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UNIVERSITY  
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॥ ज्ञानधीनं जगत् सर्वम् ॥

School of  
**Engineering &  
Technology**

**D Y Patil University**  
**School of Engineering & Technology, Ambi, Pune**

## **A Project Report on**

**“Sales Dashboard And Analysis Using  
Power-BI”**

**Submitted in Partial Fulfillment of the Internal  
Assessment of the Degree in  
Bachelor Of Technology**

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**Under The Esteemed Guidance of  
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**Department Of Computer Engineering**

**CERTIFICATE**

This is to certify that the project work entitled “**Sales Dashboard And Analysis Using Power-BI**” being submitted by, **Vaishnavi Yadhav, Akshay Rege, Shubham Yewale and Shweta Bhosale** in the partial fulfillment for the internal assessment of the degree of Bachelor of Technology in Computer Science and Engineering in D. Y. Patil University School of Engineering and Technology.

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# ABSTRACT

This project explores data analysis through the creation of a dynamic 3D dashboard in Power BI. We leveraged Python to generate data for the past 90 days and implemented data cleaning and organization techniques. The processed data was then imported into Power BI for further analysis and visualization.

The core of the project lies in the creation of an interactive 3D dashboard. We explored the use of 3D visuals to effectively represent the data and incorporated user interaction elements to enhance user experience. This black book documents the entire process, from Python data generation to the final 3D dashboard design, providing valuable insights into data analysis techniques and Power BI functionalities.

The monitoring system consists of modular components responsible for data collection, real-time processing, storage, historical analysis, visualization, alerting, and integration with existing IT infrastructure. Leveraging scalable and distributed architectures, the system enables continuous monitoring of system metrics such as CPU utilization, memory usage, network traffic, and application response times. Real-time processing modules employ stream processing techniques and machine learning algorithms to detect anomalies, calculate aggregates, and trigger alerts for proactive intervention.

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**CHAPTER 1:**

**INTRODUCTION AND  
BACKGROUND OF  
THE INDUSTRY OR  
USER BASED  
PROBLEM**

# **CHAPTER 1:**

## **INTRODUCTION AND BACKGROUND OF THE INDUSTRY OR USER BASED PROBLEM**

In the fast-paced world of modern business, harnessing data-driven insights is paramount to success. Sales departments play a pivotal role in driving revenue and growth, making it imperative to have robust tools for monitoring, analyzing, and optimizing sales performance.

One such powerful tool is Microsoft's POWER BI, a business analytics solution that empowers organizations to visualize data and share insights across the enterprise seamlessly. Our synopsis delves into the realm of sales dashboard and analysis using POWER BI, exploring how this innovative platform revolutionizes the way businesses understand and leverage sales data.

The Sales Dashboard and Analysis project aims to leverage the capabilities of Power BI to create a comprehensive and interactive dashboard for analyzing sales data. Power BI is a powerful business intelligence tool that allows users to transform raw data into meaningful insights through data visualization, analytics, and reporting.

This solution aims to provide a concise yet powerful tool for businesses to track and understand their sales performance effectively. By integrating data from various sources such as CRM systems, sales databases, and marketing platforms, the dashboard will offer real-time insights into key sales metrics including revenue trends, customer acquisition rates, product performance, and regional sales distribution. Utilizing Power BI's interactive visualization features, users will be able to drill down into specific data points, generate custom reports, and derive actionable insights to optimize sales strategies and improve overall business performance.

### **a. Introduction to Sales Dashboard and Analysis**

Define the significance of sales analytics in today's competitive market. Highlight the challenges faced by organizations in managing and interpreting vast sales data.

### **b. Understanding POWER BI**

Provide an overview of Microsoft POWER BI and its capabilities in data visualization and analysis.

Discuss the advantages of using POWER BI for sales analytics, such as real-time data processing, interactive dashboards, and AI-driven insights.

### **c. Designing Comprehensive Sales Dashboards**

Explore the key metrics and KPIs essential for monitoring sales performance (e.g., revenue, conversion rates, customer acquisition cost).

Showcase the process of designing intuitive and actionable sales dashboards using POWER BI's drag-and-drop interface and rich visualization options.

### **d. Analyzing Sales Trends and Patterns**

Illustrate how POWER BI enables deep dive analysis into sales trends, seasonality, and customer behavior using historical and real-time data integration. Showcase the creation of dynamic reports and visualizations for identifying opportunities, detecting anomalies, and making data-driven decisions.



#### **e. Empowering Sales Teams with Insights**

Discuss the role of sales dashboards in facilitating collaboration and alignment across sales teams, management, and other stakeholders.

Highlight the benefits of using actionable insights derived from POWER BI dashboards to optimize sales strategies, target high-value opportunities, and drive revenue growth.

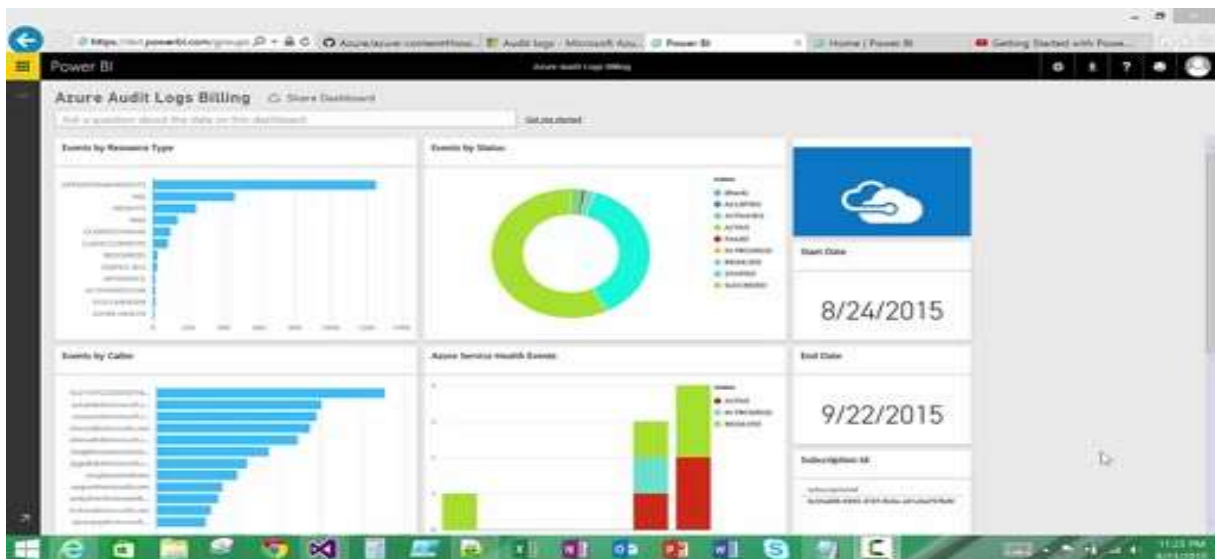
**CHAPTER 2:**  
**LITERATURE SURVEY**  
**FOR PROBLEM IDENTIFICATION**  
**AND SPECIFICATION**

