



# ATLIQ HARDWARE

## SALES ANALYTICS PROJECT

### Introduction

AtliQ Hardware is a company which supplies computer hardware and peripherals to many of the clients, they have a client called Excel stores and normal stores across India, they supply all these equipments to them

### Purpose

To unlock sales insights that are not visible before for sales team for decision support & automate them to reduced manual time spent in data gathering.

### Stakeholders

- Sales Director
- Marketing team
- Customer Service Team
- IT

### Success Criteria

- Dashboard(s) uncovering sales order insights with latest data available
- Sales team able to take better decisions & prove 10% cost savings of total spend
- Sales Analysts stop data gathering manually in order to save 20% of their business time and reinvest it value added activity

## **Data**

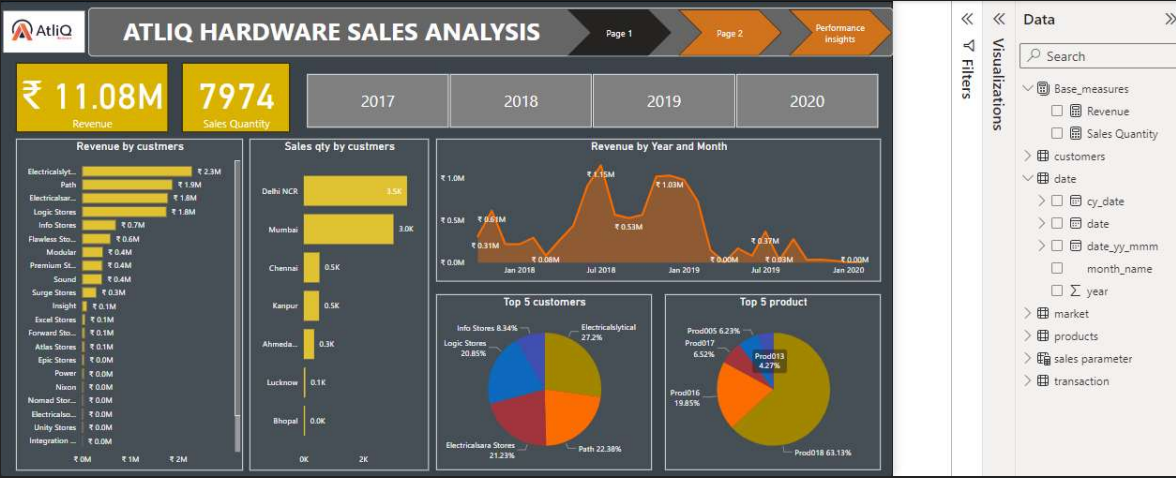
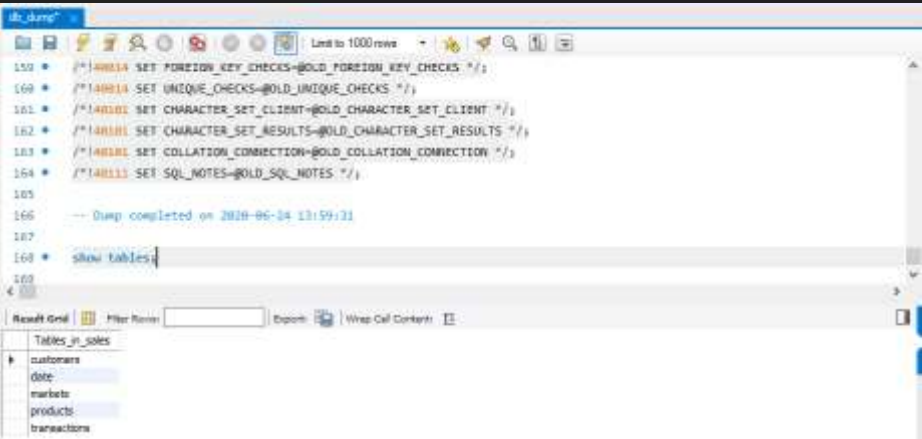
The dataset consist of 5 Excel files consisting of

- Customers
- Date
- Market
- Products
- Transactions

## **End Result**

An automated dashboard providing quick & latest sales insights in order to support data driven decision making.

