

E-COMMERCE SALES ANALYSIS

A Project Report for Industrial Training and Internship

submitted by

ANKIT RAI

In the partial fulfillment of the award of the degree of

BBA

in the

Business Administration

Bengal College Of Engineering and Technology



At

Ardent Computech Pvt. Ltd.





CERTIFICATE FROM SUPERVISOR

This is to certify that **Ankit Rai, 223242010008 Of 2022-2023** have completed the project titled "**E-Commerce Sales Analysis**" under my supervision during the period from 10th July,2024 to 20th August,2024 which is in partial fulfillment of requirements for the award of the **BBA** degree and submitted to the Department of "**Business Administration**" of "**Bengal College Of Engineering and Technology**".

Signature of the Supervisor

Date:

Name of the Project Supervisor : Lokenath Podder





BONAFIDE CERTIFICATE

Certified that this project work was carried out under my supervision

“E-Commerce Sales Analysis” is the bonafide work of

Name of the student: Ankit Rai

Signature:

SIGNATURE

Name : **Mr. LOKENATH PODDER**

PROJECT MENTOR

SIGNATURE

Name:

EXAMINER

Ardent Original Seal



ACKNOWLEDGEMENT

The achievement that is associated with the successful completion of any task would be incomplete without mentioning the names of those people whose endless cooperation made it possible. Their constant guidance and encouragement made all our efforts successful.

We take this opportunity to express our deep gratitude towards our project mentor, **Mr. LOKENATH PODDER** for giving such valuable suggestions, guidance and encouragement during the development of this project work.

Last but not the least we are grateful to all the faculty members of **Ardent Computech Pvt. Ltd.** for their support.

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ABSTRACT OF THE PROJECT

This project involves the creation of an interactive Power BI report for an e-commerce company, providing key business insights. The report includes a comprehensive dashboard displaying total orders, total quantity, total profit, and total sales through cards which are the key performance indicators (KPIs) of the report. Visualizations include a line chart showing sales by year, a stacked bar chart of profit and loss by sub-category. Additional insights are provided through pie charts for distribution of quantity by sub-category and cost of shipping by every ship mode., a donut chart for sales by customer segment. And also include slicer which contains region and quarters.

INTRODUCTION

This project involves creating a comprehensive Power BI report for an e-commerce company. The report will provide insights into key business metrics, including sales performance, customer behavior, and inventory management. By leveraging Power BI's dynamic visualization tools, the report will enable the company to monitor real-time data, identify trends, and make data-driven decisions to optimize operations and enhance profitability. The ultimate goal is to empower stakeholders with actionable insights for strategic planning and growth.

