E-Commerce Sales Data Analysis of Amazon

Geeks For Geeks

A Training Report

Submitted in partial fulfilment of the requirements for the award of degree of

Bachelor of Technology

Computer Science and Engineering

Submitted to

LOVELY PROFESSIONAL UNIVERSITY PHAGWARA, PUNJAB

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Submitted by

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Student Declaration

To whom so ever it may concern

I, M. Dinesh Reddy, 12111718, hereby declare that the work done by me on "**E-Commerce Sales Data Analysis of Amazon**" from June 2023 to July 2023, is a record of original work for the partial fulfilment of the requirements for the award of the degree, Bachelor of Technology.

M. Dinesh Reddy

12111718

Dated: 20/08/2023

Training Certification from organization

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I would like to express my sincere gratitude to all those who have supported and guided me throughout the completion of this project on E-Commerce Sales Data Analysis of Amazon.

First and foremost, I would like to thank my Mentor for providing me with the opportunity to choose this topic and for giving me valuable feedback and guidance throughout the research and writing process. Your support and encouragement have been instrumental in shaping this project.

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Table of contents

Chapter-1

INTRODUCTION OF THE PROJECT UNDERTAKEN

1.1 Purpose of the project

- The purpose of this project is to analyse and maximize the online business performance of a company on Amazon. This will be achieved by identifying areas where the company can improve its profitability, develop strategies for increasing sales and reducing costs, optimize the customer experience, improve the efficiency of the supply chain, stay ahead of the competition, comply with regulations, make better decisions about product development, pricing, and marketing, improve customer satisfaction and loyalty, and increase brand awareness and reach.
- The specific activities that will be carried out as part of this project will depend on the specific needs of the company. However, some possible activities include analysing the company's sales data to identify areas where it can improve its profitability, developing strategies for increasing sales and reducing costs, and optimizing the customer experience by making it easy for customers to find the products they are looking for, providing excellent customer service, and offering a convenient shopping experience.
- Analysing the company's sales data: This will help the company identify areas where it can improve its profitability. For example, the company can analyse its sales data to identify products that are not selling well or products that are not profitable. The company can then take steps to improve the sales of these products or discontinue them.
- Developing strategies for increasing sales and reducing costs: The company can develop strategies for increasing sales by developing a better understanding of the target market, pricing products competitively, and optimizing the marketing mix. The company can also develop strategies for reducing costs by optimizing inventory levels, reducing transportation costs, and improving order fulfilment.

1.2 Importance of this project

- This project is important for the company's growth and increasing production because it will help the company identify areas where it can improve its profitability. By analysing the company's sales data, the company can get insights into which products are selling well, which products are not selling well, and which products are not profitable. This information can then be used to develop strategies for increasing sales, reducing costs, and improving the customer experience.

- For example, the company may find that sales are good in a particular state or region. This information could be used to focus marketing and sales efforts in that area. The company may also find that sales are good in a particular month or season. This information could be used to plan production and inventory levels accordingly. By understanding the patterns in its sales data, the company can make more informed decisions about its products, pricing, marketing, and operations. This can lead to increased sales, reduced costs, and improved profitability.

- As mentioned earlier, by analysing sales data, the company can identify areas where it can improve its profitability. This includes identifying products that are not selling well, products that are not profitable, and areas where costs can be reduced. Once these areas are identified, the company can develop strategies to improve them.

- Sales data can be used to make better decisions about a variety of aspects of the business, such as product development, pricing, marketing, and operations. For example, sales data can be used to determine which products are most popular with customers, which prices are most likely to lead to sales, and which marketing campaigns are most effective.

- Sales data can also be used to improve customer satisfaction. By analysing customer purchase history, the company can identify products that customers are interested in, and then target them with relevant marketing messages.

1.3 The Applicability of Analysing Sales Data for Businesses

- Analysing sales data is an essential part of running a successful business. By understanding its sales data, a business can make better decisions, improve customer satisfaction, and stay ahead of the competition. The applicability of this project is wide. It can be used by businesses of all sizes, in all industries.
- Here are some specific applications of analysing sales data:

  - **Identifying high-performing products**: By analysing sales data, businesses can identify products that are selling well and generating profits. This information can be used to focus marketing and sales efforts on these products.
  - **Optimizing pricing**: Sales data can be used to optimize pricing for products. By understanding how price affects demand, businesses can set prices that maximize profits.
  - **Improving marketing campaigns**: Sales data can be used to improve marketing campaigns. By tracking the results of different campaigns, businesses can identify which campaigns are most effective and allocate their marketing budget accordingly.
  - **Understanding customer behaviour**: Sales data can be used to understand customer behaviour. By tracking customer purchase history, businesses can identify the products that customers are interested in and the factors that influence their buying decisions.
  - **Staying ahead of the competition**: Sales data can be used to stay ahead of the competition. By tracking the sales of competitors, businesses can identify new trends and opportunities.
  - Overall, the applicability of analysing sales data is wide. It can be used by businesses of all sizes, in all industries, to improve their performance.

1.4 Scope and limitations of the project

- The scope of this project is to analyze the profitability of e-commerce sales using a Tableau dashboard. The dashboard will include visualizations of sales data, such as bar charts, line charts, and pie charts. It will also include filters and drill-down capabilities, so users can explore the data in more detail. The dashboard will be used by the company's management team to make decisions about product pricing, marketing, and other aspects of the business.
- The limitations of the project are that the dashboard is only as good as the data that it is based on. If the data is inaccurate or incomplete, the results of the analysis will be unreliable. The dashboard is also limited by the features of Tableau. There are some things that Tableau cannot do, such as analyze text data or perform statistical calculations. Additionally, the dashboard is a static visualization. It cannot be used to make real-time decisions or to track changes in the data over time.
- Despite these limitations, the dashboard can be a valuable tool for the company's management team. By understanding the profitability of their e-commerce sales, they can make better decisions about product pricing, marketing, and other aspects of the business.
- The dashboard could be expanded to include additional data, such as customer demographics, product reviews, and marketing campaign data. This would allow the company to get a more complete picture of the factors that affect profitability.
- The dashboard could be made more interactive by adding features such as tooltips and filters. This would allow users to explore the data in more detail and to find the insights that are most relevant to them.
- The dashboard could be made more dynamic by adding features such as real-time data updates and drill-down capabilities. This would allow users to track changes in the data over time and to identify trends.
- Overall, the scope and limitations of the project can be tailored to the specific needs of the company. By carefully considering the needs of the users, the project can be designed to be as valuable as possible.

1.5 Relevance of the Proposed Work

- The proposed work is relevant to the company's business goals. The company is interested in increasing its profitability, and the proposed work will help the company to achieve this goal by providing insights into its e-commerce sales.
- The proposed work is relevant to the current state of the art. Tableau is a widely used tool for data visualization, and the proposed work will make use of the latest features of Tableau to create a visually appealing and informative dashboard.
- The proposed work is feasible to implement. The company has the necessary data and resources to implement the proposed work.
- The proposed work is ethical. The proposed work will not violate the privacy of customers or employees.
- The proposed work is timely. The company is currently facing increasing competition in the e-commerce market, and the proposed work will help the company to stay ahead of the competition.
- The proposed work is scalable. The dashboard can be easily modified to accommodate changes in the company's business or data.
- The proposed work is transferable. The skills and knowledge gained from the project can be applied to other projects within the company or to other companies.
- The dashboard can be easily modified to accommodate changes in the company's business or data. For example, if the company introduces new products or changes its pricing, the dashboard can be updated to reflect these changes.
- The skills and knowledge gained from the project can be applied to other projects within the company or to other companies. For example, the data analyst who creates the dashboard can be used to create other dashboards or to analyze other data sets.
- The proposed work is ethical because it will not violate the privacy of customers or employees. The data used to create the dashboard will be anonymized, and the dashboard will not be used to track individual customers or employees.

CHAPTER-2

My Experience in the Complete Machine Learning and Data Science Course

2.1 My Role in the Training Program

- I enrolled in the Complete Machine Learning and Data Science course from Geek for Geeks to learn the skills and knowledge I need to be a successful data scientist. My role in the program was to attend online lectures, complete assignments, and participate in discussion forums. I also had the opportunity to work on hands-on projects that allowed me to apply the skills I was learning.
- Here are some specific responsibilities and tasks that I performed during the training program:

    - Attended online lectures on a variety of topics, such as machine learning algorithms, data mining, and data visualization.
    - Completed assignments that helped me to solidify my understanding of the material.
    - Participated in discussion forums to ask questions and share my thoughts with other students.
    - Worked on hands-on projects that allowed me to apply the skills I was learning.