# Tools Used – MS EXCEL, POWER BI, MYSQL



## My SQL- Analyzing the Dataset using MySQL

- ❑ The data had been imported to MySQL workbench and basic analysis is carried out. The main table transactions tells the overview of sales, products, customers, order date.

To understand the sales and revenue decline over the years we will analyse using below MySQL query by joining transactions and date tables.

```
1 • SELECT * FROM sales.customers;
2   -- To understand sales trend over the years
3 • select sum(sales_amount) as Total_Sales_Amount, sales.date.year as Year from sales.transactions join sales.date
4   on sales.transactions.order_date=sales.date.date group by sales.date.year;
```

< >

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

	Total_Sales_Amount	Year
▶	93569152	2017
	414308941	2018
	336452114	2019
	142235559	2020

Sales declined consecutively for 2 years which raised concern

In this result we can clearly see from 2018 -2020 the sales declined significantly which raises concern in top management.

- ❑ When querying the transactions table we could find some discrepancies like sales amount is -1 (As this can be eliminated since its insignificant).So checked the sales amount for any more insignificant value .1611 such records existed either with 0 price or -1. Maybe 0 price is manual error or could be that product given to customer for free as a goodwill.

```
2 -- To understand sales trend over the years
3 • select sum(sales_amount) as Total_Sales_Amount, sales.date.year as Year from sales.transactions join sales.date
4 on sales.transactions.order_date=sales.date.date group by sales.date.year;
5
6
7 -- To understand transactions table
8 • select * from sales.transactions;
9
10 -- To understand transactions table
11 • select * from sales. transactions;
```

	product_code	customer_code	market_code	order_date	sales_qty	sales_amount	currency
	Prod001	Cus002	Mark002	2018-05-08	3	-1	INR
	Prod002	Cus003	Mark003	2018-04-06	1	875	INR
	Prod002	Cus003	Mark003	2018-04-11	1	583	INR
	Prod002	Cus004	Mark003	2018-06-18	6	7176	INR
▶	Prod003	Cus005	Mark004	2017-11-20	59	500	USD
	Prod003	Cus005	Mark004	2017-11-22	36	250	USD

transactions 5 x

Output

Action Output

#	Time	Action	Message
✓ 4	12:36:51	select * from sales.transactions LIMIT 0, 1000	1000 row(s) returned
✓ 5	13:46:26	select * from sales. transactions LIMIT 0, 1000	1000 row(s) returned
✓ 6	13:47:30	select * from sales. transactions LIMIT 0, 1000	1000 row(s) returned