IMPLEMENTATION

➤ PROBLEM DEFINITION AND FEASIBILITY STUDY

Row ID	Order ID	Order Date	Order Priority	Order Quantity	Detail	Discount	Ship Mode	Profit	Unit Price	Shipping Cost	Customer Name
1151	8019	Thursday, September 25, 2011	Urgent	36	123.9	0.7	Regular Air	-85.92	3.45	1.05	Neuro Herman
1228	8889	Thursday, May 11, 2011	High	42	285.91	0.07	Regular Air	-171.29	6.81	0.19	Gelsa Page
1281	12048	Thursday, November 11, 2012	Low	46	285.34	0.09	Regular Air	-140.01	6.20	0.09	Chrys Chermiel
1281	14602	Sunday, August 5, 2012	Medium	18	128.21	0.07	Regular Air	-22.33	7.13	0.07	Royce Stone
1878	27546	Sunday, January 16, 2011	Urgent	16	112.01	0.07	Regular Air	-48.28	6.95	0.47	Deloris Capistrano
1845	38846	Monday, July 9, 2012	High	36	193.07	0.07	Regular Air	-148.46	5.34	0.09	Elmya Rothberg
1981	10710	Monday, January 11, 2011	Low	18	139.07	0.09	Regular Air	-77.38	7.70	0.09	Willy Salazar
6811	54887	Wednesday, September 14, 2009	High	46	236.38	0.06	Regular Air	-121.61	5.12	0.14	Phyllis Brown
1046	13802	Thursday, December 16, 2009	Not Specified	42	232.18	0.7	Regular Air	-112.07	5.55	0.23	Conita Salmeron
8886	18101	Friday, July 6, 2012	Low	36	222.01	0.06	Regular Air	-88.00	6.17	0.14	Janet Galt
1073	25470	Sunday, April 9, 2011	Urgent	46	200.86	0.06	Regular Air	-141.68	4.36	0.09	Laura Capistrano
4111	20202	Thursday, August 9, 2009	Low	6	18.81	0.07	Regular Air	-11.61	3.14	0.19	Jeffery Velez
1047	40201	Thursday, November 18, 2011	Low	12	174.70	0.06	Regular Air	-22.02	14.56	0.07	Sally Anderson
1871	24217	Sunday, December 6, 2009	High	26	131.01	0.7	Regular Air	-28.31	5.05	0.19	Terrie Sanchez
4046	20888	Wednesday, April 3, 2012	High	30	209.49	0.07	Regular Air	-182.3	7.01	0.09	Wanda Armstrong
4301	48102	Friday, November 6, 2012	High	38	188.44	0.07	Regular Air	-147.27	4.95	0.09	Elaine Salmeron
1834	52116	Sunday, December 4, 2011	High	36	168.11	0.06	Regular Air	-141.04	4.58	0.23	Ray Garcia
51	60	Sunday, March 16, 2012	Urgent	46	181.1	0.1	Regular Air	-84.08	3.93	0.09	Quentin Newman
188	1799	Friday, March 6, 2009	Not Specified	16	108.11	0.07	Regular Air	-52.57	6.75	0.09	Tracy Schmidt
1401	38818	Sunday, August 24, 2011	Urgent	30	101.30	0.06	Regular Air	-107.33	3.40	0.09	Mike Vincent
1238	14471	Thursday, May 16, 2011	Not Specified	42	286.73	0.07	Regular Air	-141.07	6.95	0.09	Nadine Hernandez
1044	24716	Sunday, May 14, 2012	Medium	40	133.89	0.09	Regular Air	-113.07	3.40	0.23	Quentin Newman
1044	24716	Sunday, May 14, 2012	Medium	38	117.9	0.07	Regular Air	-88.01	3.08	0.09	Quentin Newman
5882	20488	Sunday, October 4, 2011	Medium	30	179.83	0.07	Regular Air	-127.37	5.99	0.14	Lucas Webb
1182	48801	Sunday, July 1, 2012	Not Specified	30	109.16	0.07	Regular Air	-88.51	3.63	0.23	David Rowe

Region	Customer Segment	Product Category	Product Sub-Category	Product Name	Product Quantity	Product Price Range	Ship Date
Midwest	Small Business	Office Supplies	Paper	Item 128	Small Box	0.07	Friday, September 30, 2011
Northwest Territory	Corporate	Office Supplies	Paper	Item 127	Small Box	0.07	Wednesday, May 9, 2011
Northwest Territory	Corporate	Office Supplies	Paper	Item 124	Small Box	0.07	Monday, November 23, 2012
Northwest Territory	Corporate	Office Supplies	Paper	Item 121	Small Box	0.07	Thursday, August 7, 2012
Northwest Territory	Small Business	Office Supplies	Paper	Item 121	Small Box	0.07	Wednesday, January 27, 2010
Midwest	Corporate	Office Supplies	Paper	Item 1603	Small Box	0.07	Monday, July 16, 2012
Midwest	Corporate	Office Supplies	Paper	Item 122	Small Box	0.07	Sunday, January 19, 2011
Midwest	Home Office	Office Supplies	Paper	Item 1688	Small Box	0.07	Thursday, September 17, 2009
West	Small Business	Office Supplies	Paper	Item 1679	Small Box	0.07	Thursday, December 16, 2009
West	Corporate	Office Supplies	Paper	Item 1698	Small Box	0.07	Sunday, July 19, 2010
West	Home Office	Office Supplies	Paper	Item 120	Small Box	0.07	Sunday, April 4, 2009
West	Small Business	Office Supplies	Paper	Item 1693	Small Box	0.07	Monday, August 14, 2009
West	Corporate	Office Supplies	Paper	Item 128	Small Box	0.07	Thursday, November 24, 2011
West	Small Business	Office Supplies	Paper	Item 1693	Small Box	0.07	Monday, December 7, 2009
West	Small Business	Office Supplies	Paper	Item 127	Small Box	0.07	Friday, April 6, 2012
West	Small Business	Office Supplies	Paper	Item 1693	Small Box	0.07	Sunday, November 2, 2012
West	Corporate	Office Supplies	Paper	Item 127	Small Box	0.07	Friday, December 7, 2012
West	Corporate	Office Supplies	Paper	Item 1697	Small Box	0.07	Sunday, March 25, 2012
West	Small Business	Office Supplies	Paper	Item 248	Small Box	0.07	Sunday, March 2, 2009
West	Small Business	Office Supplies	Paper	Item 1693	Small Box	0.07	Thursday, August 26, 2010
West	Corporate	Office Supplies	Paper	Item 120	Small Box	0.07	Sunday, May 12, 2011
West	Home Office	Office Supplies	Paper	Item 1694	Small Box	0.07	Sunday, May 12, 2012
West	Customer	Office Supplies	Paper	Item 1694	Small Box	0.07	Monday, October 15, 2011