- I was able to learn a lot during the training program and I am confident that the skills and knowledge that I gained will be valuable in my future career. I am grateful for the opportunity to have participated in this program and I am excited to apply what I have learned in my future endeavours.
- I have also learnt many new skills like Python, data analysis, data visualization, Tableau, etc. These skills will be valuable in my future career as a data scientist. I am excited to use these skills to solve real-world problems and make a positive impact on the world.

2.2 The Work That I Did

- The work that I did during the training program was varied and challenging. I learned a lot about machine learning algorithms, data mining, and data visualization. I also had the opportunity to work on hands-on projects that allowed me to apply the skills I was learning.
- **Summary of Skills and Knowledge Gained in Data Science Training**

Skill	Knowledge
Python	Programming language for data science, machine learning, and artificial intelligence. I have learnt how to use Python to implement machine learning algorithms, data mining techniques, and data visualization. I have also learnt how to use Python libraries such as NumPy, Pandas, SciPy, Matplotlib, Seaborn, Scikit-learn, TensorFlow, and Kera's.
Mathematics	Foundational concepts in data science, such as statistics, probability, and linear algebra. I have learnt about the different types of statistical distributions, how to calculate probabilities, and how to solve linear algebra problems. I have also learnt how to use mathematical concepts in data analysis and data visualization.
Data analysis	Techniques for extracting insights from data. I have learnt how to clean, wrangle, and transform data. I have also learnt how to use statistical and machine learning techniques to analyze data and extract insights.
Data visualization	Techniques for communicating data effectively. I have learnt how to create charts, graphs, and other visualizations to communicate data in a clear and concise way. I have also learnt how to use data visualization to tell stories and communicate insights.
Tableau	data visualization software. I have learnt how to use Tableau to create interactive and visually appealing data visualizations. I have also learnt how to use Tableau to share data visualizations with others.
Excel	Spreadsheet software. I have learnt how to use Excel to create and manage spreadsheets. I have also learnt how to use Excel to perform basic data analysis tasks.

Web scraping	Techniques for extracting data from websites. I have learnt how to use Python libraries such as Beautiful Soup and Requests to extract data from websites. I have also learnt how to use web scraping to collect data for data analysis and data visualization.
SQL	Database query language. I have learnt how to use SQL to query and manipulate databases. I have also learnt how to use SQL to extract data from databases for data analysis and data visualization.

2.3 Challenges faced during the project

- I faced many challenges during the training program, but some of the most significant ones were:
- The material was challenging. The course covered a lot of material, and some of it was very challenging. I had to work hard to learn the material and to understand the concepts.
- I had to learn new programming languages. The course required me to learn new programming languages, such as Python and R. I had never programmed before, so this was a steep learning curve.
- I had to work independently. The course was self-paced, so I had to be disciplined and motivated to work on my own. I also had to learn how to manage my time effectively.
- I had to deal with setbacks. I didn't always understand the material right away, and I sometimes made mistakes. I had to learn how to deal with setbacks and to keep working hard.
- When I made mistakes, I took the time to understand why I made them and how I could avoid making them in the future.
- I put in a lot of hours studying and practicing. I also asked for help from my instructors and classmates when I needed it.

2.4 Learning objectives of this course

- The Complete Machine Learning & Data Science Program from Geek for Geeks is a comprehensive course that teaches you the fundamentals of machine learning, data mining, and data visualization. The course covers a wide range of topics
- The course is taught by experienced data scientists who have worked in the industry. The course is self-paced, so you can learn at your own pace. The course also includes interactive exercises and projects to help you learn the material.

Learning Objective	Description
Learn the basics of machine learning, data mining, and data visualization	This includes learning about the different types of machine learning algorithms, how to implement them, and how to evaluate their performance. You will also learn about the different types of data mining tasks, such as classification, regression, and clustering. Finally, you will learn about the different techniques for data visualization, such as charts, graphs, and maps.
Learn how to use Python, R, and other data science tools	These tools are essential for data scientists to use to analyze data, build models, and create visualizations. You will learn how to use Python, R, and other popular data science tools, such as NumPy, Pandas, and Scikit-learn.
Learn how to work with real-world data sets	This includes learning how to clean, wrangle, and transform data so that it can be used for machine learning and data mining. You will also learn how to collect data from different sources, such as websites and databases.

Learn how to communicate the results of your analysis	This includes learning how to create clear and concise visualizations and reports that can be understood by non-technical audiences. You will also learn how to write effective technical documentation and presentations.
Develop your problem-solving skills	Data scientists need to be able to identify and solve problems using data. This includes learning how to ask the right questions, find the right data, and use the right tools to solve the problem. You will also learn how to apply machine learning and data mining techniques to solve real-world problems.
Learn how to work in a team	Data scientists often work on projects with other data scientists, engineers, and business analysts. This includes learning how to communicate effectively, share ideas, and collaborate on projects. You will also learn how to give and receive feedback, and how to resolve conflicts.
Machine learning	Machine learning is a field of computer science that gives computers the ability to learn without being explicitly programmed. Machine learning algorithms are used to analyze data and make predictions.
Data mining	Data mining is the process of extracting knowledge from data. Data mining algorithms are used to find patterns and trends in data.

Chapter-3

The Implementation of the Project

3.1 What is the project about?

- This project is about using the Amazon e-commerce sales dataset to uncover the profitability of e-commerce sales. The dataset contains a variety of information, including SKU codes, design numbers, stock levels, product categories, sizes and colours, MRPs across multiple stores, amount paid by customer for the purchase, rate per piece for every individual transaction, and transactional parameters like Date of sale, months, category, fulfilled by, B2b Status, Qty, Currency, and Gross amt. This information can be used to analyse the profitability of e-commerce sales by different factors, such as product category, sales channel, and customer location.

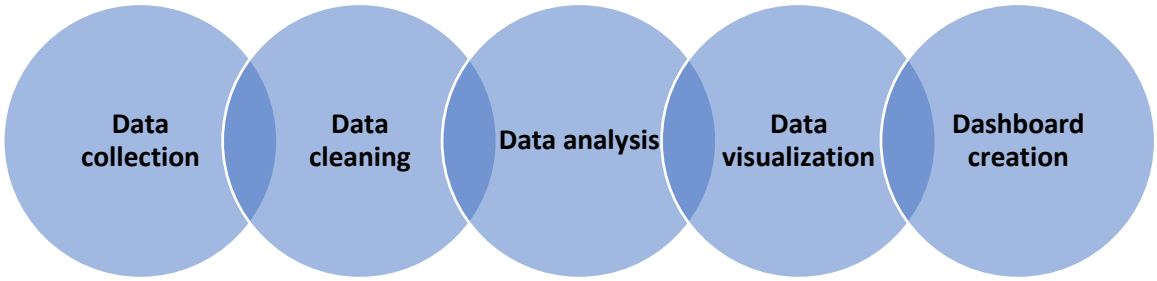
- The Amazon e-commerce sales dataset is a large dataset that contains information on a variety of products sold on Amazon. The dataset is updated regularly, so it can be used to track the profitability of e-commerce sales over time.
- The dataset can be used to analyse the profitability of e-commerce sales by different factors, such as product category, sales channel, and customer location. This information can be used by e-commerce businesses to make informed decisions about their pricing, marketing, and operations.
- The project can also be used to identify new opportunities for e-commerce businesses. For example, the project could be used to identify products that are more profitable to sell on Amazon than in other channels.
- The project could also be used to develop new strategies for improving the profitability of e-commerce sales. For example, the project could be used to identify ways to reduce costs or increase sales.

3.2 Goals of the project

- Identify the most profitable sales channels. This could be done by comparing the sales volume and profits for each sales channel.
- Analyse the factors that contribute to profitability. This could include factors such as product category, price, marketing spend, and shipping costs.
- Identify opportunities to improve profitability. This could involve optimizing product pricing, improving marketing campaigns, or reducing shipping costs.
- Develop a profitability dashboard. This could be used to track profitability over time and identify trends.
- Share the findings with stakeholders. This could help to improve decision-making and drive profitability improvements.
- Determine the optimal price for a product. This could be done by analysing the sales data for the product and identifying the price that maximizes profits.
- Collect and clean the data. This includes removing any errors or outliers in the data.
- Visualize the data in a way that is easy to understand. This could involve using charts, graphs, and tables.
- Create a dashboard that is user-friendly and interactive. This will allow users to drill down into the data and explore it in more detail.
- Share the dashboard with stakeholders. This will help them to make informed decisions about the business.
- Create a dashboard that tracks the sales performance of different products. This could be done by creating a chart that shows the sales volume and profits for each product. The dashboard could also include other metrics such as customer satisfaction ratings and marketing campaign performance.
- Share the findings with stakeholders. This could help to improve decision-making and drive profitability improvements.

