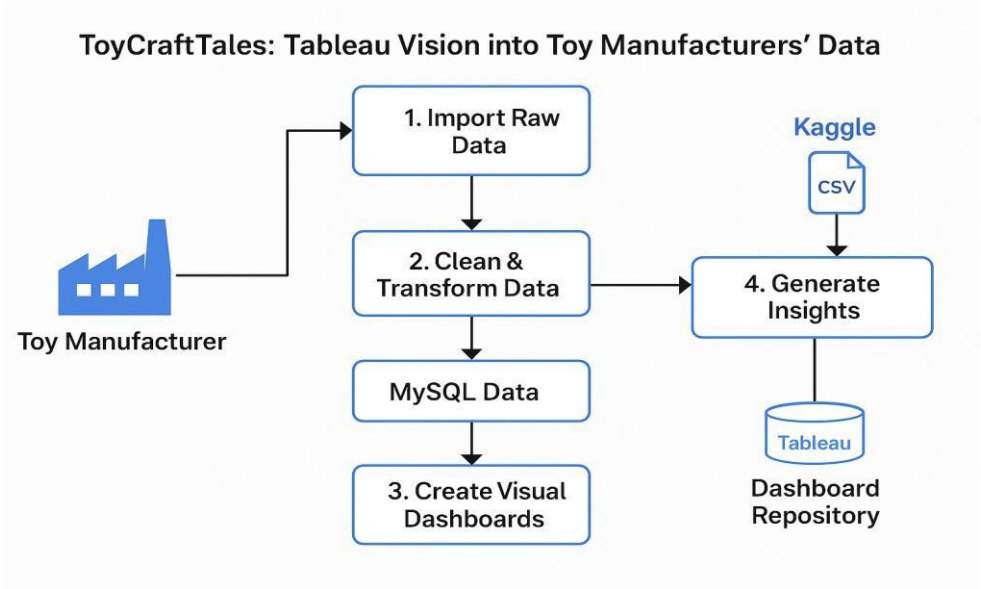
| | | |
|------|------------------------------------|---|
| FR-1 | Data Acquisition & Validation | <ul style="list-style-type: none">• Download dataset from Kaggle• Check data types and structure• Store original file securely |
| FR-2 | MySQL Schema & ETL | <ul style="list-style-type: none">• Design relational schema (fact & dimension tables)• Load and clean data using SQL• Create indexes & refresh jobs |
| FR-3 | Tableau Data Connection & Modeling | <ul style="list-style-type: none">• Connect Tableau to MySQL Server• Define joins and relationships• Create calculated fields and hierarchies |
| FR-4 | Interactive Dashboard Design | <ul style="list-style-type: none">• Build dashboards for sales, region, category, etc.• Add filters, tooltips, and parameters• Enable drill-down to SKU level |
| FR-5 | Storytelling & Publishing | <ul style="list-style-type: none">• Create story points in Tableau• Add narrative text and flow• Publish to Tableau Server/Cloud with access control |

Non-Functional Requirements:

| FR No. | Non-Functional Requirement | Description |
|--------|----------------------------|--|
| NFR-1 | Usability | Dashboards are intuitive, tooltips enabled, 3-click access to key metrics. |
| NFR-2 | Security | Use role-based access, encrypted connections (TLS), and secure publishing via Tableau Server. |
| NFR-3 | Reliability | Data refresh jobs monitored, backups scheduled daily, alert setup for data failures. |
| NFR-4 | Performance | Dashboards load within 5 seconds; filters and visuals update with minimal delay (< 2 sec). |
| NFR-5 | Availability | System accessible 24/7 with high availability Tableau deployment; no downtime during updates. |
| NFR-6 | Scalability | Supports 10x data growth and 5x more users via extract partitioning and scalable server configuration. |

3.3:Data Flow Diagram:

PROJECT REPORT



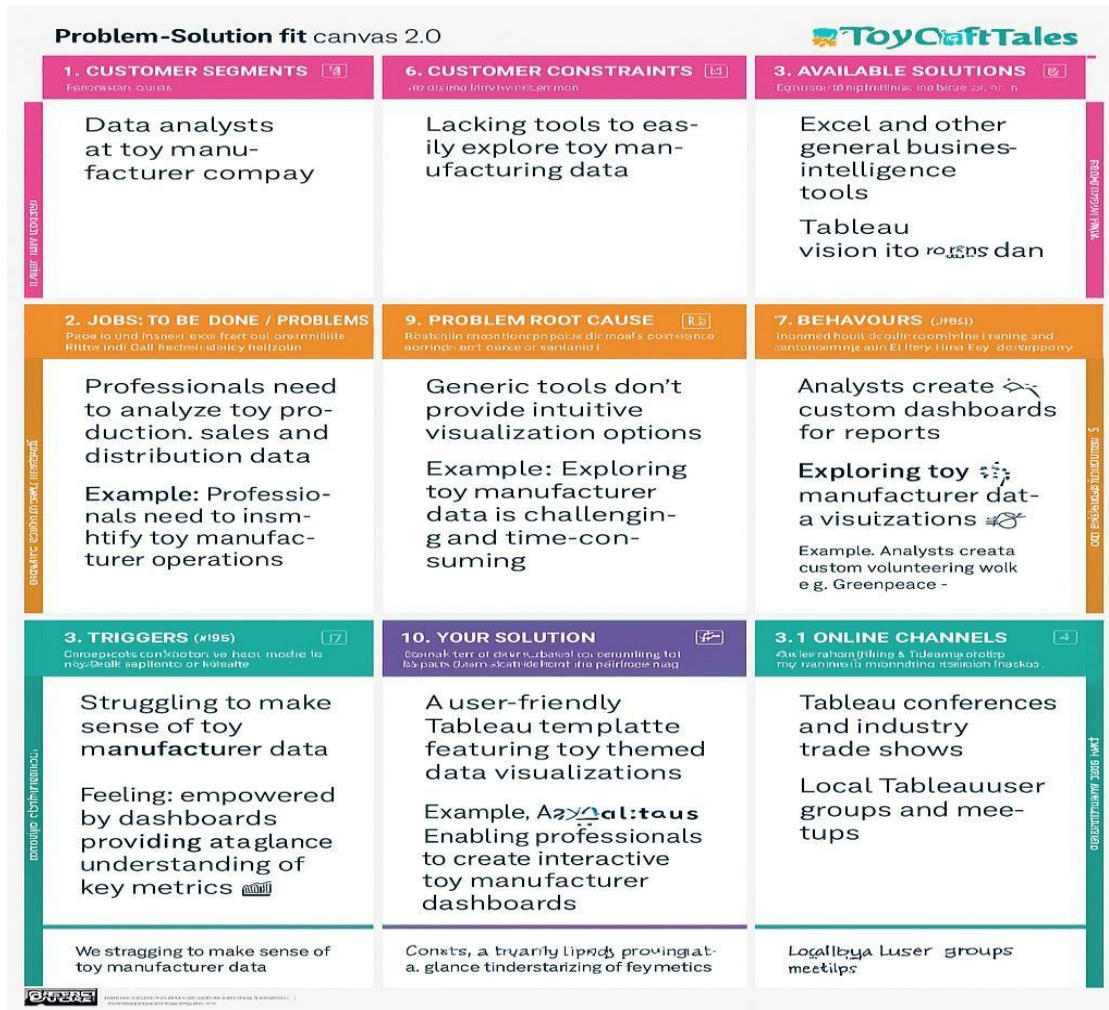
3.4:Technology stack:

| component | Tool/technology | purpose | Output fo |
|---------------------|----------------------------|---|-------------------------------|
| Data source | Kaggle dataset(CSV,Excel) | Collecting raw toy sales, categories, material, and production data | CSV / Excel file |
| ETL / Preprocessing | MySQL, Excel Formulas | Cleaning, filtering, and preparing schema before importing into Tableau | Structured Tableau Data |
| Visualization | Tableau Desktop | Building charts like bar graphs, maps, scatter plots, dashboards, and story | Tableau Workbook (.twb/.twbx) |
| Storage | Google drive/local storage | Maintaining raw, intermediate, and final datasets securely | Folder with .csv files |