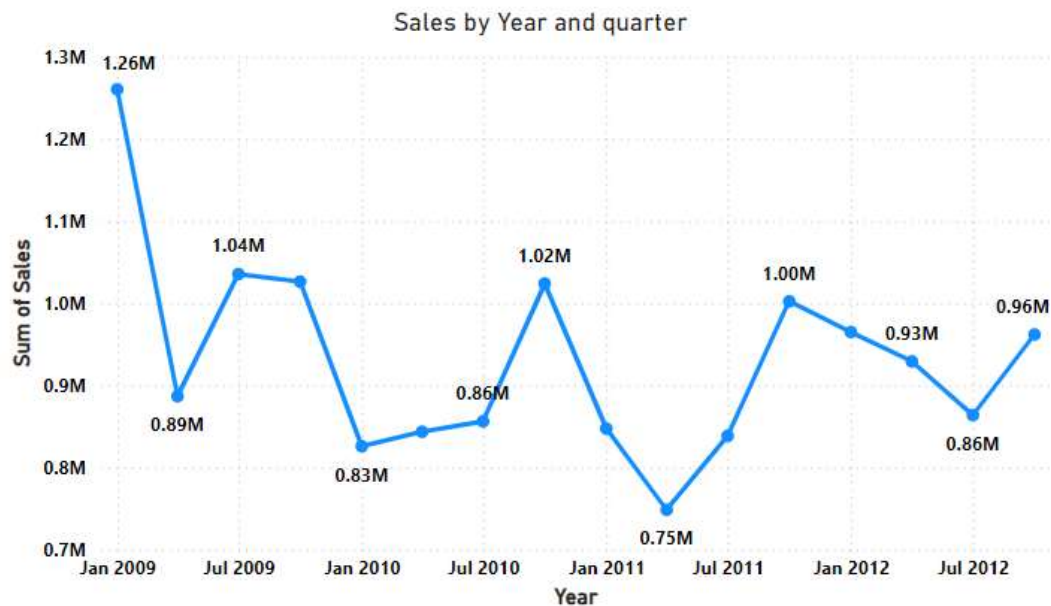
- ❖ Show Total Orders, Total Quantity, Total Profit and Total Sales.
- ❖ Show Sales by year & Quarter.
- ❖ Show Shipping cost by ship mode.
- ❖ Show Profit and Loss by Sub-category
- ❖ Show Distribution of quantity by Sub-Category
- ❖ Show Sales by Customer Segment.