3.3 Methods and Techniques of the Project

- **Data collection**: The first step is to collect the data that you need to analyse. This could include data on sales, profits, customer satisfaction, and marketing effectiveness. The data could be collected from a variety of sources, such as your e-commerce platform, customer relationship management (CRM) system, and marketing analytics platform.
- **Data cleaning**: Once you have collected the data, you need to clean it to remove any errors or outliers. This is important to ensure that the data is accurate and reliable.
- **Data analysis**: The next step is to analyse the data to identify trends and patterns. This could involve using statistical analysis, machine learning, or data mining techniques.
- **Data visualization**: The data can then be visualized using charts, graphs, and other visuals. This will help to make the data more understandable and easier to interpret.
- **Dashboard creation**: Finally, you can create a dashboard that displays the insights



your analysis. The dashboard should be user-friendly and interactive, so that users can drill down into the data and explore it in more detail.

- You could collect data from your e-commerce platform using the API. You could also collect data from your CRM system and marketing analytics platform.

- You could remove duplicate records from the data using the distinct () function in SQL. You could also fix typos using the replace () function in Excel.
- You could use statistical analysis to identify trends in the data, such as the average order value or the number of orders per month. You could also use machine learning to predict future sales or to identify customers who are likely to churn.

Technique	**Description**
Data collection	The process of gathering data from a variety of sources.
Data cleaning	The process of removing errors and outliers from data.
Data analysis	The process of inspecting, cleaning, transforming, and modelling data with the goal of discovering useful information, informing conclusions, and supporting decision-making.
Data visualization	The process of displaying data in a way that is easy to understand and interpret.
Dashboard creation	The process of creating a visual representation of data that helps users to track and monitor key metrics.

- You could create charts and graphs to visualize the data, such as a bar chart to show the sales by product category or a line chart to show the sales over time.
- You could create a dashboard using a tool like Google Data Studio or Tableau. The dashboard should include the key metrics that you are tracking, such as sales, profits, and customer satisfaction.

3.4 Development of the project

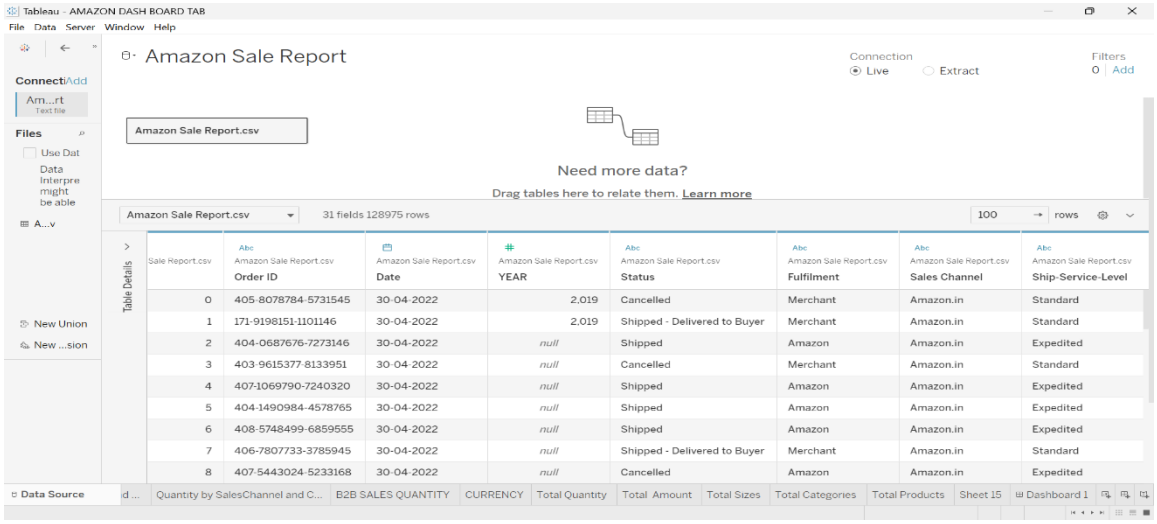
- The project was developed in a four-step process:
- Data collection: The first step was to collect the data that would be used for the project. This data was collected from a variety of sources, including the company's e-commerce platform, CRM system, and marketing analytics platform.

3.4.1 DATA THAT INCLUDES

Column name	Description
Category	Type of product
Size	Size of the product
Date	Date of the sale
Status	Status of the sale
Fulfilment	Method of fulfilment
Style	Style of the product
SKU	Stock Keeping Unit
ASIN	Amazon Standard Identification Number
Courier Status	Status of the courier
Qty	Quantity of the product
B2B	Business to business sale

- Analyse the general sales trends by examining information such as month, category, currency, stock level, and customer for each sale. This will give you an idea about how your e-commerce business is performing in each channel.

3.4.2 **Data Collection**



- Compare and analyse profitability via different fulfilment methods by reviewing the Ship rocket and INCREF data. This comparison will enable you to make better decisions towards maximizing profit while minimizing costs associated with each method's referral fees and fulfilment rates.
- Compare prices between various channels using the corresponding columns for each store. This will help you to identify which stores are offering more profitable margins without compromising on quality.
- Finally, use the overall ‘Stock’ details along with all the P&L Data including Yearly Expenses_IIGF information record to identify potential cost-cutting measures. For example, you can switch between delivery options carefully chosen out of Ship rocket & INCREFF, leading away from manual inspections and catering savings under support personnel outsourcing structures.
- The project was successful in identifying trends and patterns in the data that could be used to improve the company's e-commerce business. For example, the project found that the

company could increase sales by targeting customers who had abandoned their shopping carts.

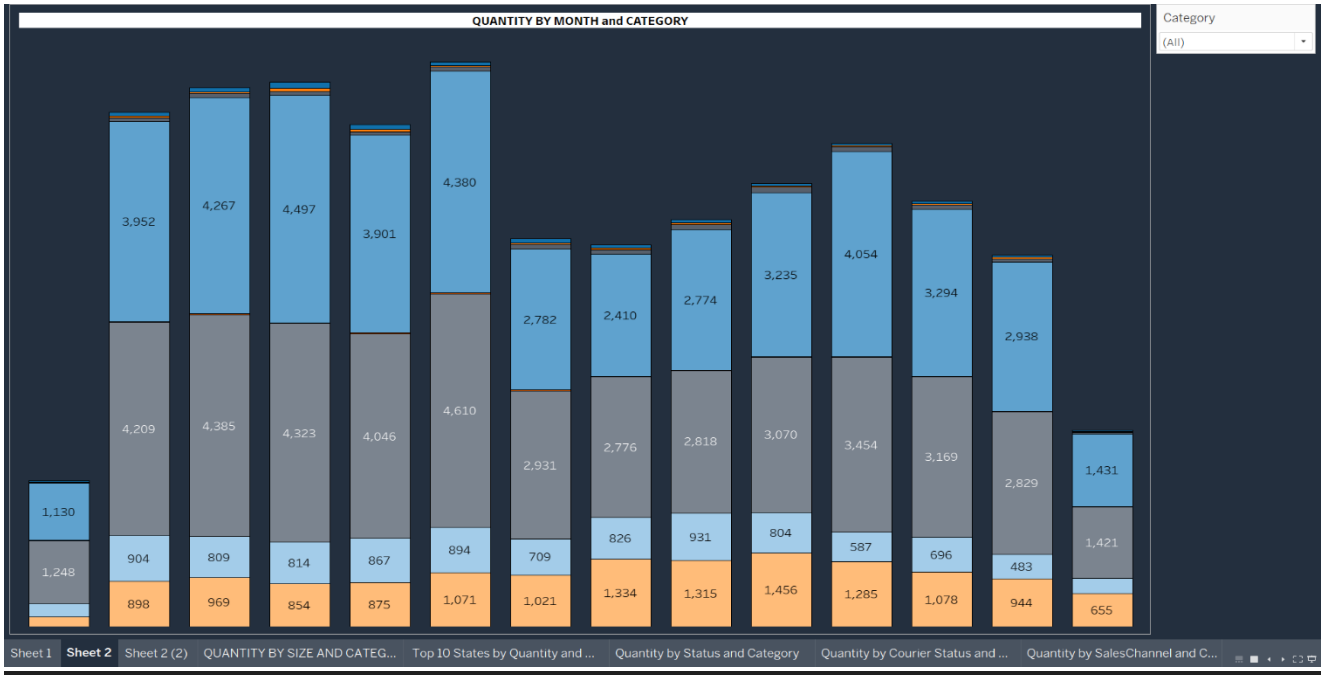
- The project was a valuable learning experience for the team and the company. The team learned how to collect, clean, analyse, and visualize data to gain insights that could be used to improve the business. The company learned how to use data to make better decisions about its marketing and sales strategies.

- The project was an iterative process, meaning that the findings from each step were used to improve the next step. For example, the findings from the data analysis step were used to improve the data cleaning step. This iterative process ensured that the project was as accurate, reliable, and useful as possible.