## CHAPTER 2:

### LITERATURE SURVEY FOR PROBLEM IDENTIFICATION AND SPECIFICATION

#### AMAZON SALES AND ANALYSIS DASHBOARD USING POWER-BI

The project focuses on developing a sales dashboard and analysis system using POWER BI, a powerful business intelligence tool. We will use various visualization components like Bar Chart, donut pie chart, bar graphs, histograms, Area Chart, tree map, scatter plot etc. for better storytelling of our insights through the prior sales data of the organization. The goal is to provide a comprehensive platform that allows users to visualize and analyze sales data efficiently. This includes tracking sales performance metrics such as revenue, profit margins, average order value(AOV), unit economics, various business aspects and product performance over time. By leveraging POWER BI's robust analytics capabilities, the dashboard will provide insights into sales trends, customer behavior, and performance metrics, empowering stakeholders to take proactive actions and drive revenue growth.



**1. Identify Relevant Journals and Publications:** Start by identifying academic journals, industry publications, and reputable online resources that focus on sales analysis, business intelligence, and Power BI. Journals such as the Journal of Marketing Research, Harvard Business Review, and industry-specific publications like Sales Management Association could be good starting points.

**2. Search for Academic Research Papers:** Utilize academic databases like Google Scholar, IEEE

Xplore, or JSTOR to search for research papers related to sales analysis and business intelligence. Use keywords such as "sales analysis," "business intelligence," "Power BI," and combinations thereof to narrow down your search.

**3. Review Case Studies and Whitepapers:** Explore case studies and whitepapers published by companies, consulting firms, and business intelligence vendors. These resources often provide real-world examples and insights into how organizations have implemented sales analysis solutions using Power BI.

**4. Examine Books and Textbooks:** Look for books and textbooks on sales analytics, business intelligence, and Power BI. Authors like Alberto Ferrari and Marco Russo have written extensively on Power BI and data modeling, while textbooks on business analytics and data visualization may provide valuable insights into sales analysis methodologies.

**5. Scan Online Communities and Forums:** Participate in online communities and forums such as LinkedIn groups, Reddit's r/businessintelligence, or Microsoft Power BI community forums. These platforms often host discussions, Q&A sessions, and shared experiences related to sales analysis and Power BI implementation.

**6. Explore Official Documentation and Tutorials:** Visit the official documentation and tutorials provided by Microsoft for Power BI. Understanding the features, capabilities, and best practices recommended by

the software vendor can help in framing the problem statement and specifying requirements for your sales analysis project.

**7.Consider Industry Reports and Surveys:** Look for industry reports, surveys, and market research studies related to sales trends, business intelligence adoption, and the use of analytics tools like Power BI in various sectors. These reports can provide valuable insights into current challenges and emerging trends in sales analysis.

**8.Evaluate Blogs and Online Articles:** Browse through blogs, online articles, and websites of experts in the field of business intelligence and data analytics. Thought leaders and practitioners often share valuable tips, techniques, and case studies related to sales analysis and Power BI implementation.

**9.Analyze Academic Literature Review Papers:** Look for literature review papers published in academic journals or conference proceedings. These papers summarize existing research and provide a comprehensive overview of the state-of-the-art techniques and methodologies in sales analysis and business intelligence.

**10.Synthesize Findings and Identify Gaps:** After reviewing the literature, synthesize your findings to identify common themes, trends, challenges, and gaps in the existing research and practice of sales analysis with Power BI. This will help you formulate a clear problem statement and specify the requirements for your sales analysis project.

**CHAPTER 3:**

**DETAILED METHODOLOGY OF  
SOLVING THE IDENTIFIED  
PROBLEM WITH ACTION PLAN**

## **CHAPTER 3**

### **DETAILED METHODOLOGY OF SOLVING THE IDENTIFIED PROBLEM WITH ACTION PLAN**

**1. Define Objectives and Requirements:** Gather requirements from stakeholders to understand what they need from the sales dashboard. Define clear objectives for the dashboard, such as tracking sales performance, identifying trends, and forecasting.

**2. Data Collection and Preparation:** Identify all relevant data sources including sales databases, CRM systems, Excel files, etc. Extract, clean, and transform the data to ensure it's suitable for analysis. Perform data quality checks to ensure accuracy and completeness.

**3. Data Modeling:** Design a data model that structures the data for efficient analysis. Create relationships between different data tables to enable cross-filtering and drill-down capabilities.

**4. Dashboard Design:** Develop a prototype of the dashboard layout based on stakeholder requirements. Choose appropriate visuals (e.g., charts, graphs, tables) to represent the data effectively. Ensure the dashboard is user-friendly and intuitive, with interactive features for exploration.

**5. Implementing Calculations and Metrics:** Define key performance indicators (KPIs) such as total sales, sales growth, conversion rates, etc. Implement calculations and measures to derive these KPIs from the raw data.

**6. Advanced Analytics and Forecasting:** Incorporate advanced analytics techniques such as trend analysis, forecasting, and predictive modeling. Utilize Power BI's built-in features or external tools for forecasting future sales trends.

**7.Integration with Power BI Services:** Publish the dashboard to Power BI Service for sharing and collaboration. Set up data refresh schedules to ensure the dashboard stays up-to-date with the latest data.