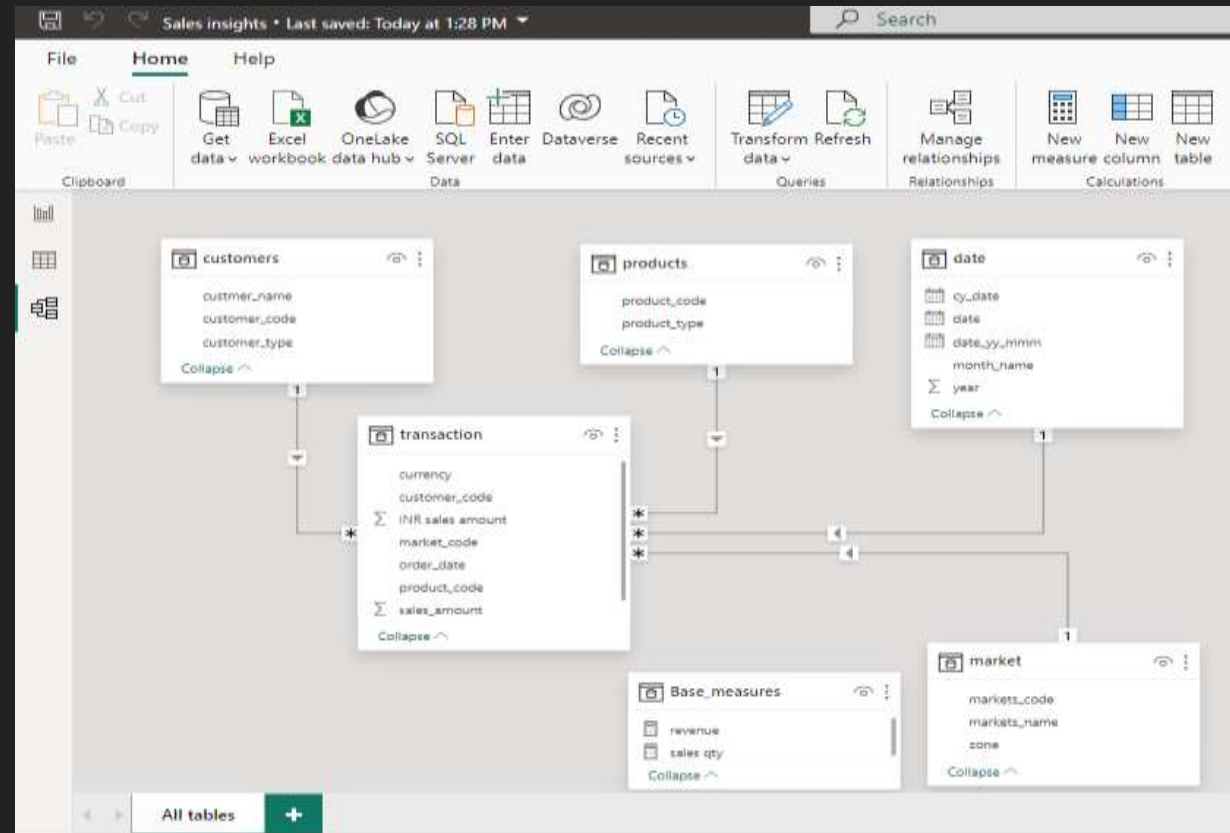
So these records can be insignificant when deciding the sales and revenue and it can be omitted in visualisation.This data cleaning will be done in Powerbi desktop later.

# PowerBi

## ❑ Data Transferring-

- *Importing data* - Import data from SQL into PowerBI to leverage SQL queries and stored procedures.
- *Data Modeling* - involves creating relationships between tables to establish connections and enable efficient data analysis.
- *Creating Star Schema* - a data modeling technique where a central "fact" table is connected to multiple "dimension" tables, facilitating data analysis.

Data Modeling (Star Schema)



## ❑ Data Cleaning-

*Power Query Editor*- Filtering- removing blank values, negative amount, duplicate values, removing International locations (Paris, New York) for calculating accurate results.

Power Query Editor interface showing the initial data table and the 'Query Settings' pane.

**Query Formula:** `= Table.TransformColumnTypes(#"Promoted Headers",{{"markets_code", type text}, {"markets_name", type text}, {"zone", type text}})`

**Table Data:**

	markets_code	markets_name	zone
1	Mark001	Chennai	South
2	Mark002	Mumbai	Central
3	Mark003	Ahmedabad	North
4	Mark004	Delhi NCR	North
5	Mark005	Kanpur	North
6	Mark006	Bengaluru	South
7	Mark007	Bhopal	Central
8	Mark008	Lucknow	North
9	Mark009	Patna	North
10	Mark010	Kochi	South
11	Mark011	Nagpur	Central
12	Mark012	Surat	North
13	Mark013	Bhopal	Central
14	Mark014	Hyderabad	South
15	Mark015	Bhubaneswar	South
16	Mark097	New York	
17	Mark999	Paris	

**Query Settings:**

- PROPERTIES:** Name: market
- APPLIED STEPS:** Source, Changed Type, Promoted Headers, **Changed Type1**, Filtered Rows



Power Query Editor interface showing the filtered data table and the 'Query Settings' pane.