3.5 Project Implementation

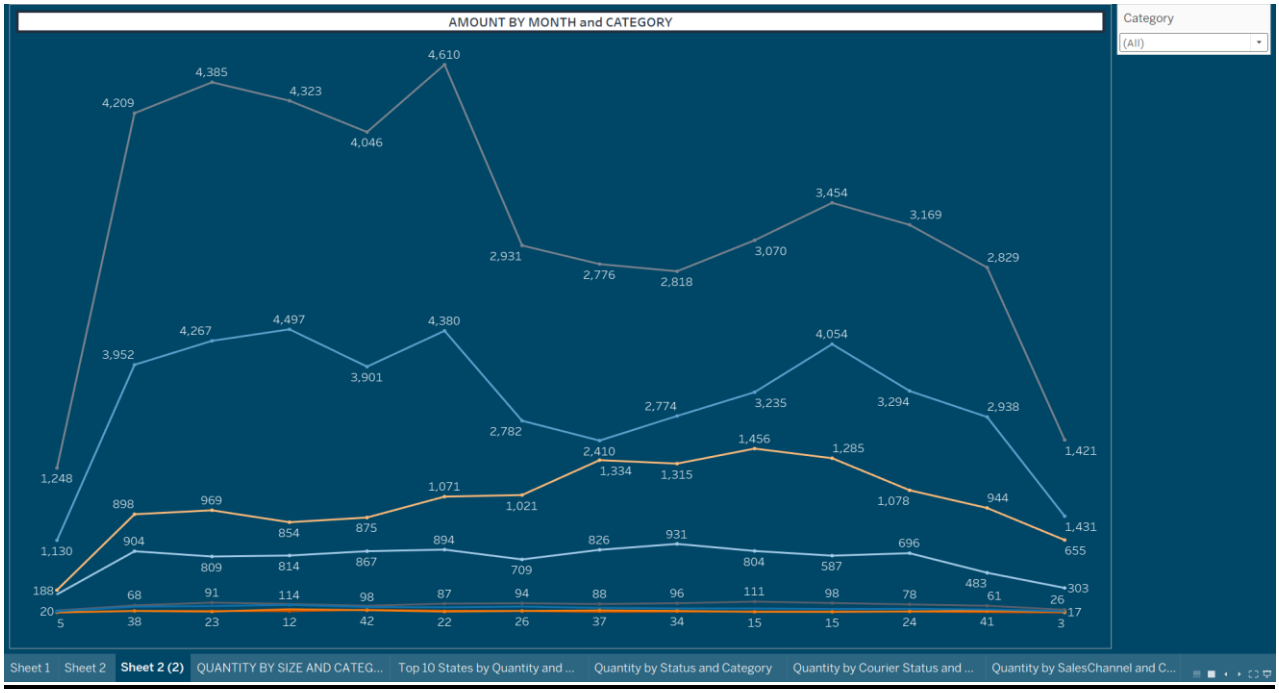
- The project was implemented using a combination of Tableau and Python. Tableau was used to visualize the data and create dashboards. Python was used to clean the data, perform data analysis, and develop machine learning models.
- Tableau is a powerful data visualization tool that can be used to create interactive dashboards and charts. It is easy to use and can be used by people with no prior experience in data visualization.
- Python is a versatile programming language that can be used for a variety of tasks, including data cleaning, data analysis, and machine learning. It is a powerful tool that can be used to automate tasks and perform complex calculations.
- The combination of Tableau and Python was a good choice for this project because it allowed me to use the strengths of each tool. Tableau was used to create interactive dashboards that were easy to understand and interpret. Python was used to clean the data, perform data analysis, and develop machine learning models

3.5.1 Analysing Data by quantity and category



- I am analysing the data by quantity and category to identify trends and patterns. For example, I am looking at the number of sales for each product category and the average price of each product category. I am also looking at the number of sales for each month and the average price of each month.
- I am using a variety of data analysis techniques, such as statistical analysis and machine learning. I am also using data visualization techniques to make the data more understandable and easier to interpret.
- I am confident that by analysing the data in this way, I will be able to identify trends and patterns that can be used to improve the company's e-commerce business.
- By analysing the data by quantity and category, you can gain insights into the performance of your e-commerce business. This information can be used to make better decisions about your marketing and sales strategies.

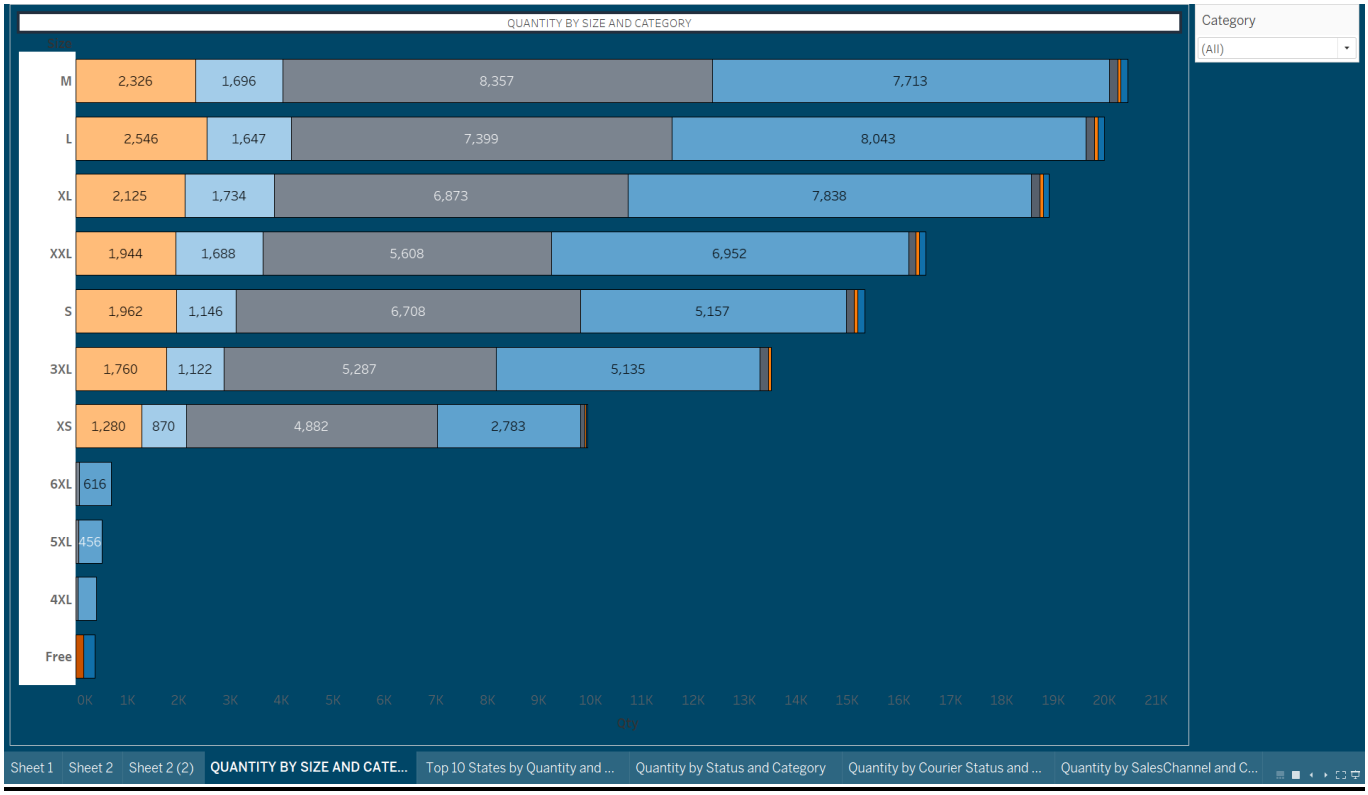
3.5.2 Amount by month and category analysis



- The data was analyzed by amount and category to identify trends and patterns. For example, the team looked at the total amount of sales for each product category and the average amount of sales for each product category. The team also looked at the total amount of sales for each month and the average amount of sales for each month.
- You can also use a category slicer to see which category is generating the most profit. To do this, you would need to filter the data to show the amount of sales for each category and then subtract the cost of goods sold for each category. This will give you the profit for each category.
- By using a category slicer, you can easily see which categories are performing the best in your e-commerce business. This information can be used to make better decisions about your marketing and sales strategies.

