

Data Project: AtliQ

Mason Phung

Background

- AtliQ is a B2B hardware & peripheral manufacturer that provides computer and network equipments for other businesses.
- AtliQ has a headquarter in Mumbai and many regional branches across India.
- In the previous quarters, the company was reported to have **declining sales**.
- Bhavin Patel, AtliQ's Sales Director is having trouble tracking where the business is falling in the local Indian market.
- His team reported to him by providing him excel data screen captures, which are difficult to find issue and determine important trends

Project goals

- **Purpose**

Discover insights from the data to figure out sales dropping issue.

- **Expected results**

Provide a real-time dashboard to support data driven decision making.

- **Stakeholders**

- Sales director
- Marketing team
- Customer service team
- Data & analytics team
- IT

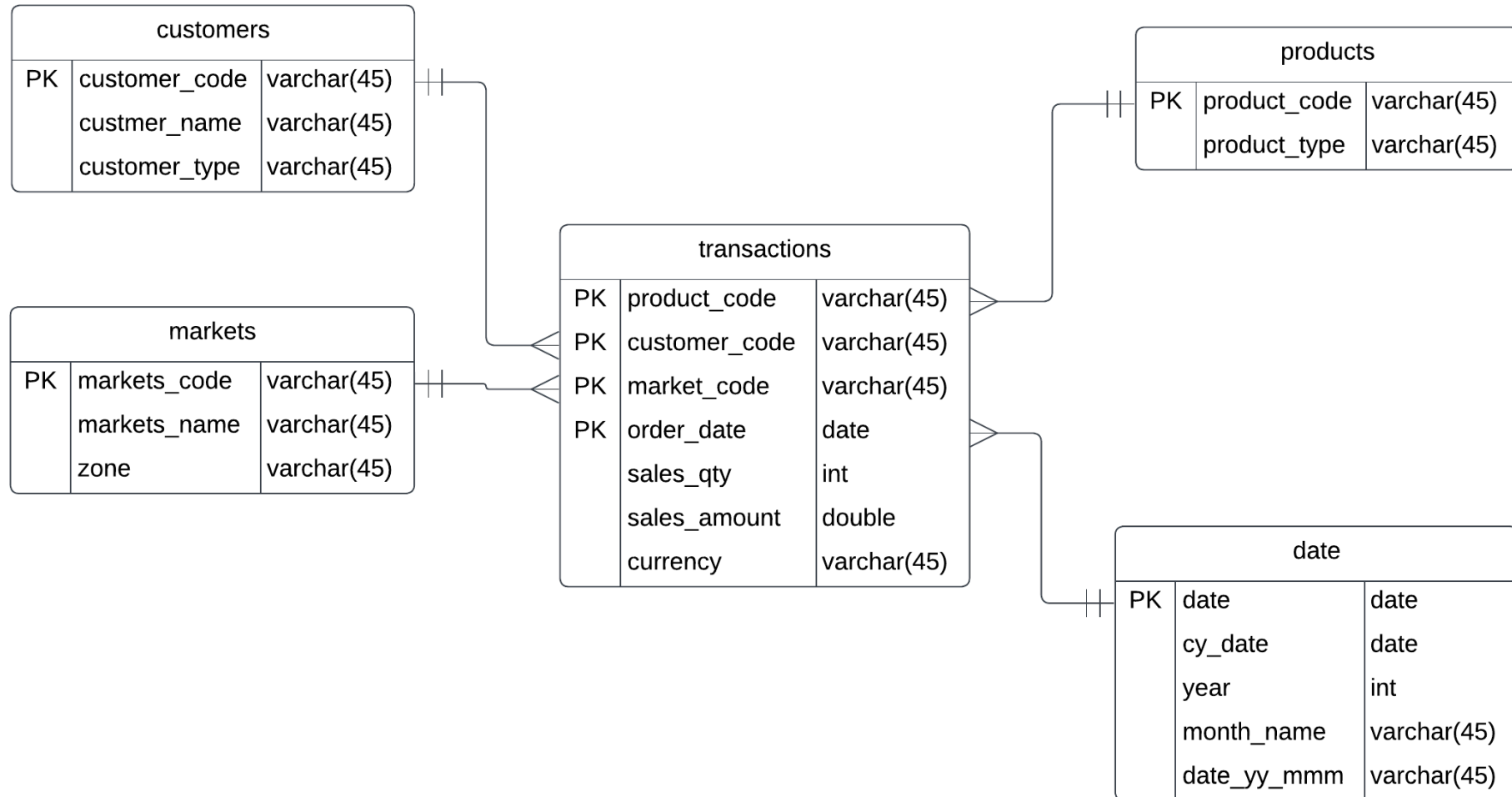
- **Success criteria**

- The dashboard is able to provide up-to-date sales data automatically.
- Sales team is able to make better decision, cut down cost and gain more sales by a %.
- Data team: data collecting and visualizing change to automatic, thus save more time & resources.

Data overview

- In this project, we will work on AtliQ's sales data from 2017 to 2020.
- Data was manually extracted from the company's Data warehouse, which was originally stored in the company's Sales database management system.
- The data will be stored in a local MySQL database, then extracted and analyzed with SQL.
- Data will be visualized using Tableau.

ER diagram



Data analysis with MySQL

- The data dump file is loaded by SQL workbench and imported into the database
- SQL queries will be executed in MySQL workbench.
- SQL will be used to analyze the data, find insights and useful information and to make sure Tableau data visualization is correct.

Data analysis with MySQL

The screenshot shows the MySQL Workbench interface. On the left, the 'SCHEMAS' pane is open, showing a tree view of databases including 'sales', 'date', 'markets', 'products', 'transactions', 'Views', 'Stored Procedures', and 'Functions'. The 'sales' database is selected. In the center, a SQL query is entered in the 'Query 1' tab:

```
1 • select sum(sales_qty) as sales_qty, market_code
2 from sales.transactions
3 where sales_amount > 0
4 group by market_code
```

Below the query editor, the 'Result Grid' shows the results of the query. The columns are 'market_code' and 'sales_qty'. The results are as follows:

market_code	sales_qty
Mar004	98991
Mar002	88714
Mar011	26284
Mar010	25482
Mar003	22714
Mar007	6827
Mar014	7789
Mar001	5265
Mar008	3762
Mar013	2165
Mar012	1709
Mar005	1844
Mar015	14879
Mar009	505
Mar006	413

At the bottom, the 'Action Output' pane shows the execution details of the query.

The screenshot shows the MySQL Workbench interface. In the center, a SQL query is entered in the 'Query 1' tab:

```
1 • select count(customer_type) as count, customer_type
2 from sales.customers
3 group by customer_type
```

Below the query editor, the 'Result Grid' shows the results of the query. The columns are 'count' and 'customer_type'. The results are as follows:

count	customer_type
19	Brick & Mortar
19	E-Commerce

The screenshot shows the MySQL Workbench interface. In the center, a SQL query is entered in the 'Query 1' tab:

```
1 • select product_code, sum(sales_qty) as total_qty, sum(sales_amount) as total_sales, currency
2 from sales.transactions
3 where sales_qty > 0 and sales_amount > 0
4 group by currency, product_code
```

Below the query editor, the 'Result Grid' shows the results of the query. The columns are 'product_code', 'total_qty', 'total_sales', and 'currency'. The results are as follows:

product_code	total_qty	total_sales	currency
Prod001	100	41241	INR
Prod002	8	8634	INR
Prod003	95	750	USD
Prod003	661	361523	INR
Prod004	64	29926	INR
Prod005	718	632573	INR
Prod006	8	5050	INR
Prod007	11	6218	INR
Prod008	40	17704	INR
Prod009	53	65580	INR
Prod010	120	147503	INR
Prod011	157	205030	INR
Prod012	33	29648	INR
Prod013	284	200925	INR
Prod001	100	41241	INR
Prod002	8	8634	INR
Prod003	95	750	USD
Prod003	661	361523	INR
Prod004	64	29926	INR