**Query Formula:** `= Table.SelectRows(#"Changed Type1", each ([zone] <> ""))`

**Table Data:**

	markets_code	markets_name	zone
1	Mark001	Chennai	South
2	Mark002	Mumbai	Central
3	Mark003	Ahmedabad	North
4	Mark004	Delhi NCR	North
5	Mark005	Kanpur	North
6	Mark006	Bengaluru	South
7	Mark007	Bhopal	Central
8	Mark008	Lucknow	North
9	Mark009	Patna	North
10	Mark010	Kochi	South
11	Mark011	Nagpur	Central
12	Mark012	Surat	North
13	Mark013	Bhopal	Central
14	Mark014	Hyderabad	South
15	Mark015	Bhubaneswar	South

**Query Settings:**

- PROPERTIES:** Name: market
- APPLIED STEPS:** Source, Changed Type, Promoted Headers, Changed Type1, **Filtered Rows**

## Conditional Column- Changing USD to INR

```
= Table.AddColumn("#Filtered Rows", "INR sales amount", each if [currency] = "USD" or [currency] = "USD#(cr)" then [sales_amount]*83 else [sales_amount])
```

order_date	sales_qty	sales_amount	currency	INR sales amount
10/10/2017	100	41241	INR	41241
4/6/2018	1	875	INR	875
4/11/2018	1	583	INR	583
6/18/2018	6	7176	INR	7176
11/20/2017	59	500	USD	41500
11/22/2017	36	250	USD	20750
11/23/2017	39	21412	INR	21412
11/27/2017	35	19213	INR	19213
11/28/2017	310	170185	INR	170185
11/29/2017	184	101194	INR	101194
11/30/2017	35	19213	INR	19213
11/29/2017	17	9426	INR	9426
12/19/2017	1	218	INR	218
8/7/2018	5	3093	INR	3093
12/4/2017	58	30306	INR	30306
6/29/2018	38	52319	INR	52319
7/2/2018	93	126296	INR	126296
7/3/2018	79	107500	INR	107500
7/4/2018	1	273	INR	273

Query Settings

PROPERTIES

Name

transaction

All Properties

APPLIED STEPS

Source

Promoted Headers

Changed Type

Filtered Rows

Added Conditional Column

Filtered Rows1

Formula to create INR sales amount column

```
`= Table.AddColumn("#Filtered Rows", "INR sales amount", each if [currency] = "USD" or [currency] ="USD#(cr)" then [sales_amount]*83 else [sales_amount], type any)`
```