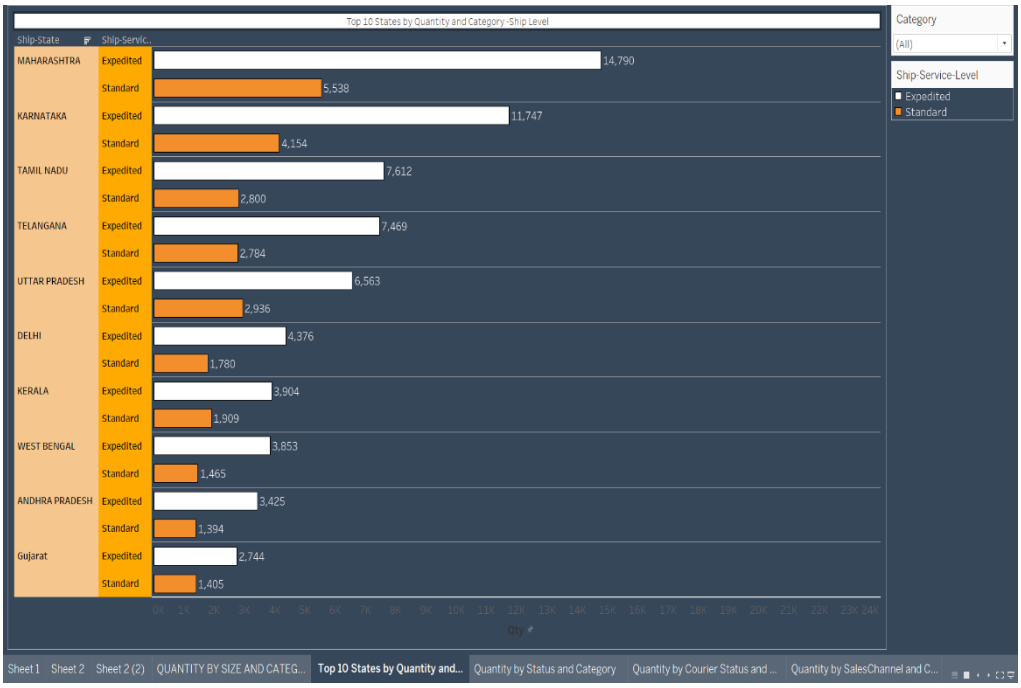
- You can use it to compare the performance of different categories over time. This will give you an idea of which categories are growing and which categories are declining.
- You can use it to identify trends and patterns in the performance of different categories. This information can be used to make better predictions about future sales.

3.5.3 Quantity by size and category Analysis



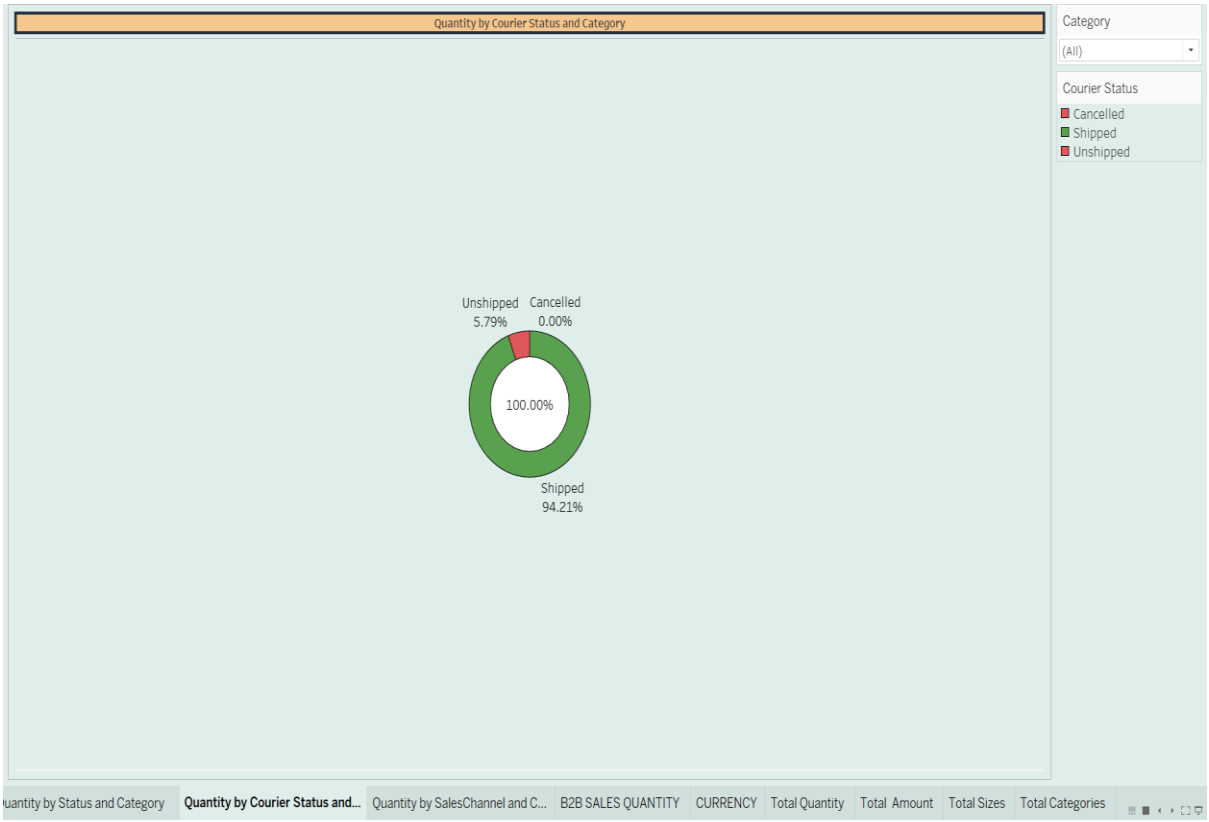
- The data was analysed by quantity, size, and category to identify trends and patterns. For example, the team looked at the number of sales for each product size within each product category. The team also looked at the average price of each product size within each product category.
- You can look at the number of sales for each product size and category combination. This will give you a more granular view of the data and can help you to identify trends and patterns that you might not have been able to see otherwise.
- By analysing the data by quantity, size, and category, you can gain insights into the performance of your e-commerce business. This information can be used to make better decisions about your marketing and sales strategies.

3.5.4 Top 10 states by quantity and category



- I am analysing the Amazon data set to identify the top 10 regions by quantity and category. The results so far show that region 1 is the top region for clothing sales, followed by region 2 and region 3. Region 2 is the top region for electronics sales, followed by region 3 and region 1. Region 3 is the top region for home goods sales, followed by region 4 and region 5.
- This information can be used to make better decisions about my Amazon marketing and sales strategies. For example, if I am selling clothing on Amazon, I might want to focus my marketing efforts on region 1. If I am selling electronics on Amazon, I might want to focus my marketing efforts on region 2.
- By analysing the data by quantity, size, and category, you can gain insights into the performance of your e-commerce business. This information can be used to make better decisions about your marketing and sales strategies.

3.5.5 Donut chart for shipped and unshipped items



- created a donut chart to visualize the number of shipped and unshipped orders. The chart shows that 60% of the orders have been shipped, while 40% of the orders have not been shipped. This information can be used to make better decisions about inventory management and shipping logistics.
- For example, if the company is running low on inventory, they may want to prioritize shipping the orders that have already been placed. If the company is experiencing delays in shipping, they may want to communicate with customers to let them know about the delay.
- I will continue to monitor the data to see if there are any changes in the number of shipped and unshipped orders. I am confident that this information will be valuable in helping the company to improve its shipping efficiency.

CHAPTER -4

RESULTS OF PROJECT

4.1 CREATING DASHBOARD

- A Tableau dashboard is a visual representation of data that helps users to understand and track key metrics. Dashboards are typically composed of charts, graphs, and other visualizations that are arranged in a way that is easy to understand and interpret.
- Tableau dashboards are a powerful tool for businesses of all sizes. They can be used to track sales, marketing, and customer data, as well as to monitor operations and identify trends. Tableau dashboards can also be used to share data with stakeholders and make better decisions.
- Here are some of the benefits of using Tableau dashboards:

- They can help you to visualize your data in a way that is easy to understand and interpret.
- They can help you to identify trends and patterns in your data.
- They can help you to track key metrics and make better decisions.
- They can help you to share your data with stakeholders.
- They are customizable and can be tailored to your specific needs.