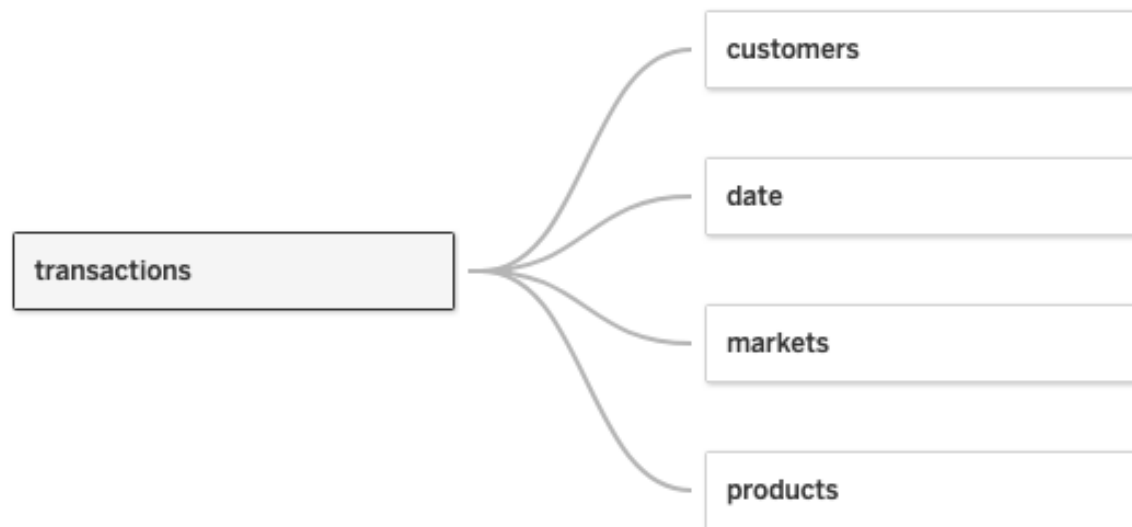
Data visualization with Tableau

- Log in to the local MySQL database with Tableau
- Data will be visualized in a interactive, real-time Tableau dashboard
- Each components of the dashboard will be created in a seperated sheet



Data visualization with Tableau

Table relationship connection

Set up the connections between the tables in the dataset based on the ER diagram



How do relationships differ from joins? [Learn more](#)

transactions	Operator	date
 Order Date ▼	= ▼	 Date ▼

Data visualization with Tableau

Data cleaning

After determining which variable will be presented in the dashboard, we will clean the dataset in Tableau using its filter. Remove:

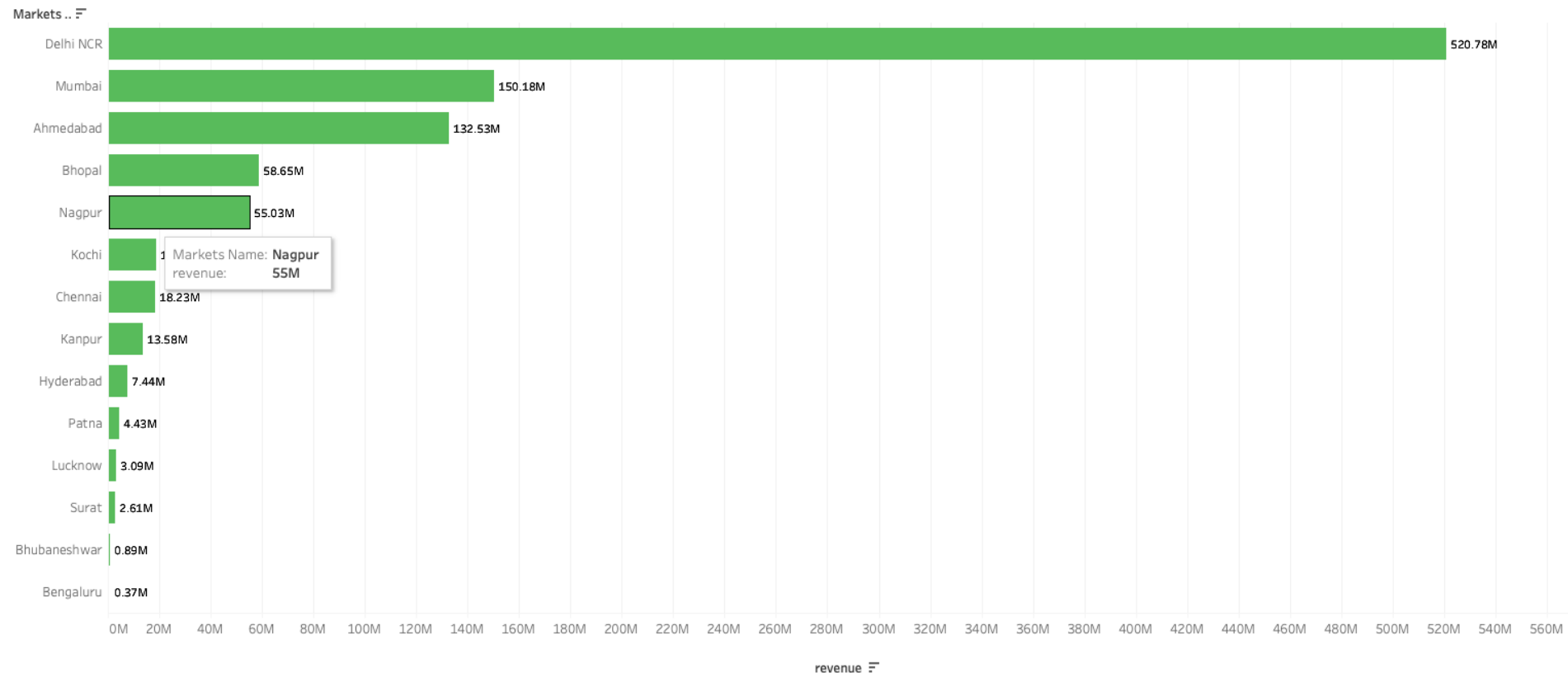
- **Value that doesn't make sense:** Sales Amount's values are sometimes '0' or '-1'.
- **Values that are not required/needed by the analysis:** 'Mark097' and 'Mark999' is New York and Paris city, these cities are not local India.
- Convert data unit by using '**Create calculated field**'. In the dataset, both INR and USD are used, therefore we will convert