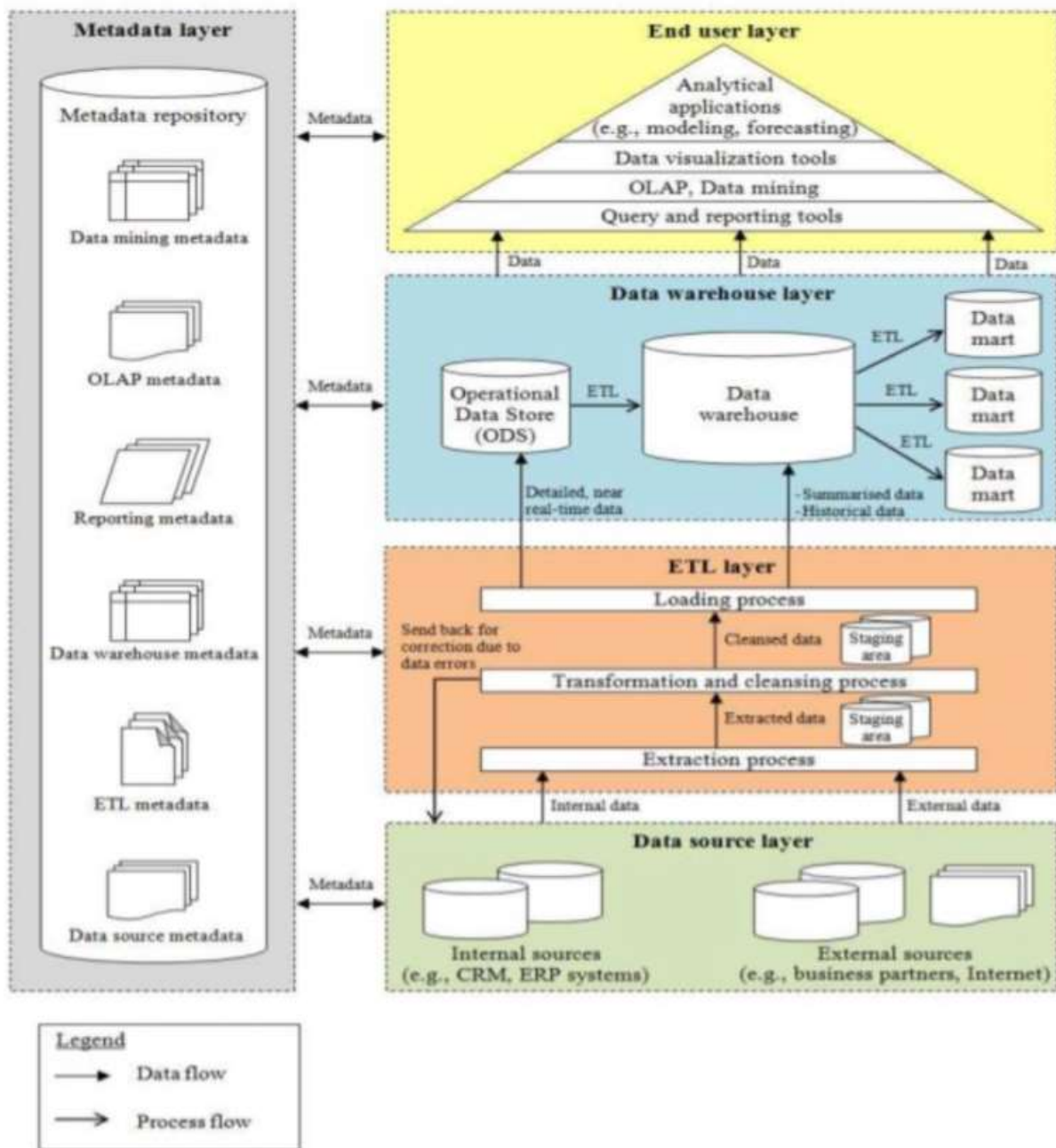
**8.User Training and Documentation:** Provide training sessions for end-users on how to interact with the dashboard and interpret the insights. Create documentation (e.g., user guides, FAQs) to support users in using the dashboard effectively.

**9.Feedback and Iteration:** Gather feedback from users and stakeholders on the dashboard's usability and effectiveness. Iterate on the design and functionality based on feedback to continuously improve the dashboard.

**10.Deployment and Maintenance:** Deploy the finalized dashboard to production environment for regular use. Establish a maintenance plan to monitor performance, address any issues, and make updates as needed.



## Action Plan:



## **CHAPTER 4: METHODOLOGY**

## **CHAPTER 4:**

### **METHODOLOGY**

for a sales dashboard and analysis using Power BI involves several key steps and considerations.

#### **1. Understand Business Requirements:**

Meet with stakeholders to understand their specific requirements for the sales dashboard and analysis. Identify key performance indicators (KPIs) such as sales revenue, profit margins, sales growth, customer acquisition rates, etc.

#### **2. Data Gathering and Preparation:**

Collect relevant sales data from various sources such as CRM systems, ERP systems, Excel files, databases, etc. Cleanse and transform the data as needed (e.g., handle missing values, remove duplicates, format data types) using Power Query Editor in Power BI.

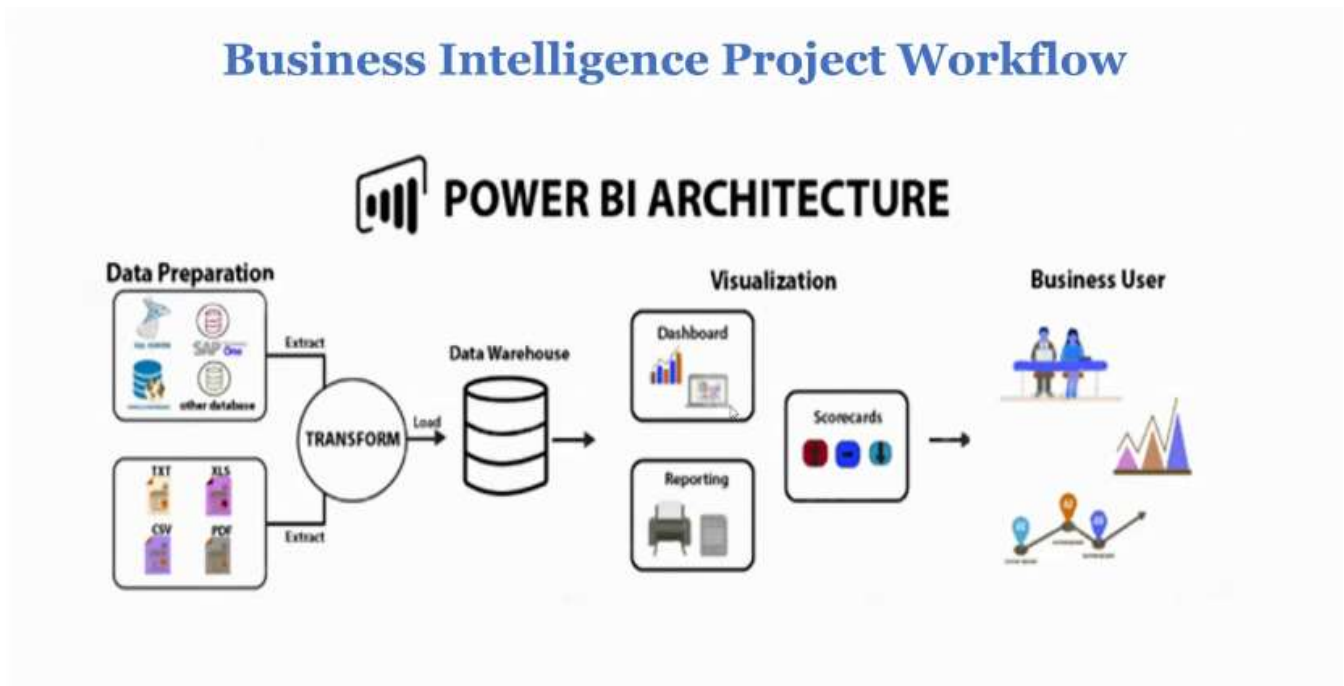
#### **3. Data Modeling:**

Design a data model that aligns with the business requirements and KPIs identified earlier. Create relationships between different tables (e.g., sales transactions, products, customers) using Power BI's Data Model view.