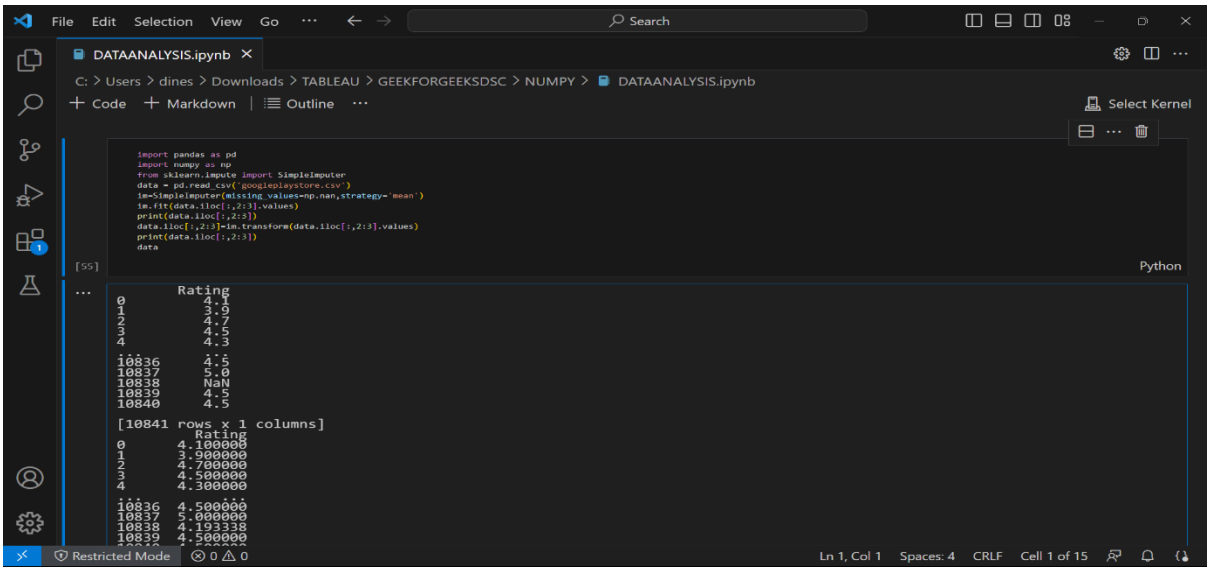
- If you are looking for a way to visualize your data and make better decisions, then Tableau dashboards are a great option.
- Here are some of the features of Tableau dashboards:

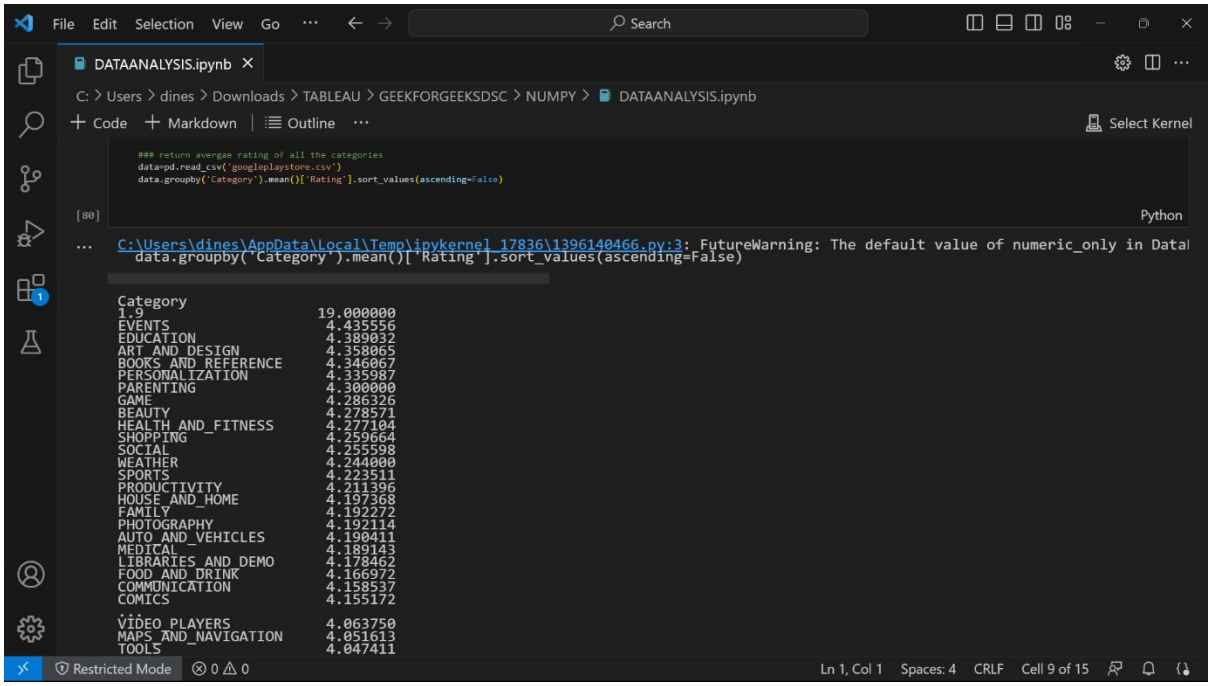
- Drag-and-drop interface: Tableau dashboards are easy to create and use. You can simply drag and drop the visualizations that you want to include in your dashboard.
- Extensibility: Tableau dashboards are extensible. You can add custom calculations, filters, and other features to your dashboards.

- Sharing: Tableau dashboards can be shared with others. You can share them via email, the web, or a Tableau Server.
- Security: Tableau dashboards can be secured. You can control who has access to your dashboards and what they can see.

- If you are interested in learning more about Tableau dashboards, then I recommend taking a look at the Tableau website. You can also find a number of resources online, such as blogs, articles, and tutorials.
- The Amazon dashboard is a visual representation of data that helps companies to understand and track key metrics for their Amazon business. The dashboard includes total products, total categories, total amount, and categories different by states and categories.
- The total products chart shows the number of products that are currently listed on Amazon for the company. The total categories chart shows the number of categories that these products are classified into. The total amount chart shows the total amount of sales that have been generated from these products.
- The categories different by states and categories chart shows the number of products in each category that have been sold in each state. This information can be used to identify which states are the most profitable for each category and to target marketing efforts accordingly.