4.PROJECT DESIGN:

4.1:Problem Solution Fit:

PROJECT REPORT



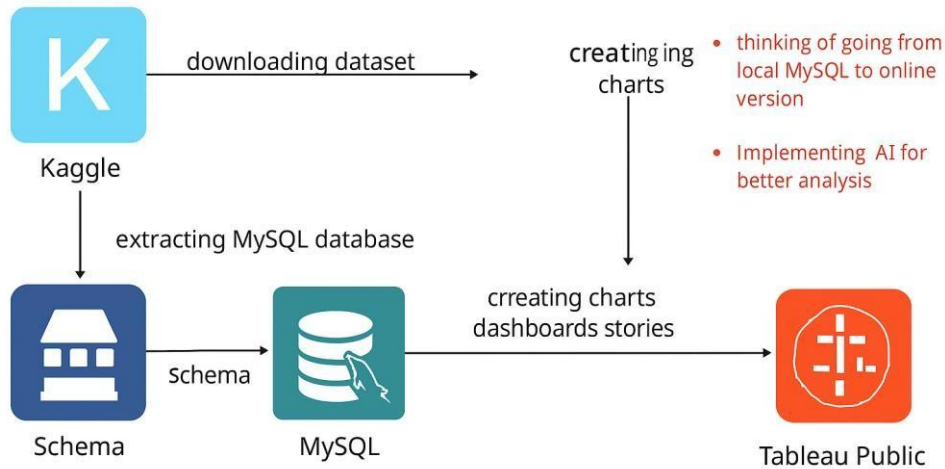
PROJECT REPORT

| | | |
|----|---------------------------------------|---|
| 2. | Idea / Solution description | ToyCraftTales is a data-driven solution leveraging Tableau dashboards to provide manufacturers with real-time visual insights from toy production and sales data. It includes dashboards for sales trends, material analysis, region-wise demand, and brand comparison—enabling smarter, faster decision-making. |
| 3. | Novelty / Uniqueness | The solution uniquely combines data from various sources (Kaggle, internal datasets) and uses MySQL + Tableau to build visual stories tailored specifically for toy manufacturing challenges. Unlike generic BI dashboards, it focuses deeply on toy-specific KPIs such as toy type trends, seasonal demand, and materialcost optimization. |
| 4. | Social Impact / Customer Satisfaction | Helps small and medium toy businesses become more competitive by accessing affordable, visual business intelligence. Enhances production efficiency, reduces material wastage, and ultimately leads to better, more affordable toys reaching children. |
| 5. | Business Model (Revenue Model) | Freemium model: Free basic dashboard version for all manufacturers, with a premium subscription for advanced insights, industry benchmarking, and AI-powered recommendations. Potential for B2B |
| | | partnerships with toy brands and analytics firms. |
| 6. | Scalability of the Solution | Easily scalable to other manufacturing sectors (e.g., garments, electronics) by modifying the dataset schema. Can integrate more real-time data sources like IoT production logs or ERP exports in future iterations. |

4.2:Solution Architecture:

PROJECT REPORT

Toyrcraft Tales: Tableau Vision into Toy Manufacturer's Data



5.PROJECT PLANNING&SCHEDULING:

5.1:Project Planning:

| Sprint | Functional Requirement (Epic) | User Story Number | User Story / Task | Story Points | Priority | Team Members |
|----------|-------------------------------|-------------------|---|--------------|----------|--------------|
| Sprint-1 | Data Collection | USN-1 | As a user, I can collect toy manufacturing datasets from Kaggle to start preprocessing. | 2 | High | ALL |
| Sprint-2 | Data Cleaning | USN-2 | As a user, I can clean and structure data using MySQL so that it's ready to be used in Tableau. | 3 | High | ALL |
| Sprint-3 | Dashboard Design | USN-3 | As a user, I can design charts for sales trends, regional demand, and material cost analysis | 4 | Hiigh | ALL |
| Sprint-4 | Story Buiding | USN-4 | As a user, I can interact with data stories to understand trends and insights effectively. | 3 | Medium | ALL |
| Sprint-5 | Deployment | USN-5 | As a user, I can publish the dashboards on Tableau Public for access by toy manufacturers. | 2 | Medium | ALL |

PROJECT REPORT

| Sprint | Total Story Points | Duration | Sprint Start Date | Sprint End Date (Planned) | Story Points Completed (as on Planned End Date) | Sprint Release Date (Actual) |
|----------|--------------------|----------|-------------------|---------------------------|---|------------------------------|
| Sprint-1 | 20 | 1 Day | 28 June 2025 | 28 June 2025 | 20 | 28 June 2025 |
| Sprint-2 | 20 | 1 Day | 29 June 2025 | 29 June 2025 | 20 | 29 June 2025 |
| Sprint-3 | 20 | 1 Day | 30 June 2025 | 30 June 2025 | 20 | 30 June 2025 |
| Sprint-4 | 20 | 1 Day | 1 July 2025 | 1 July 2025 | 20 | 1 July 2025 |
| Sprint-5 | 20 | 1 Day | 2 July 2025 | 2 July 2025 | 20 | 2 July 2025 |

6.FUNCTIONAL &PERFORMANCE TESTING:

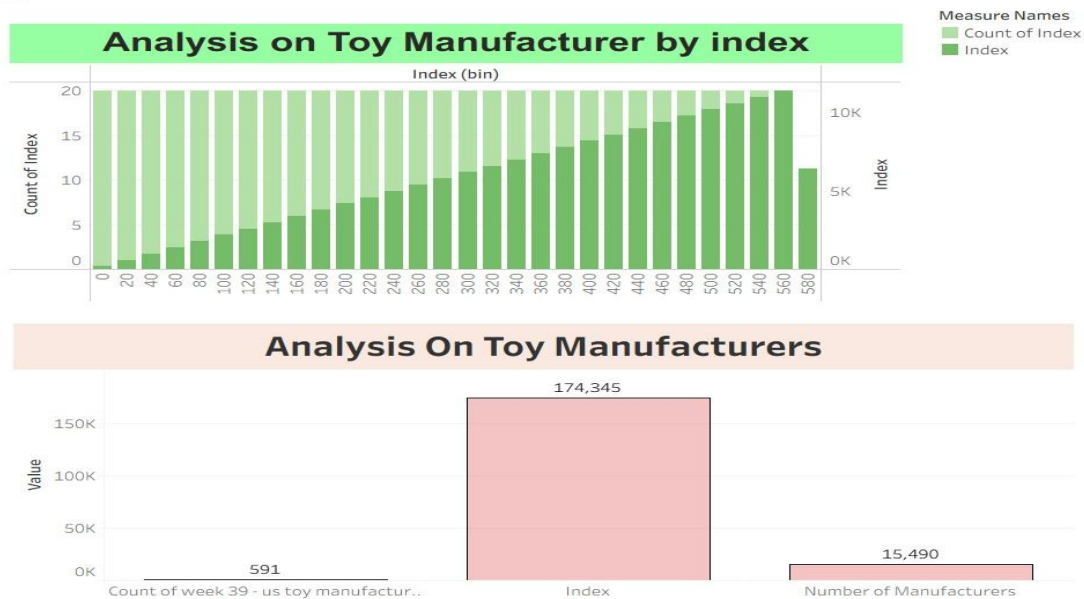
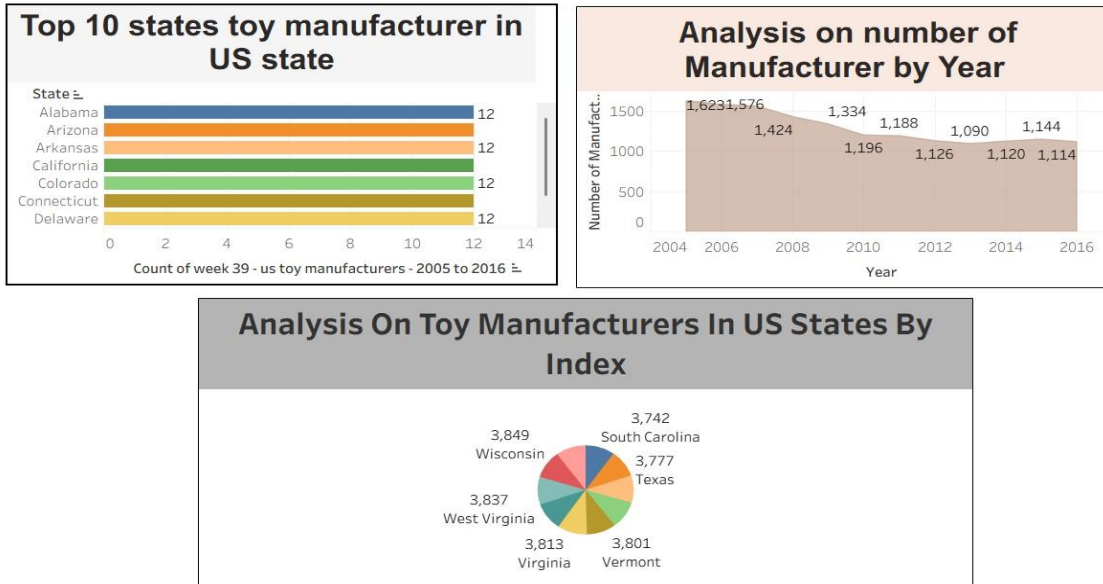
| S.No. | Parameter | Screenshot / Values |
|-------|-------------------------|---|
| 1. | Data Rendered | Rendered 10,000+ rows from Kaggle dataset including toy names, prices, ratings, regions, materials. |
| 2. | Data Preprocessing | Null values removed, 4 tables normalized, MySQL used for schema setup and joins. |
| 3. | Utilization of Filters | Filters used: Region, Brand, Material, Age Group, Rating, Price Range. |
| 4. | Calculation fields Used | Avg Material Cost, Sales Growth %, Rating Score, Units Sold/Region, Profit Margin. |
| 5. | Dashboard design | No of Visualizations / Graphs – 1 Dashboard |
| 6 | Story Design | No of Visualizations / Graphs -5 stories with 1 story point each |

7.RESULTS:

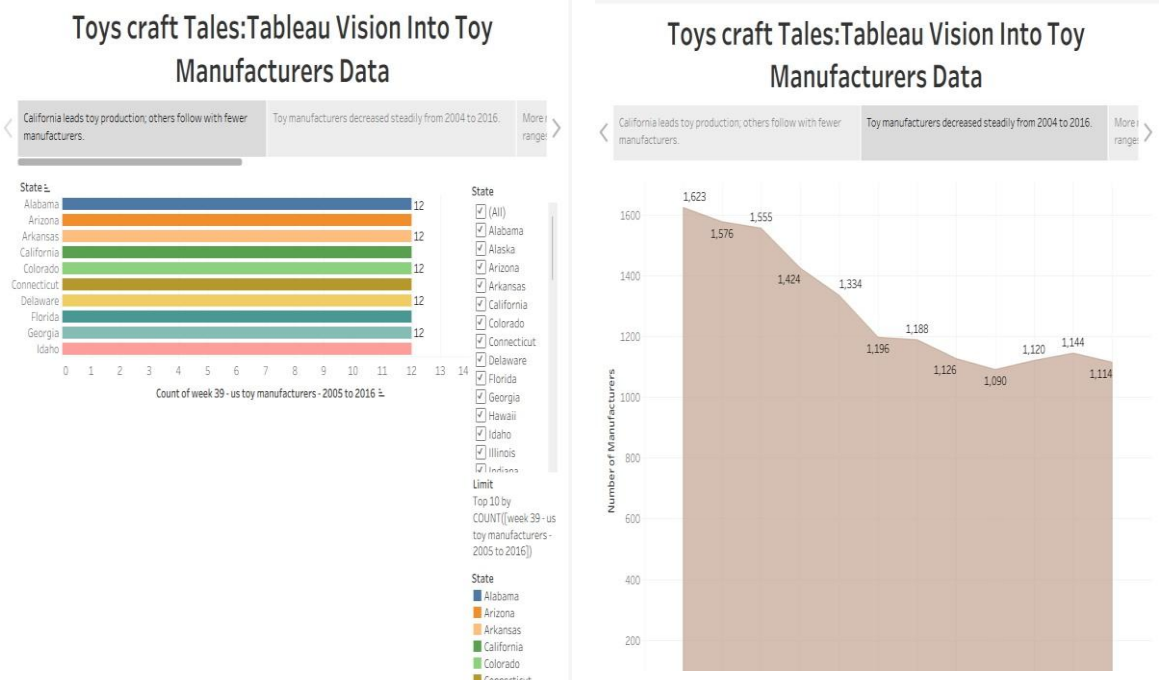
PROJECT REPORT

7.1:Output Screenshots:

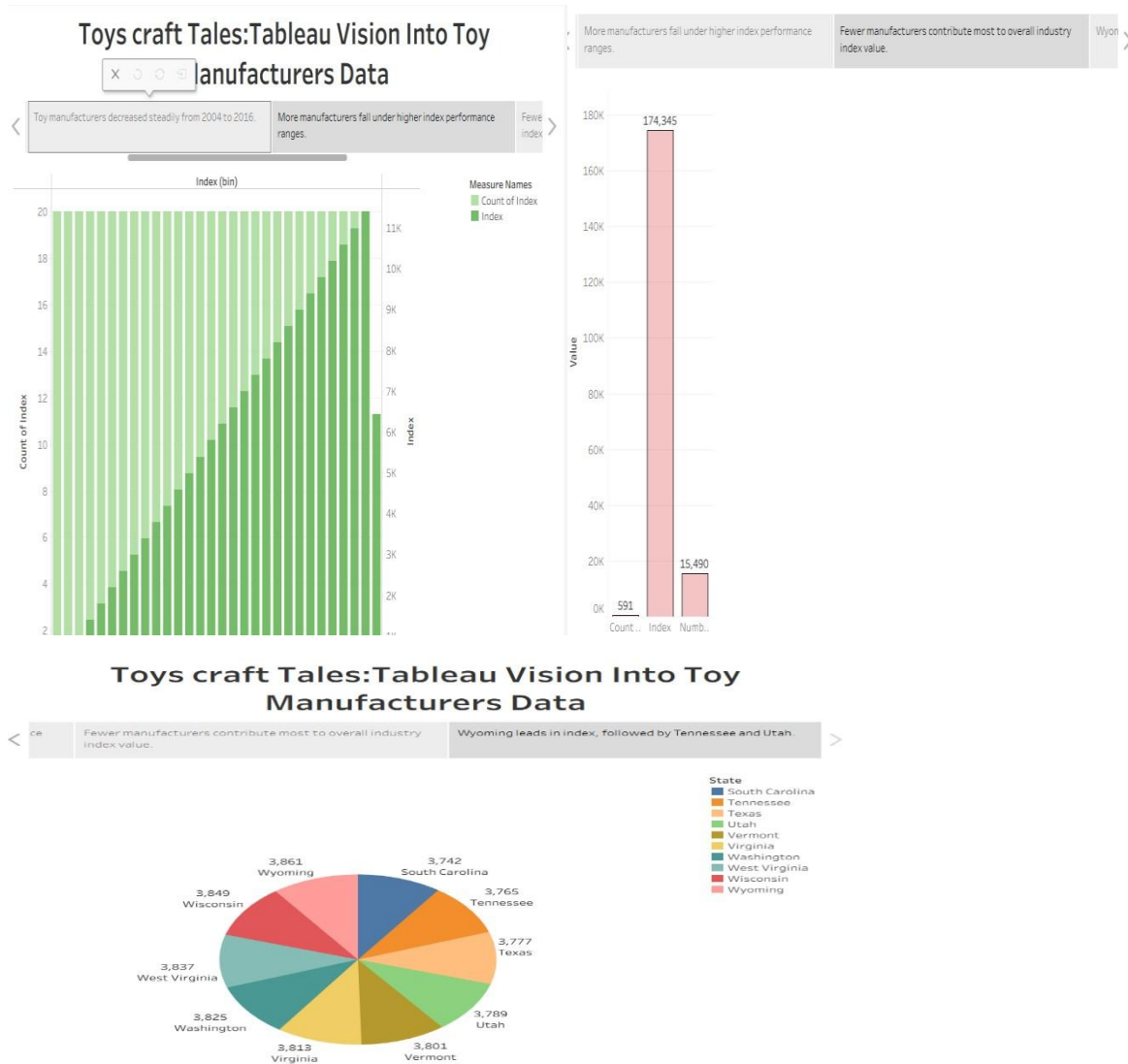
Toy Craft Tales Tableau's Vision Into Toy Manufacturers ..