## ❑ Data Visualization

or value. In this

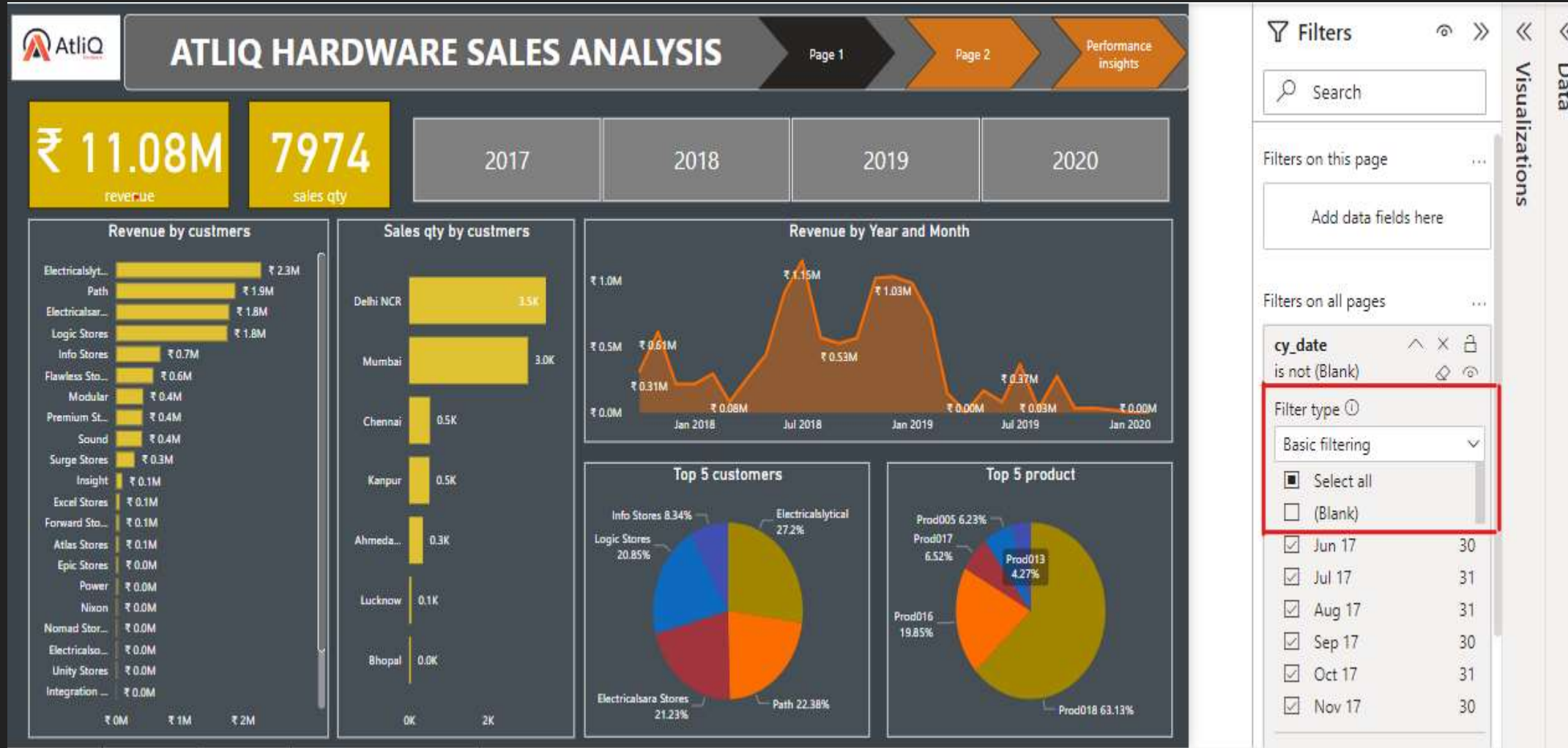
identifying trends or

columns,  
and analysis on  
sales etc.

- *Use of Cards*- These are compact visualizations that display a single, key metric or value. In this project it is used to show total revenue and total sales.
- *Bar charts*- which are effective for comparing values across categories and outliers in the data.
- *DAX (Data Analysis Expressions)* - formulas are used in Power BI to create calculated measures, and tables, enabling users to perform complex calculations on their data. In this report DAX is used to calculate total revenue, total sales etc.
- *Drill Down* - allows users to explore data at different levels of detail, starting from a high-level overview and drilling down to more granular levels of data.

## ❑ Data Visualization

- *Filtering the blank dates*- Blank date values may create unstructured data that can be difficult to interpretate this is why blank dates needs to be removed.





## Insights generated

Agenda- Reason for declining sales and revenue.

Findings- This project aims to analyze the revenue and sales data of a company over a four-year period (2017-2020) to derive insights into its performance. The analysis includes **total revenue, sales quantity, revenue distribution among zones, customer contribution to revenue, sales distribution among regions, market-wise revenue, and top-performing product.**

### 1. Total Revenue and Sales:

- Total revenue for the four years is **INR 11.8 million**.
- Total sales quantity for the four years is **7974 units**.