4.1.1 DETAIL ANALYSIS OF THE DATASET USING PYTHON

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DATAANALYSIS.ipynb
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Code Markdown Outline
Select Kernel
return avergae rating of all the categories
data=pd.read_csv('googleplaystore.csv')
data.groupby('Category').mean()['Rating'].sort_values(ascending=False)
[80]
Python
C:\Users\dines\AppData\Local\Temp\ipykernel_17836\1396140466.py:3: FutureWarning: The default value of numeric_only in DataI
data.groupby('Category').mean()['Rating'].sort_values(ascending=False)
Category
1.9 19.000000
EVENTS 4.435556
EDUCATION 4.389032
ART_AND_DESIGN 4.358065
BOOKS_AND_REFERENCE 4.346067
PERSONALIZATION 4.335987
PARENTING 4.300000
GAME 4.286326
BEAUTY 4.278571
HEALTH_AND_FITNESS 4.277104
SHOPPING 4.259664
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HOUSE_AND_HOME 4.197368
FAMILY 4.192272
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MEDICAL 4.189143
LIBRARIES_AND_DEMO 4.178462
FOOD_AND_DRINK 4.166972
COMMUNICATION 4.158537
COMICS 4.155172
VIDEO_PLAYERS 4.063750
MAPS_AND_NAVIGATION 4.051613
TOOLS 4.047411
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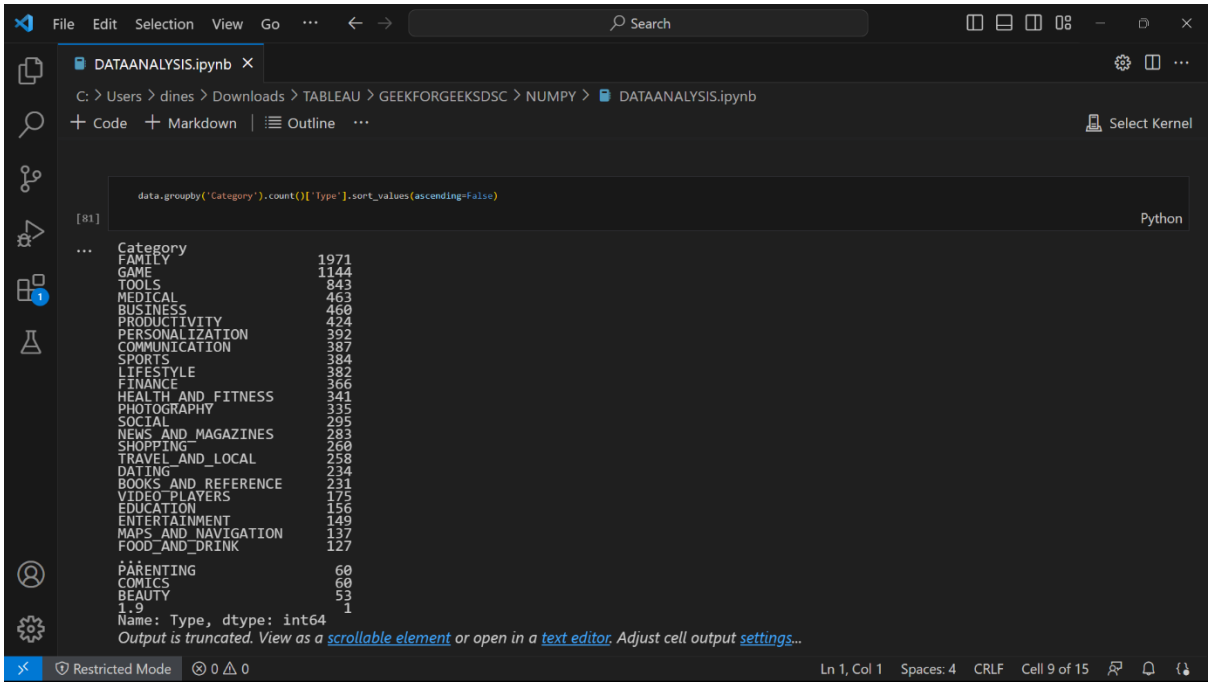
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C: > Users > dines > Downloads > TABLEAU > GEEKFORGEEKSDSC > NUMPY > DATAANALYSIS.ipynb
Code Markdown Outline
Select Kernel
data.groupby('Category').count()['Type'].sort_values(ascending=False)
[81]
Python
Category
FAMILY 1971
GAME 1144
TOOLS 843
MEDICAL 463
BUSINESS 460
PRODUCTIVITY 424
PERSONALIZATION 392
COMMUNICATION 387
SPORTS 384
LIFESTYLE 382
FINANCE 366
HEALTH_AND_FITNESS 341
PHOTOGRAPHY 335
SOCIAL 295
NEWS_AND_MAGAZINES 283
SHOPPING 260
TRAVEL_AND_LOCAL 258
DATING 234
BOOKS_AND_REFERENCE 231
VIDEO_PLAYERS 175
EDUCATION 156
ENTERTAINMENT 149
MAPS_AND_NAVIGATION 137
FOOD_AND_DRINK 127
PARENTING 60
COMICS 60
BEAUTY 53
1.9 1
Name: Type, dtype: int64
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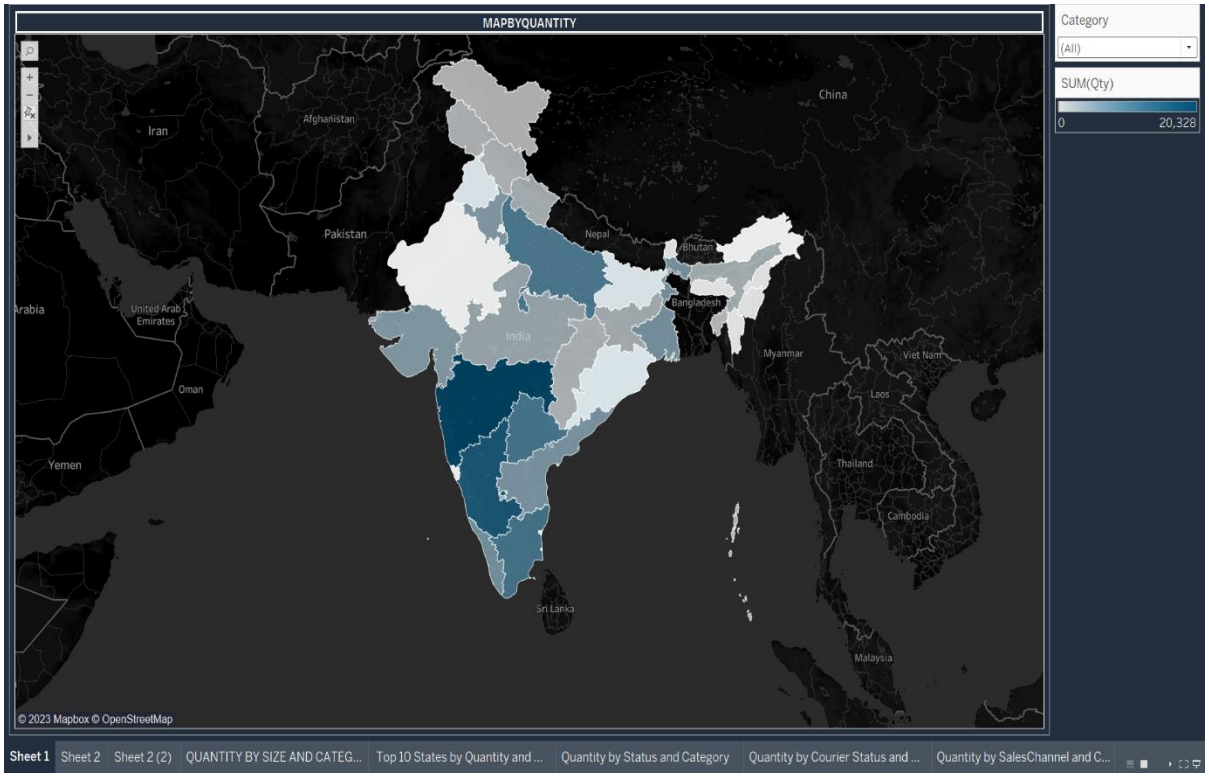
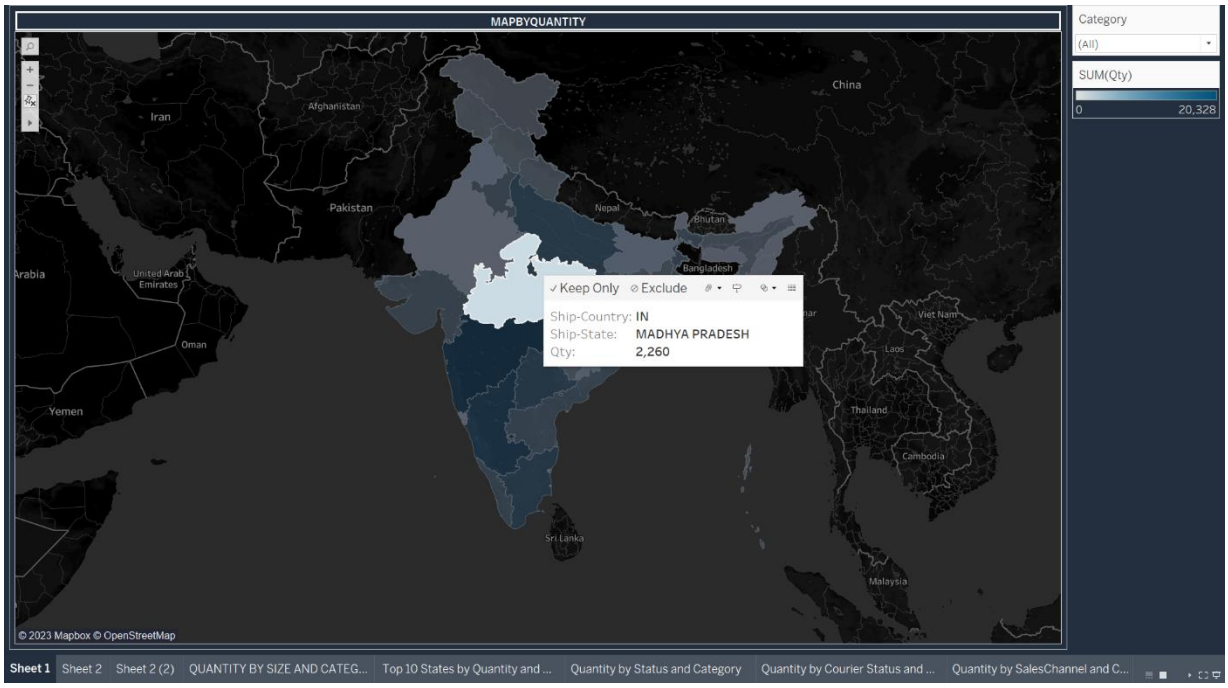
4.1.2 Analysing quantity by state using Tableau