#### 4. Dashboard Design:

Identify the layout and design elements for the dashboard (e.g., charts, graphs, tables, KPI cards). Use Power BI Desktop to create visualizations such as bar charts, line charts, pie charts, maps, etc., based on the data model.

Working of the model:



#### 5. Implement Interactivity:

Leverage Power BI's interactive features such as slicers, filters, and drill-throughs to allow users to explore data dynamically. Use bookmarks and buttons to create a guided user experience within the dashboard.

## **6. Add Calculations and Metrics:**

Create calculated columns, measures, and DAX (Data Analysis Expressions) formulas to derive additional insights (e.g., sales growth rate, average order value, conversion rates).

## **7. Incorporate Advanced Analytics (Optional):**

Utilize Power BI's advanced analytics capabilities such as forecasting, clustering, and regression analysis to gain deeper insights into sales trends and patterns.

## **8. Data Visualization Best Practices:**

Apply best practices for data visualization such as using appropriate chart types, labeling axes clearly, using color schemes effectively, and ensuring readability and accessibility.

## **9. Testing and Validation:**

Test the dashboard with sample data to ensure that all visualizations are working as expected and providing accurate insights. Validate the dashboard with stakeholders to gather feedback and make iterative improvements.

## **10. Documentation and Training:**

Document the data sources, data transformations, data model, calculations, and dashboard design choices for future reference. Conduct training sessions or create user guides to help stakeholders and end-users understand how to interact with and interpret the dashboard effectively.

## **11. Deployment and Maintenance:**

Publish the Power BI dashboard to the Power BI Service or on-premises Power BI Report Server for sharing with stakeholders. Establish a process for regular data refreshes to ensure that the dashboard reflects up-to-date sales data. Monitor dashboard usage and performance metrics, and make necessary updates or optimizations over time.

# **CHAPTER 5: DETAILS OF DESIGN WORKING AND PROCESSES**

## **CHAPTER 5**

### **DETAILS OF DESIGNS**

### **WORKING AND PROCESSES**

#### **1.Data Visualization in: Power BI**

**Data Import Gateway:** Once your Python script generates the data file, Power BI takes center stage. You'll import this file into Power BI, making the data readily available for analysis.

**Transformation Wizardry (Optional):** While your Python script might do some initial data formatting, Power BI offers additional transformation capabilities. You can create calculated columns, filter specific data points, or perform other adjustments to optimize the data for analysis within your dashboard.

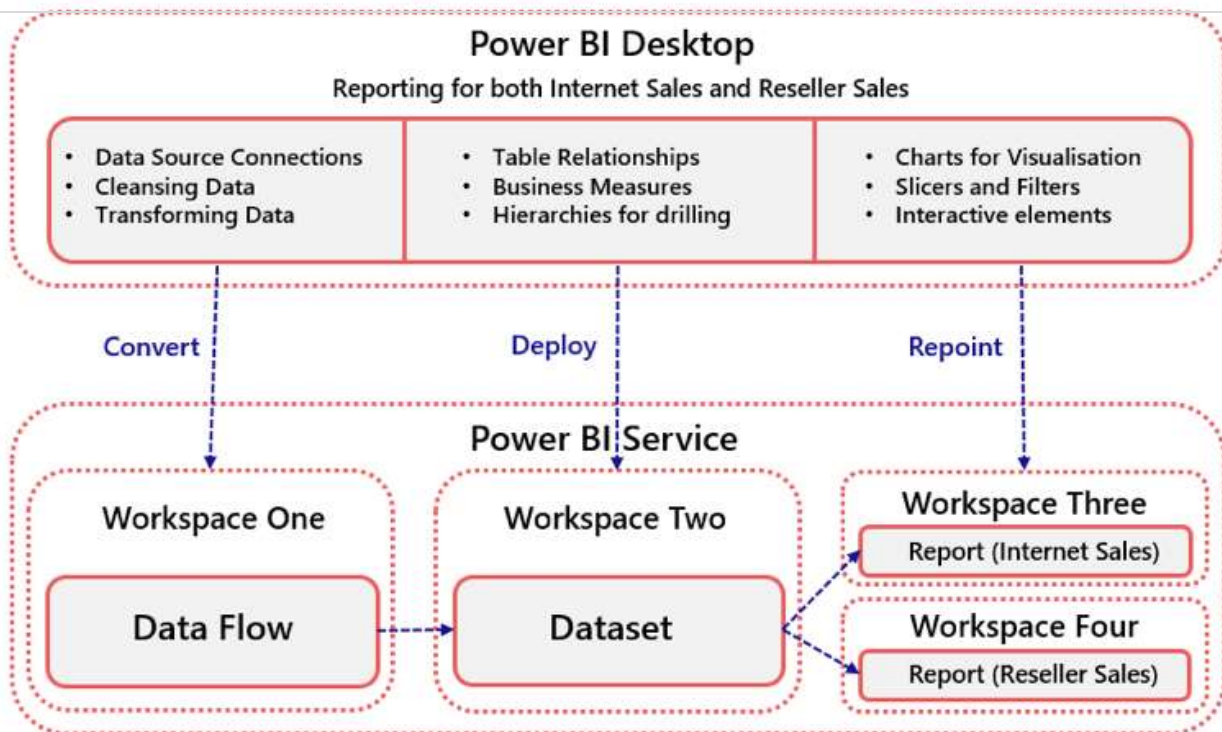
**Visualization Virtuoso:** This is where Power BI truly shines. With its extensive library of visuals (line charts, bar charts, gauges, etc.), you can choose the most effective ways to represent your data and tell the story you want to convey. Power BI empowers you to craft clear, informative, and visually appealing dashboards.



## 2.Seamless Collaboration:

**Python and Power BI as a Team:** These two tools work in harmony. Python provides the raw data, and Power BI transforms it into insightful visualizations. You'll leverage the strengths of each tool to achieve your data analysis goals.

Overall, Python acts as the data generation engine, while Power BI serves as the data analysis and visualization powerhouse. Together, they form a powerful team, allowing you to extract valuable insights from your system and present them in a clear and compelling way.