them into INR. (IF [Currency] == "USD" THEN [Sales Amount] * 74 ELSE [Sales Amount] END – 74 is the exchange rate of USD and INR)

Filter	Details
Sales Amount	includes values greater than or equal to 1
Markets Code	excludes Mark097, Mark999 and Null

Data visualization with Tableau

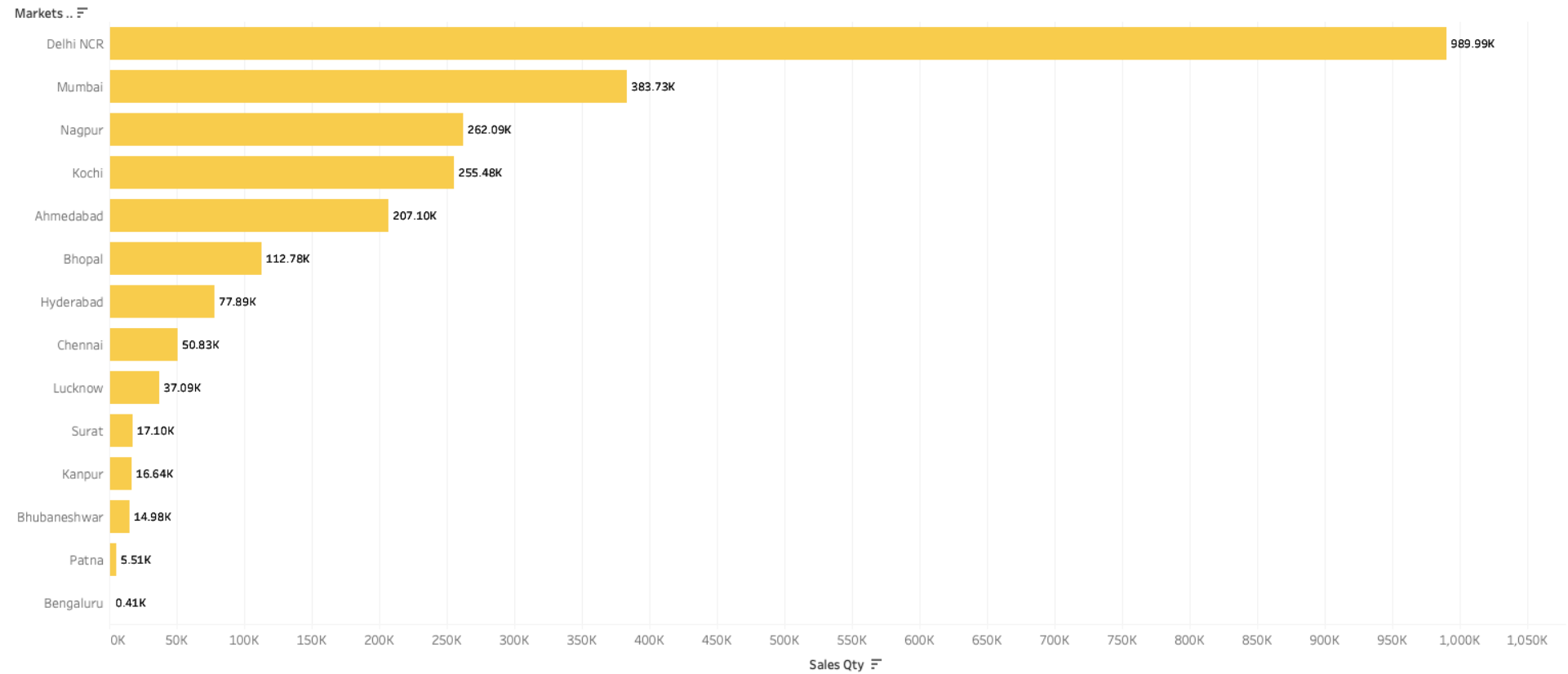
Then, the data is visualized chart by chart by different characteristics