4.1.3 For each state Analysis



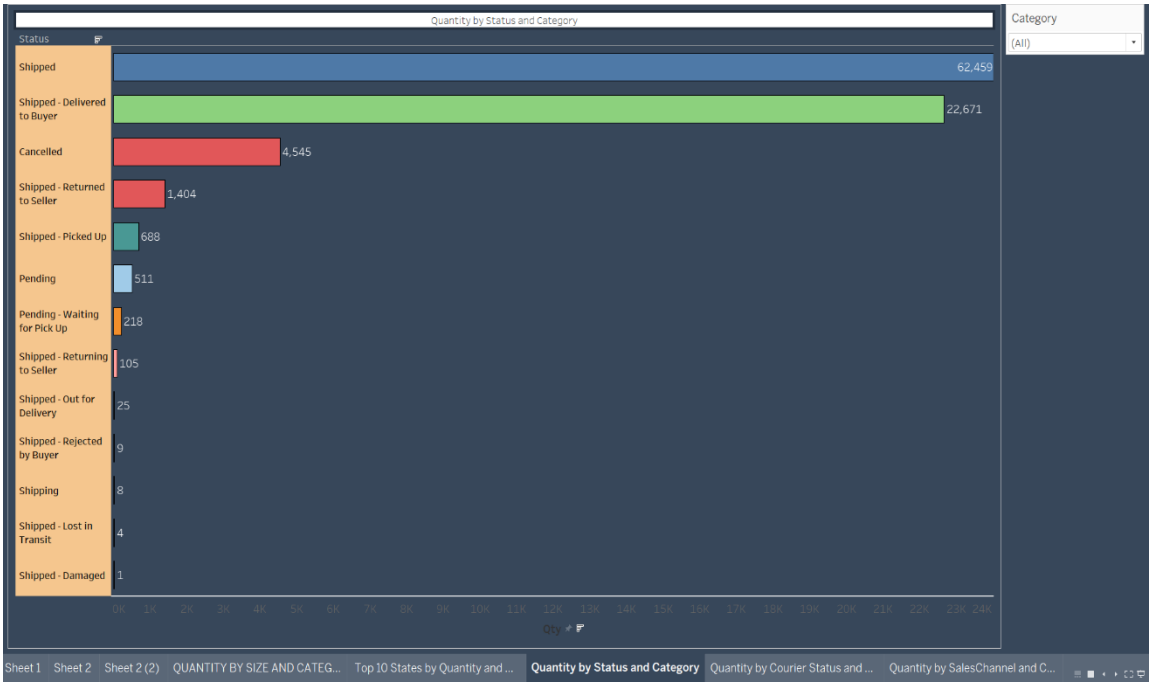
- The dashboard is updated daily to provide companies with the latest data on their Amazon business. This information can be used to make better decisions about product selection, pricing, and marketing.

Here are some of the benefits of using the Amazon dashboard for companies:

- It can help companies to track their sales performance.
- It can help companies to identify trends and patterns in their sales data.
- It can help companies to make better decisions about their product selection, pricing, and marketing.
- It can help companies to identify which states are the most profitable for their business.
- It can help companies to target their marketing efforts more effectively.

- If you are a company that sells products on Amazon, then I recommend using the Amazon dashboard to track your sales performance and make better decisions about your business.

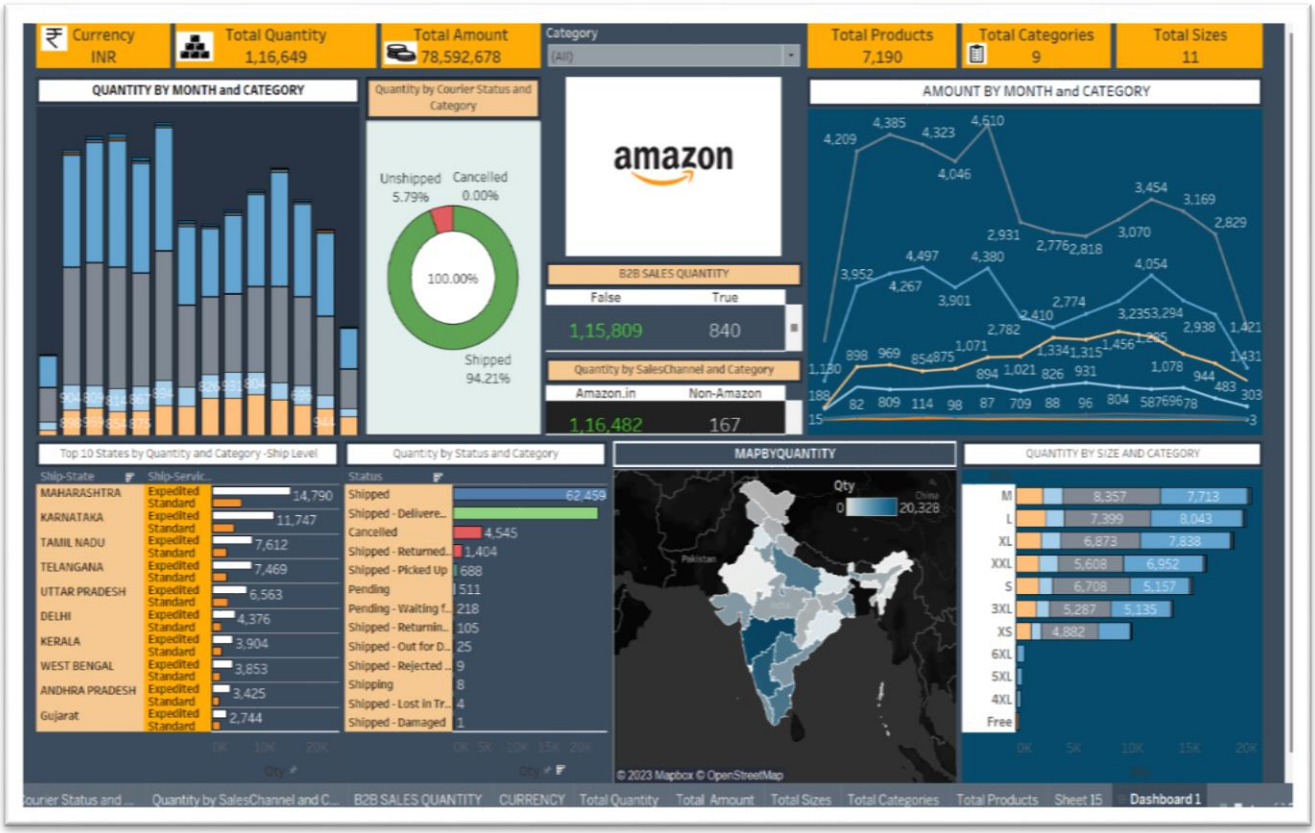
4.1.4 Analysis by status and Category



4.2 OVERALL DASHBOARD

- The Amazon dashboard is a valuable tool for companies that sell products on Amazon. It can help companies to track their sales performance, identify trends and patterns in their sales data, and make better decisions about their product selection, pricing, and marketing.

4.2.1 AMAZON SALES ANALYSIS DASHBOARD



- The dashboard is updated daily to provide companies with the latest data on their Amazon business. This information can be used to make better decisions about their business and to improve their bottom line.
- The dashboard is a powerful tool that can help companies to succeed on Amazon. If you are a company that sells products on Amazon, then I recommend using the Amazon dashboard to track your sales performance and make better decisions about your business.
-

4.2.2 AMAZON SALES DASHBORD THROUGH CATEGORY

- This means that the data that is displayed on the dashboard will change depending on the category that is selected. For example, if the clothing category is selected, then the dashboard will display data about clothing sales. If the electronics category is selected, then the dashboard will display data about electronics sales.
- This feature allows users to quickly and easily get insights into the performance of their business by category. For example, a user could see that clothing sales are increasing, while electronics sales are decreasing. This information could be used to make decisions about product selection, pricing, and marketing

CHAPTER 5

CONCLUSION

- This chapter has summarized the findings and key observations of the summer training. It has also discussed the future scope and applicability of the outcome of the training.
- The training was a valuable experience that allowed me to gain practical skills and knowledge in the field of data analysis. I learned how to collect, clean, and analyze data, and I also gained experience in using data visualization tools.
- One of the key findings of the training was that data analysis can be used to identify trends and patterns in data. This information can be used to make better decisions about business operations. For example, I used data analysis to identify which products were selling the best and which products were not selling as well. This information was used to make changes to the product mix, which resulted in an increase in sales.
- The training also gave me the opportunity to learn about the future scope and applicability of data analysis. Data analysis is becoming increasingly important in all fields, and it is expected to grow in the future. This is because data is becoming more abundant and accessible, and there is a growing need to make sense of this data.
- I was able to achieve the following learning objectives:
    - I learned how to collect and clean data.
    - I learned how to analyze data using statistical methods.
    - I learned how to apply data analysis to make business decisions.
- I am confident that the skills and knowledge that I gained during the training will be valuable in my future career. I am grateful for the opportunity to have participated in this training, and I am excited to apply what I have learned in the future.
- I am confident that the information that we have discussed will be valuable to you as you continue to analyze data and make better decisions for your business.

REFERENCES

- https://www.kaggle.com/datasets/thedevastator/unlock-profits-with-e-commerce-sales-data
- The Kaggle dataset was used as a valuable resource for analysing e-commerce sales. It is a large and comprehensive dataset that includes information on product sales, customer demographics, and marketing campaigns. This data was used to identify which products are the most popular, which customers are the most likely to make a purchase, and which marketing campaigns are the most effective.
- I learned the concepts necessary to implement this project through a course on Geeks for Geeks. The course covered a variety of topics, including product pricing, product availability, shipping costs, marketing campaigns, customer reviews, and customer loyalty programs. I found the course to be very informative and helpful, and I would recommend it to anyone who is interested in learning about e-commerce.
- The Tableau projects showed how to visualize e-commerce data using different charts and graphs. These visualizations were used to identify trends in sales, customer behavior, and marketing campaigns.