# **CHAPTER 6:**

## **RESULT AND**

## **APPLICATION**


## CHAPTER 6:

### RESULT AND APPLICATION

#### 6.1 Results:

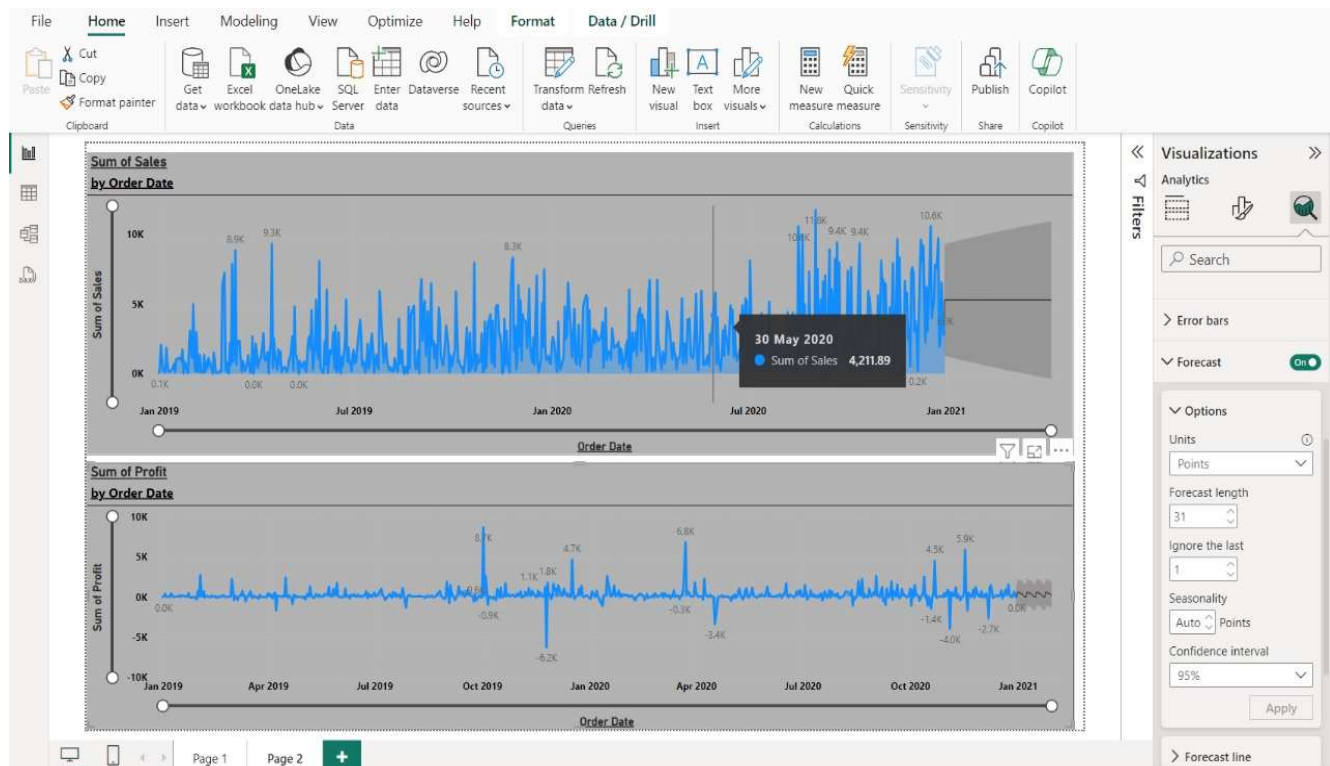
Following are the different section from project:

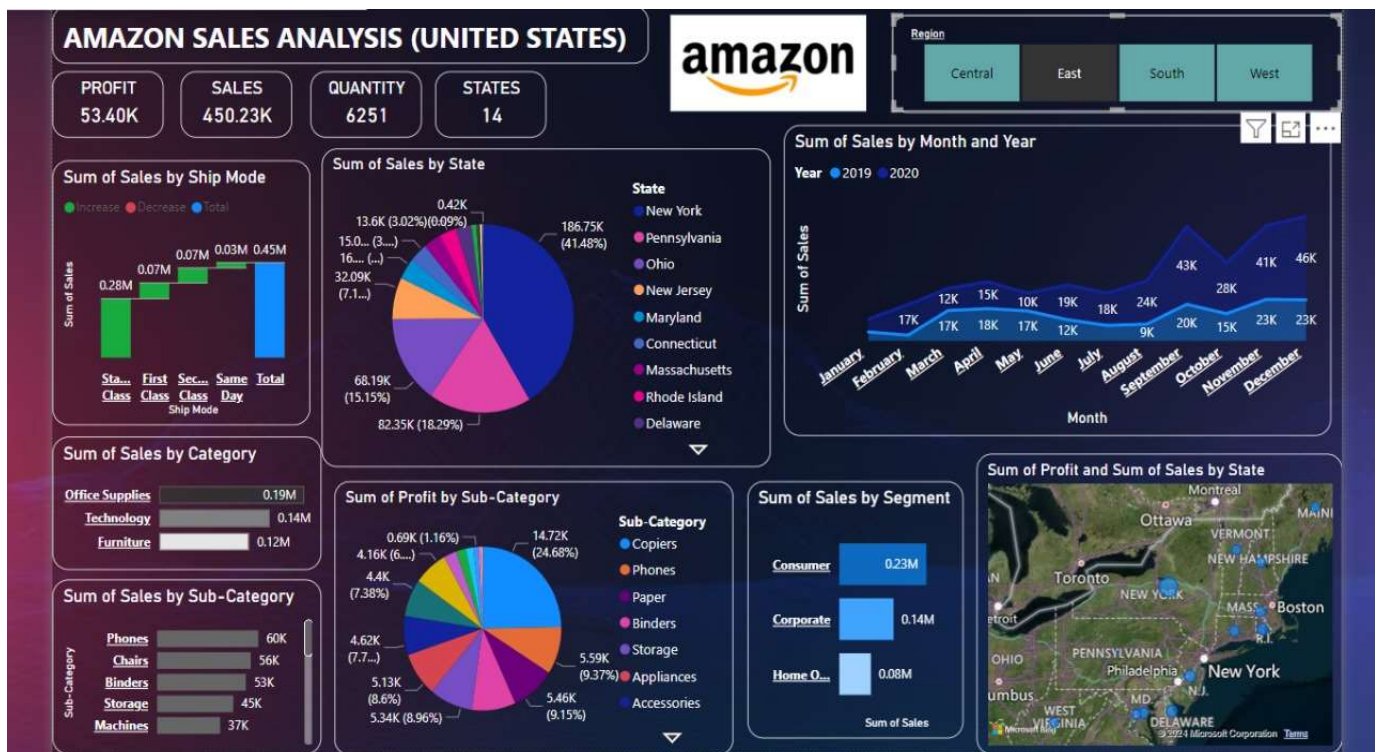
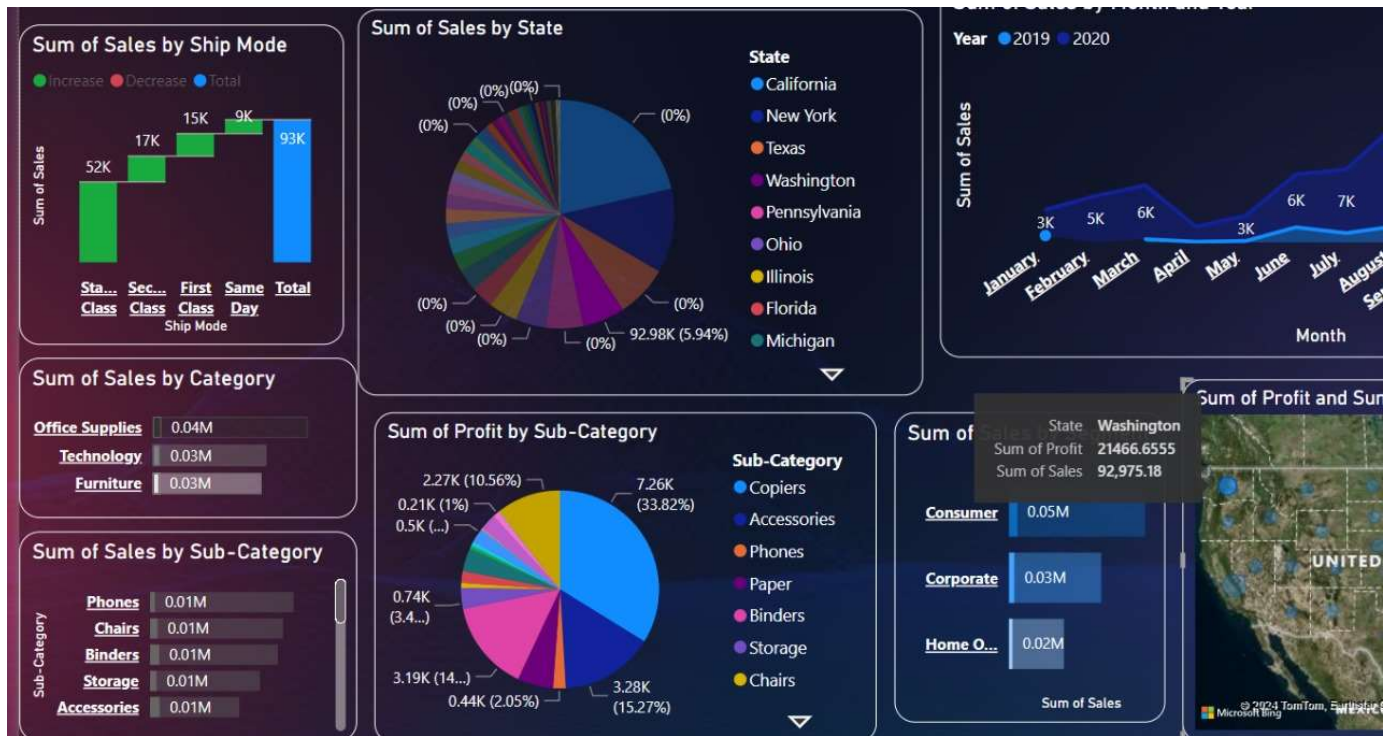
DAX Queries:



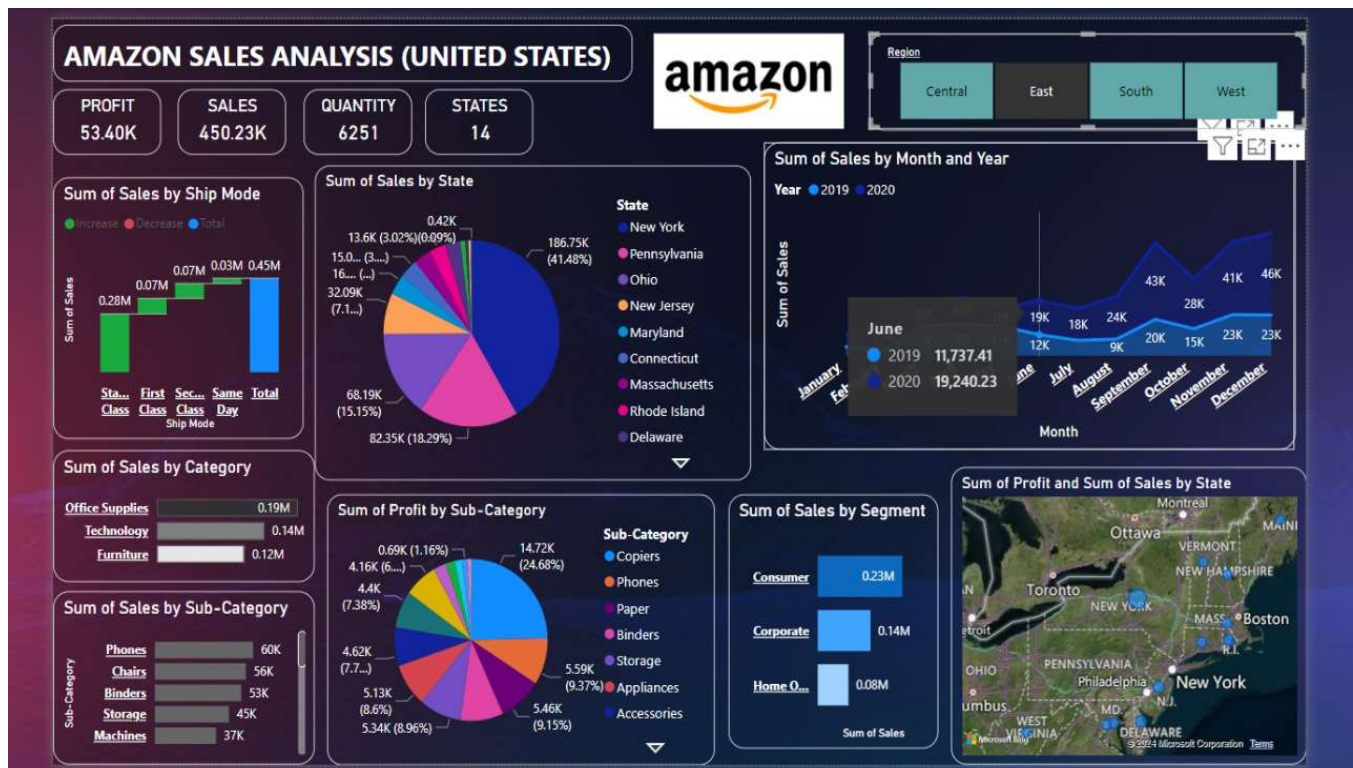
```
1 // Learn more about DAX queries at https://aka.ms/dax-queries
2
3 // Here is a sample DAX query from your model, click 'Run'
4 // Try other DAX queries by right clicking a table, column, or measure in the data pane and choosing one from 'Quick queries'
5 EVALUATE
6 AvgDelivery = DATEDIFF('SuperStore Sales'[Order Date], 'SuperStore Sales'[Ship Date], DAY)
```

prediction and forecasting of sales and profit :