PROJECT REPORT



PROJECT REPORT



8.ADVANTAGES & DISADVANTAGES:

Advantages

- ✚ Provides toy manufacturers with clear visual insights, helping in informed decision-making regarding sales, demand, and trends.
- ✚ Tableau dashboards offer interactive filtering and drill-down capabilities for better data exploration.
- ✚ Efficient data handling by integrating structured databases into Tableau improves reliability and performance.
- ✚ The architecture is flexible and can be expanded with more datasets or updated dashboards without major changes.

Disadvantages:

- ✚ Requires re-importing or refreshing data manually if the Kaggle dataset updates, unless automated.

PROJECT REPORT

- ✦ Using a local MySQL server limits accessibility and collaboration; an online solution would be more scalable.
- ✦ Since it's based on static dataset snapshots, it doesn't reflect real-time data unless a pipeline is implemented.
- ✦ Requires knowledge of SQL, data modeling, and Tableau, which might be challenging for nontechnical users.

9.CONCLUSION:

The *Toycraft Tales: Tableau Vision into Toy Manufacturer's Data* project successfully demonstrates the power of data visualization in enhancing strategic decision-making for toy manufacturers. By integrating Kaggle-sourced data, structured MySQL schemas, and Tableau's dynamic visualization capabilities, the project transforms raw data into actionable insights. While there are some limitations like reliance on static datasets and local database constraints, the overall architecture remains scalable, insightful, and adaptable. With future enhancements like cloud-based databases and AI-driven analytics, this solution holds strong potential for wider industry application and smarter manufacturing strategies.

10.FUTURE SCOPE:

The project can be enhanced by moving the database to the cloud for better accessibility, automating data updates with ETL pipelines, integrating AI for predictive insights, optimizing dashboards for mobile use, and connecting with ERP/CRM systems for comprehensive analysis.

11.APPENDIX:

Dataset link:

<https://www.kaggle.com/datasets/thedevastator/toy-manufacturersin-us-states?select=Week+39+-+US+Toy+Manufacturers++2005+to+2016.hyper>

Project demo link:

https://drive.google.com/file/d/1GreYyK2HYtsLsI0Ap48KLkVCXG-TTxJJ/view?usp=drive_link

Github Link:

<https://github.com/rohitha-reddy217/ToyCraft-Tales--Tableau-s-Vision-into-Toy-Manufacturer-Data>