➤ RESULT

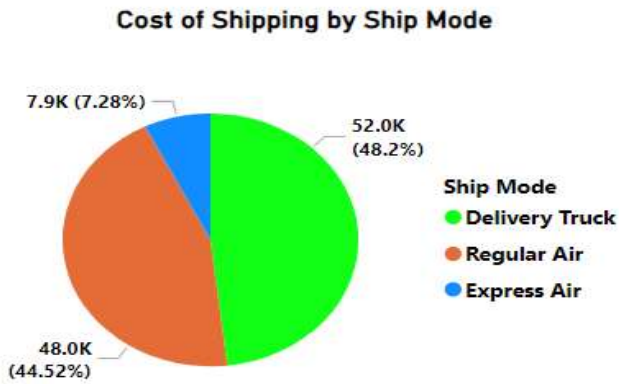
❖ Total Orders, Total Quantity, Total Profit and Total Sales - Card



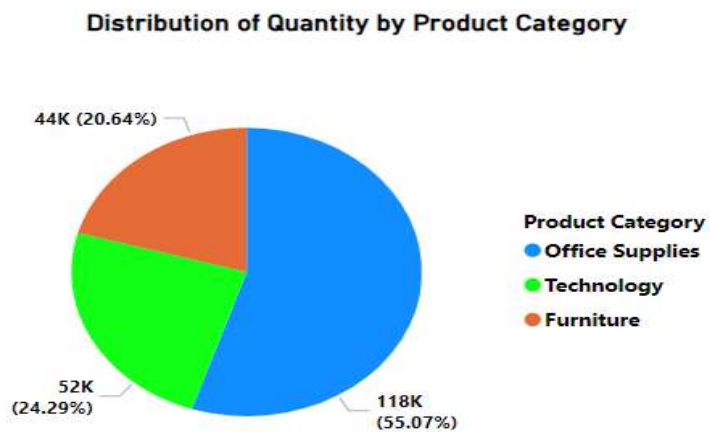
❖ Sales by Year and Quarter – Line Chart



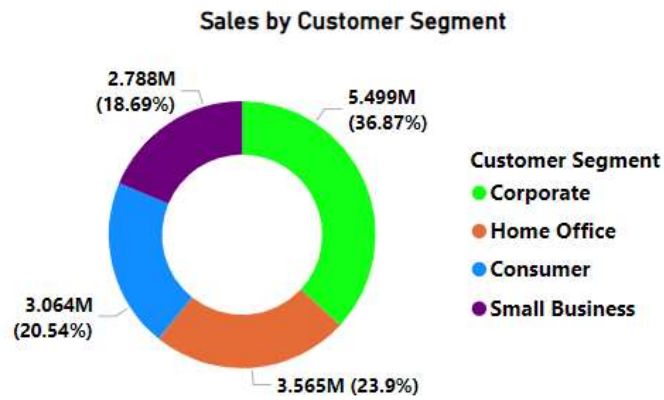
❖ Cost of shipping by ship mode – Pie Chart



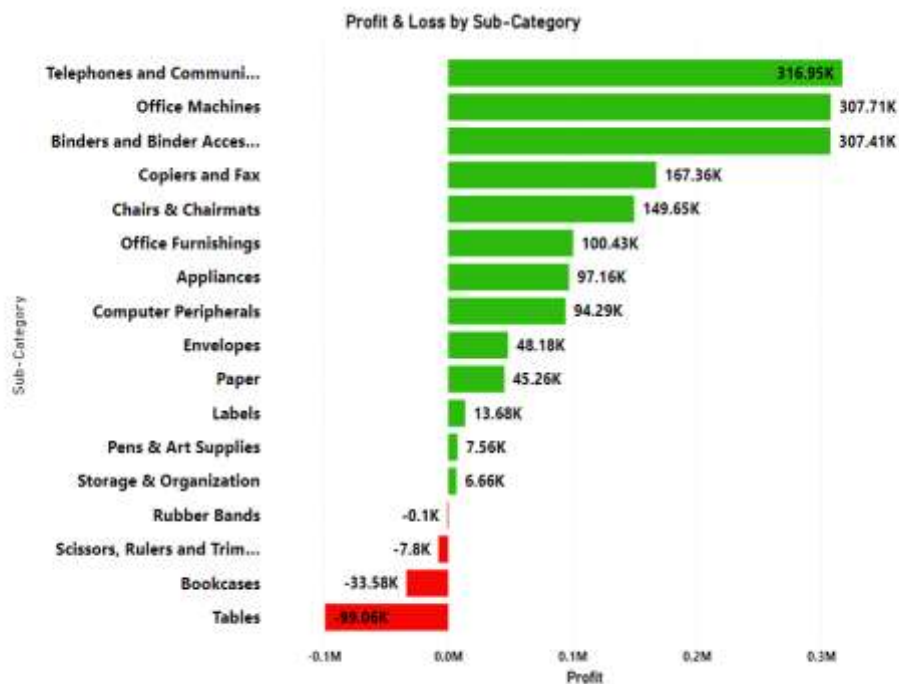
❖ Distribution of quantity by Product Category – Pie Chart