## Excel Data:

Name: SuperStore_Sales_Dataset															
Structure															
Calendars															
Relationships															
Measure															
Calculations															
Data															
Order ID	Order Date	Ship Date	Ship Mode	Customer ID	Customer Name	Segment	Country	City	State	Region	Product ID	Category	Sub-Category	Quantity	Revenue
3744	CA-2019-137648	15 January 2019	21 January 2019	Standard Class	WB-21850	William Brown	Consumer	United States	New York City	New York	East	OFF-BI-10002225	Office Supplies	1	1.00
6238	US-2019-155180	22 January 2019	29 January 2019	Standard Class	TB-21280	Toby Braun	Consumer	United States	New York City	New York	East	OFF-BI-10004506	Office Supplies	1	1.00
1243	US-2019-162859	15 February 2019	22 February 2019	Standard Class	PG-18820	Patrick Gardner	Consumer	United States	New York City	New York	East	OFF-BI-10004519	Office Supplies	1	1.00
7236	CA-2019-137337	08 March 2019	12 March 2019	Standard Class	GB-14575	Giulietta Baptist	Consumer	United States	New York City	New York	East	OFF-BI-10000632	Office Supplies	1	1.00
3974	CA-2019-167556	29 March 2019	02 April 2019	Standard Class	JM-15250	Janet Martin	Consumer	United States	New York City	New York	East	OFF-BI-10003708	Office Supplies	1	1.00
3976	CA-2019-167556	29 March 2019	02 April 2019	Standard Class	JM-15250	Janet Martin	Consumer	United States	New York City	New York	East	OFF-BI-10003020	Office Supplies	1	1.00
4092	CA-2019-161473	01 April 2019	05 April 2019	Standard Class	TB-21175	Thomas Boland	Corporate	United States	New York City	New York	East	OFF-BI-10003305	Office Supplies	1	1.00
5144	CA-2019-111213	01 April 2019	05 April 2019	Standard Class	FP-14320	Frank Preis	Consumer	United States	New York City	New York	East	OFF-BI-10004140	Office Supplies	1	1.00
5440	CA-2019-167115	04 April 2019	09 April 2019	Standard Class	EH-14185	Evan Henry	Consumer	United States	New York City	New York	East	OFF-BI-10004600	Office Supplies	1	1.00
7174	CA-2019-109666	19 April 2019	26 April 2019	Standard Class	KM-16720	Kunst Miller	Consumer	United States	New York City	New York	East	OFF-BI-10000174	Office Supplies	1	1.00
1716	CA-2019-154788	30 April 2019	04 May 2019	Standard Class	JL-15835	John Lee	Consumer	United States	New York City	New York	East	OFF-BI-10003314	Office Supplies	1	1.00
9852	CA-2019-158155	02 May 2019	06 May 2019	Standard Class	EH-13765	Edward Hooks	Corporate	United States	New York City	New York	East	OFF-BI-10001670	Office Supplies	1	1.00
2180	CA-2019-128818	07 May 2019	11 May 2019	Standard Class	CJ-12010	Caroline Jumper	Consumer	United States	New York City	New York	East	OFF-BI-10000309	Office Supplies	1	1.00
4830	CA-2019-152408	15 May 2019	21 May 2019	Standard Class	TT-21220	Thomas Thornton	Consumer	United States	New York City	New York	East	OFF-BI-10002393	Office Supplies	1	1.00
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9631	CA-2019-168844	31 May 2019	06 June 2019	Standard Class	NM-18520	Necma Murray	Consumer	United States	New York City	New York	East	OFF-BI-10002909	Office Supplies	1	1.00
5226	CA-2019-119865	21 June 2019	26 June 2019	Standard Class	AS-10090	Adam Shillingsburg	Consumer	United States	New York City	New York	East	OFF-BI-10001553	Office Supplies	1	1.00
5227	CA-2019-119865	21 June 2019	26 June 2019	Standard Class	AS-10090	Adam Shillingsburg	Consumer	United States	New York City	New York	East	OFF-BI-10003007	Office Supplies	1	1.00
2154	CA-2019-117282	14 July 2019	18 July 2019	Standard Class	DR-12880	Dan Reichenbach	Corporate	United States	New York City	New York	East	OFF-BI-10004094	Office Supplies	1	1.00
9311	US-2019-102141	26 August 2019	31 August 2019	Standard Class	KD-16615	Ken Dana	Corporate	United States	New York City	New York	East	OFF-BI-10001510	Office Supplies	1	1.00
5332	CA-2019-123120	04 September 2019	08 September 2019	Standard Class	CV-12295	Christina VanderZanden	Consumer	United States	New York City	New York	East	OFF-BI-10001460	Office Supplies	1	1.00
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3371	CA-2019-111416	17 September 2019	22 September 2019	Standard Class	LW-17215	Luke Weiss	Consumer	United States	New York City	New York	East	OFF-BI-10002026	Office Supplies	1	1.00
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Table: SuperStore\_Sales\_Dataset (5,901 rows)