Revenue by markets

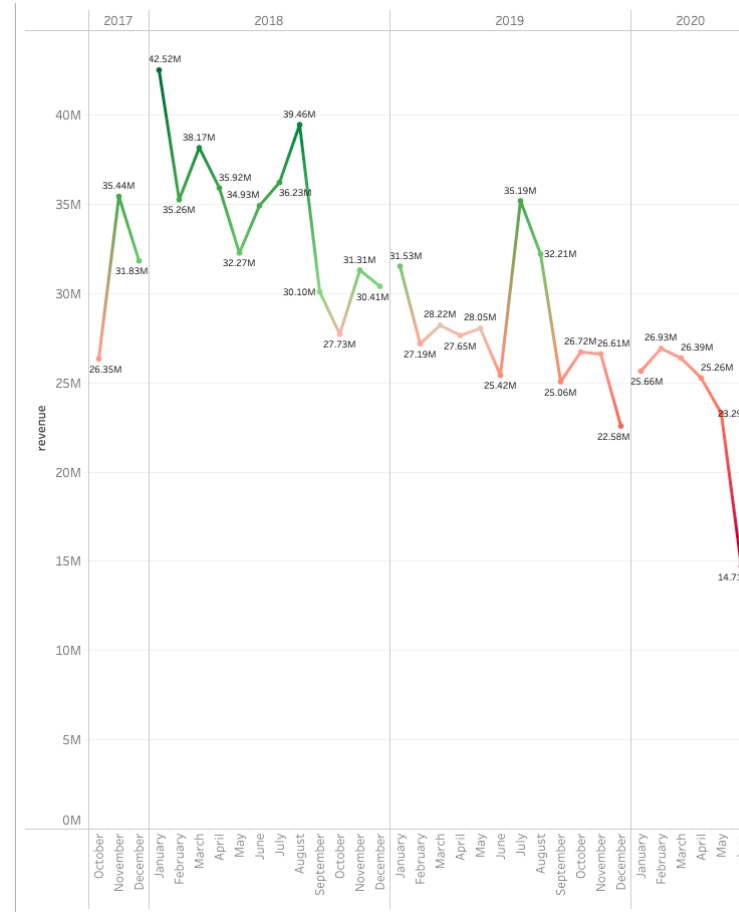


Data visualization with Tableau

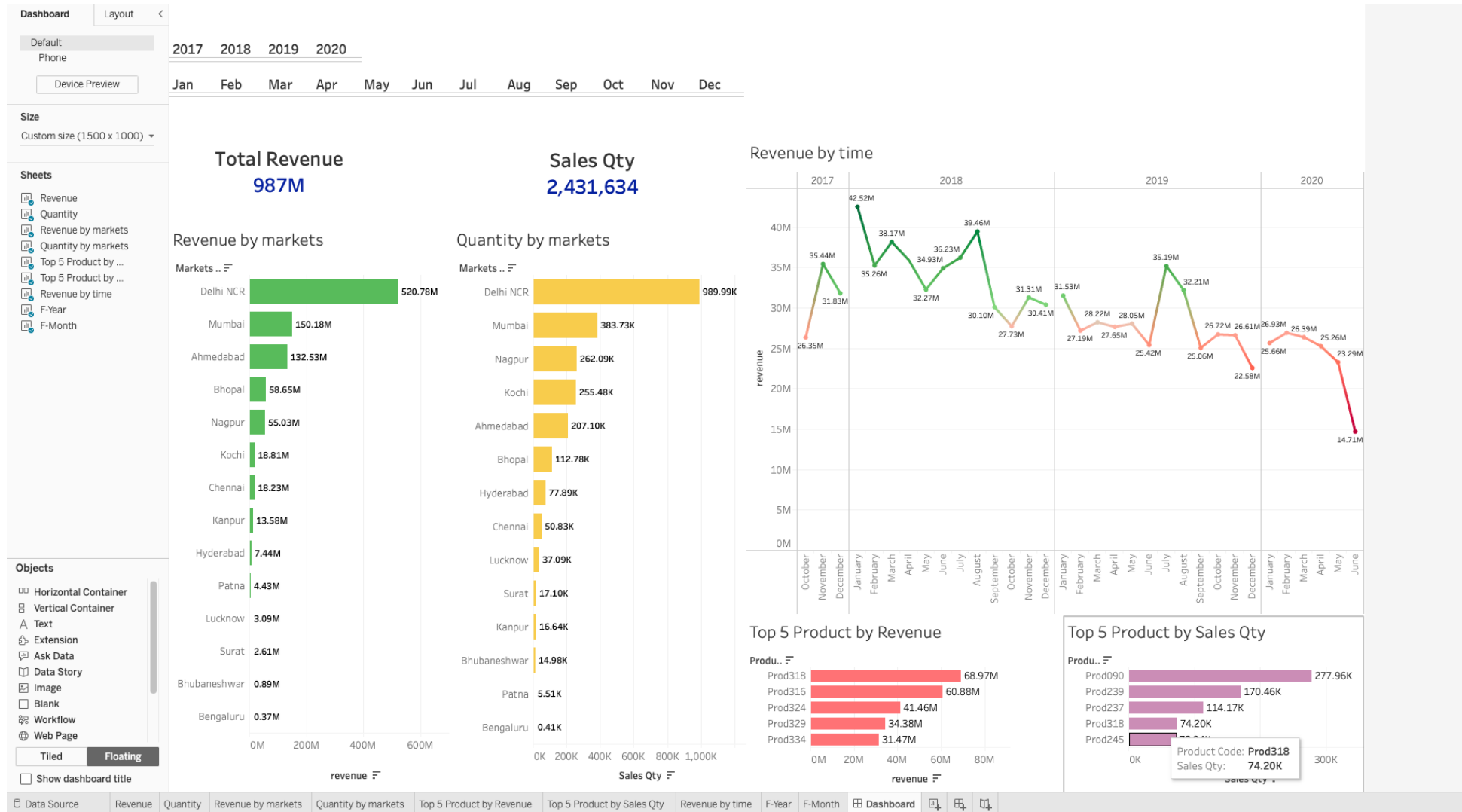
Quantity by markets



Data visualization with Tableau



Final dashboard



Final dashboard

- The dashboard is interactive, further details can be found when hover on the tables, lines, and bars.
- The year/month bars on the top of the dashboard can be use to filter the dashboard data. When a certain time range is chosen, the whole dashboard will change according to the time range.
- Regions can also be filtered when clicked on the corresponding bars in the bar chart. When a certain region is chosen, the whole dashboard will change according to the region.
- The data is updated in real-time with the database.