❖ Sales by Customer Segment – Donut Chart



❖ Profit and Loss by Sub-Category – Stacked Bar Chart



❖ FINAL DASHBOARD



LIMITATION OF POWER BI

- 1) Power BI Pro has a maximum dataset size limit of 1 GB, while Power BI Premium allows up to 400 GB. However, handling large datasets in Power BI can still lead to performance issues.
- 2) When working with complex data models or performing advanced calculations, Power BI can become slow and unresponsive, especially if the data isn't optimized or if the hardware isn't powerful enough.
- 3) While Power BI offers a wide range of visuals, the customization options are somewhat limited compared to tools like Tableau or custom-built dashboards. Creating highly customized visuals often requires third-party add-ons or extensive knowledge of DAX and Power Query.
- 4) Power BI has some limitations in terms of report layout customization. Users might find it challenging to create highly tailored or pixel-perfect reports.
- 5) Power BI has a complex pricing model. While Power BI Desktop is free, publishing and sharing reports typically require a Power BI Pro license. For large organizations, the costs can add up, especially if Premium capacity is needed.
- 6) Although Power BI offers various security features, managing data governance, security, and compliance across an organization can be complex, especially when dealing with sensitive data or needing to comply with specific regulatory requirements.

APPLICATIONS OF POWER BI

- 1) Power BI allows users to create interactive dashboards with real-time data, which can be shared across the organization. Users can create custom charts and graphs to visualize complex data in an understandable format.
- 2) Power BI integrates data from multiple sources (databases, APIs, spreadsheets) into a unified model for comprehensive analysis. With the integration of AI and machine learning models, Power BI can be used to predict trends and forecast business outcomes.
- 3) Reports and dashboards can be published to the Power BI Service, where they can be shared with stakeholders, viewed on mobile devices, or embedded in other applications.
- 4) Power BI can be used to analyze financial data, compare budgets versus actuals, and forecast future financial performance.
- 5) Power BI can automate the generation of reports required for regulatory compliance, reducing the risk of non-compliance.

CONCLUSION

In conclusion, the Power BI project successfully transformed raw data into actionable insights, enabling informed decision-making. Through interactive dashboards, it provided a clear visual representation of key metrics and trends, allowing stakeholders to identify opportunities and challenges quickly. The project enhanced data transparency and accessibility, empowering teams to collaborate more effectively. Overall, the implementation of Power BI improved business intelligence capabilities, driving data-driven strategies and optimizing performance across the organization.

FUTURE SCOPE

AI and Machine Learning Integration: Power BI is increasingly integrating AI and machine learning capabilities, such as natural language processing (NLP) with Power BI Q&A, AI-driven insights, and automated machine learning models. The future will likely see more sophisticated AI features that enhance data analysis and prediction.

Real-Time Data Processing: As businesses increasingly require real-time data insights, Power BI will likely enhance its real-time data processing capabilities. This includes better integration with streaming data sources and more powerful tools for managing and visualizing real-time data.

Community and Marketplace Growth: The Power BI community and its marketplace for custom visuals and connectors are rapidly expanding. This ecosystem will likely continue to grow, providing users with a wide range of resources and tools to enhance their Power BI experience.

Self-Service BI: Power BI has made business intelligence accessible to non-technical users. The future will likely see even more user-friendly features, making it easier for business users to create their own reports and dashboards without relying heavily on IT departments.

Mobile and Cloud Expansion: The demand for mobile and cloud-based BI solutions is growing. Power BI will continue to expand its mobile capabilities and cloud features, offering more flexibility and scalability for businesses of all sizes.