1 AvgDelivery = DATEDIFF('SuperStore_Sales_Dataset'[Order Date], 'SuperStore_Sales_Dataset'[Ship Date], DAY)										
Region	Product ID	Category	Sub-Category	Product Name	Sales	Quantity	Profit	Returns	Payment Mode	AvgDelivery
35st	OFF-BI-10002225	Office Supplies	Binders	Square Ring Data Binders, Rigid 75 Pt. Covers, 11" x 14-7/8"	49,536	3	17,3376	0	Cards	6
35st	OFF-BI-10004506	Office Supplies	Binders	Wilson Jones data.warehouse D-Ring Binders with DubILock	26,336	4	9,2176	0	Online	7
35st	OFF-BI-10004519	Office Supplies	Binders	GBC DocuBind P100 Manual Binding Machine	398,352	3	124,485	0	COD	7
35st	OFF-BI-10000632	Office Supplies	Binders	Satellite Sectional Post Binders	69,456	2	22,5732	0	Cards	4
35st	OFF-BI-10003708	Office Supplies	Binders	Acco Four Pocket Poly Ring Binder with Label Holder, Smoke, 11"	29,8	5	9,3125	0	COD	4
35st	OFF-BI-10000320	Office Supplies	Binders	GBC Plastic Binding Combs	41,328	7	14,9814	0	COD	4
35st	OFF-BI-10003305	Office Supplies	Binders	Avery Hanging File Binders	14,352	3	4,6644	0	COD	4
35st	OFF-BI-10004140	Office Supplies	Binders	Avery Non-Stick Binders	3,592	1	1,1225	0	COD	4
35st	OFF-BI-10004600	Office Supplies	Binders	Ibico Ibimaster 300 Manual Binding System	588,784	2	183,995	0	COD	5
35st	OFF-BI-10000174	Office Supplies	Binders	Wilson Jones Clip & Carry Folder Binder Tool for Ring Binders, Clear	9,28	2	3,248	0	COD	7
35st	OFF-BI-10003314	Office Supplies	Binders	Tuff Stuff Recycled Round Ring Binders	7,712	2	2,7956	0	Online	4
35st	OFF-BI-10001670	Office Supplies	Binders	Vinyl Sectional Post Binders	90,48	3	33,93	0	Cards	4
35st	OFF-BI-10000309	Office Supplies	Binders	GBC Twin Loop Wire Binding Elements, 9/16" Spine, Black	85,232	7	30,8966	0	Cards	4
35st	OFF-BI-10002393	Office Supplies	Binders	Binder Posts	85,232	3	4,4772	0	Cards	6
35st	OFF-BI-10002824	Office Supplies	Binders	Recycled Easel Ring Binders	47,744	4	14,92	0	Cards	5
35st	OFF-BI-10002609	Office Supplies	Binders	Avery Hidden Tab Dividers for Binding Systems	7,152	3	2,3244	0	COD	6
35st	OFF-BI-10001553	Office Supplies	Binders	SpineVue Locking Slant-D Ring Binders by Cardinal	36,56	5	12,796	0	COD	5
35st	OFF-BI-10003007	Office Supplies	Binders	Premium Transparent Presentation Covers, No Pattern/Clear, 8 1/2" x 11"	186,144	6	60,4968	0	COD	5
35st	OFF-BI-10004094	Office Supplies	Binders	GBC Standard Plastic Binding Systems Combs	14,16	2	5,133	0	COD	4
35st	OFF-BI-10001510	Office Supplies	Binders	Deluxe Heavy-Duty Vinyl Round Ring Binder	146,688	8	45,84	0	COD	5
35st	OFF-BI-10001460	Office Supplies	Binders	Plastic Binding Combs	60,6	5	20,4525	0	Online	4
35st	OFF-BI-10003650	Office Supplies	Binders	GBC DocuBind 300 Electric Binding Machine	841,568	2	294,5488	0	Online	5
35st	OFF-BI-10002026	Office Supplies	Binders	Avery Arch Ring Binders	232,4	5	78,435	0	Online	5
35st	OFF-BI-10004654	Office Supplies	Binders	Avery Binding System Hidden Tab Executive Style Index Sets	4,616	1	1,731	0	Online	5
35st	OFF-BI-10002949	Office Supplies	Binders	Prestige Round Ring Binders	9,728	2	3,2832	0	COD	4
35st	OFF-BI-10004817	Office Supplies	Binders	GBC Personal VeloBind Strips	28,752	3	10,0632	0	Cards	4
35st	OFF-BI-10001191	Office Supplies	Binders	Canvas Sectional Post Binders	20,368	1	7,3834	0	Online	4

## Applications

- **Data Import:** Explain how you imported the cleaned Excel file containing the Python-generated data into Power BI.
- **Data Transformation (Optional):** If any additional data transformations were done within Power BI (e.g., creating calculated columns), mention them here.
- **Visual Selection:** Briefly describe the types of visuals chosen for the dashboard (bar charts, line charts, etc.) and the rationale behind your selection.
- **Dashboard Design:** Concisely explain how you structured the dashboard layout, incorporating the chosen visuals and any interactive elements (filters, slicers).

# **CHAPTER 7: CONCLUSION AND FUTURE SCOPE**

## **CHAPTER 7**

### **CONCLUSION AND FUTURE SCOPE**

#### **7.1 Conclusion:**

In conclusion, this project has empowered you to unveil the secrets of your system through the combined efforts of Python and Power BI. We've meticulously planned, coded, tested, and visualized your data, transforming raw numbers into a clear and informative dashboard. By leveraging big data generation and Power BI's analysis and visualization strengths, you've gained valuable insights into your system's performance. This newfound knowledge equips you to make informed decisions, optimize resource allocation, and potentially identify areas for improvement. This project is just the beginning; you can delve deeper by expanding data analysis, refining visualizations, or even automating data generation. With Python and Power BI at your side, the world of data-driven exploration awaits!

#### **7.2 Future Scope:**

**Expanding the Data Landscape:** Incorporate additional data points beyond CPU usage and temperatures. You could explore network traffic, memory utilization, or even application-specific metrics for a more holistic understanding of system performance.



Advanced Data Analysis: Move beyond basic visualizations and delve into more sophisticated data analysis techniques. Power BI integrates with services like Azure Machine Learning, allowing you to explore predictive analytics or anomaly detection to proactively identify potential issues.

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Real-time Monitoring: Instead of periodic data generation, configure your Python script to run continuously. This enables real-time data streaming into Power BI, providing up-to-the-minute insights into system health.

Web-based Dashboard Sharing: Publish your Power BI dashboard to a web platform, allowing authorized users to access it from anywhere with an internet connection. This fosters real-time collaboration and broader knowledge sharing.

Automating Actions: Integrate your project with automation tools. Based on insights from the Power BI dashboard, you could trigger automated actions (e.g., system alerts, fan speed adjustments) to maintain optimal system performance.

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## **CHAPTER 8: REFERENCES**

## CHAPTER 8:

### REFERENCES

1. <https://community.fabric..microsoft.com/t5/Desktop/Best-book-to-learn-Power-BI-Power-Query-and-Dax-book-for-expert/td-p/3550312>
2. [https://www.reddit.com/r/PowerBI/comments/12wcjxd/what\\_power\\_bi\\_books\\_would\\_you\\_recommend/?rdt=65106](https://www.reddit.com/r/PowerBI/comments/12wcjxd/what_power_bi_books_would_you_recommend/?rdt=65106)
3. "Data Visualization for Business: A Handbook for Data Driven Design" by Jared L. Decker (This book provides a comprehensive guide to creating effective data visualizations, including sales dashboards, using various tools and techniques.)
4. "Sales Analytics: The Science of Winning" by Cesar Brea (This book focuses on using analytics to drive sales performance and covers topics such as data collection, analysis, and visualization in a sales context.)
5. "Dashboarding and Reporting with Power BI: How to Design and Create a Financial Dashboard with Power BI" by Ratnesh Shah (This book specifically focuses on using Microsoft Power BI to create impactful dashboards for financial and sales analysis. )
6. "Sales Management. Simplified.: The Straight Truth About Getting Exceptional Results from Your Sales Team" by Mike Weinberg (While not specifically focused on data analysis or dashboards, this book offers valuable insights into sales management strategies that can complement your data-driven approach.)

"Data Visualization for Business: A Handbook for Data Driven Design" by Jared L. Decker (This book provides a comprehensive guide to creating effective data visualizations, including sales dashboards, using various tools and techniques.)