### 2. Revenue Distribution Among Zones:

- *Central Zone* generates the highest revenue of **INR 6.5 million**, followed by North Zone with INR 4.3 million, and South Zone with INR 0.3 million.

### 3. Revenue Trend:

- Revenue has been observed to drop since January 2019.

#### 4. Customer Contribution to Revenue:

- "Electricalsquipos Stores" is the top customer generating the maximum revenue of INR 2.3 million, accounting for **22.7%** of the total revenue.
- "Premium Stores" generate the lowest revenue of INR 24,000, contributing only 0.24% to the total revenue.

#### 5. Sales Distribution Among Regions:

- **Delhi NCR** observes the maximum sales quantity of **3.5 thousand units**, accounting for **43.5%** of the total sales, whereas Bhopal observes the lowest sales quantity of 0.0 thousand units, contributing 0.54% to the total sales.

#### 6. Market-wise Revenue:

- **Mumbai** observes the maximum revenue of **INR 6.5 million**, contributing **58%** to the total revenue, whereas Bhopal observes the lowest revenue of INR 0.0 million, contributing 0.40% to the total revenue.

#### 7. Top-Performing Product:

- **Product018** is the top-performing product, preferred by most customers.

## Conclusion

The analysis provides valuable insights into the company's revenue and sales performance over the four-year period, highlighting key areas of strength and areas for improvement. These insights can be used to formulate strategic decisions to enhance the company's overall performance and profitability.

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- From the sales trend we could see that **sales had been declined significantly after 2019** lately been related to COVID-19 pandemic.
- **Delhi NCR and Mumbai are top markets** in terms of revenue and sales.
- Found out **the top customers and products which contributed much of the revenue**.
- From this dashboard, the sales director can able to understand how well the business doing in certain aspects and can take data driven decision to improve the business of AtliQ Hardware.

## Suggestions for the client

Agenda- Reason for declining sales and revenue.

As a data analyst, here are some suggestions I would suggest to the company head based on the key points:

- **Focus on Central Zone:**
  - ✓ Given that Central Zone generates the highest revenue, it may be beneficial to *allocate more resources and marketing efforts* to further capitalize on this strong market.
- **Addressing Revenue Drop:**
  - ✓ *Investigate the factors contributing to the drop in revenue since January 2019.* Analyze market trends, competitor activities, and customer feedback to identify potential causes and develop strategies to reverse this trend.
- **Customer Segmentation and Targeting:**
  - ✓ Given that "Electricalsquipo Stores" contribute significantly to revenue, *consider implementing targeted marketing campaigns or loyalty programs* to further engage and retain these customers.
  - ✓ For low-contributing customers like "Premium Stores," *evaluate the potential for increasing their engagement through tailored offerings or improved customer service.*

- **Sales Strategy for Delhi NCR:**
  - ✓ Since Delhi NCR observes the maximum sales quantity, *develop a focused sales strategy to maintain and expand market share in this region*. This could include offering special promotions or expanding product offerings based on customer preferences.
- **Market Diversification:**
  - ✓ While Mumbai generates the highest revenue, consider *diversifying into other markets to reduce dependency and mitigate risks* associated with fluctuations in a single market.
- **Product Portfolio Optimization:**
  - ✓ Given the popularity of Product018, consider *investing in the development and promotion of similar products* to capitalize on customer preferences.
- **Monitoring and Evaluation:**
  - ✓ *Implement regular monitoring and evaluation mechanisms* to track the effectiveness of implemented strategies and make necessary adjustments based on performance data.
- **Data-Driven Decision Making:**
  - ✓ Encourage a culture of data-driven decision-making within the organization, leveraging insights from data analysis to guide strategic planning and operational activities.