

Sales Performance Analysis

PT Sejahtera Bersama

Bank Muamalat
Business Intelligence Analysis
Project Based Internship Program

Presented by Arwaly Haifa Salsabila

About Me

I have 4 years of experience in the education field and now focusing on building a career in data science. My strong interest in data has led me to complete several analytics projects, such as customer churn prediction and customer segmentation using RFM and clustering methods to better understand consumer behavior. In addition to data modeling and analysis, I also designed and developed interactive dashboards that visualize business insights and support strategic decision-making. Throughout these projects, I applied tools such as Python (pandas, scikit-learn), SQL, and Power BI to process, analyze, and present data in a way that is both clear and actionable.



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ABOUT COMPANY



Rakamin Academy is an Indonesian education technology company that provides bootcamps and training programs in technology, business, and data. The company focuses on upskilling professionals and students with practical, project-based learning to prepare them for careers in the digital economy.



Bank Muamalat Indonesia is the first Islamic bank in Indonesia, established in 1991. It operates under Sharia principles and offers a wide range of banking products and services, including retail, corporate, and microfinance. The bank is committed to promoting ethical and sustainable financial solutions in Indonesia.



As part of the program, the internship was hosted in collaboration with Bank Muamalat Indonesia. The project focused on analyzing sales and customer data to generate insights for business decision-making. The internship experience provided exposure to practical data analysis, business intelligence tools, and professional reporting.



BUSINESS UNDERSTANDING

- The purpose of this dashboard is to provide a Sales Performance Analysis for the years 2020 and 2021.
- It aims to give insights into overall sales trends, product category performance, customer purchasing behavior, and city-level sales distribution.
- This information will help the company monitor sales growth, identify top-performing products and markets, and support data-driven decision-making to sustain and improve sales.

DATA SOURCE

01

Customers → contains customer information (email, city, etc.).

Row	CustomerID	FirstName	LastName	CustomerEmail	CustomerPhone	CustomerAddress	CustomerCity	CustomerState	CustomerZip
1	1368	Buck	Meiklam	bmeiklamiv@myspace.com#ma...	205-789-4928	8943 Rusk Drive	Birmingham	Alabama	35205
2	260	Charlena	Lille	clillea8@nasa.gov#mailto:clillea...	205-464-9921	13293 Macpherson P...	Birmingham	Alabama	35215
3	1694	Robinia	Balog	rbalogiw@arstechnica.com#ma...	205-133-6098	565 Fairfield Terrace	Birmingham	Alabama	35220
4	1480	Bryna	Cumberpatch	bcumberpatchjr@auda.org.au #mailto:bcumberpatchjr@auda.org.au#	205-731-4813	6665 Marcy Street	Birmingham	Alabama	35225

02

Products → contains product details (name, category, price)

Row	ProdNumber	ProdName	Category	Price
1	BP104	Cat Robot Blueprint	1	4.99
2	BP108	Panda Robot Blueprint	1	7.99
3	BP102	Bsquare Robot Blueprint	1	8.99

03

Orders → contains transaction records (order date)

Row	OrderID	Date	CustomerID	ProdNumber	Quantity
1	1758	2021-01-15	923	BP101	1
2	404	2020-03-26	1256	BP101	2
3	575	2020-05-06	635	BP101	2
4	1098	2020-08-25	1480	BP101	2
5	1320	2020-10-10	534	BP101	2

04

Product Details → contains category product

Row	CategoryID	CategoryName	CategoryAbbreviation
1	1	Blueprints	BP
2	2	Drone Kits	DK
3	3	Drones	DS

DATA MODEL

PRIMARY KEYS

- orders: OrderID
- products: ProdNumber
- customers: CustomerID
- product_category: CategoryID

```
CREATE TABLE rakamin.orders (
    OrderID INT PRIMARY KEY,
    Date DATE NOT NULL,
    CustomerID INT NOT NULL,
    ProdNumber VARCHAR(100) NOT NULL,
    Quantity INT NOT NULL
);

CREATE TABLE rakamin.products (
    ProdNumber VARCHAR(100) PRIMARY KEY,
    ProdName VARCHAR(100) NOT NULL,
    Category INT NOT NULL,
    Price NUMERIC(10,2) NOT NULL
);

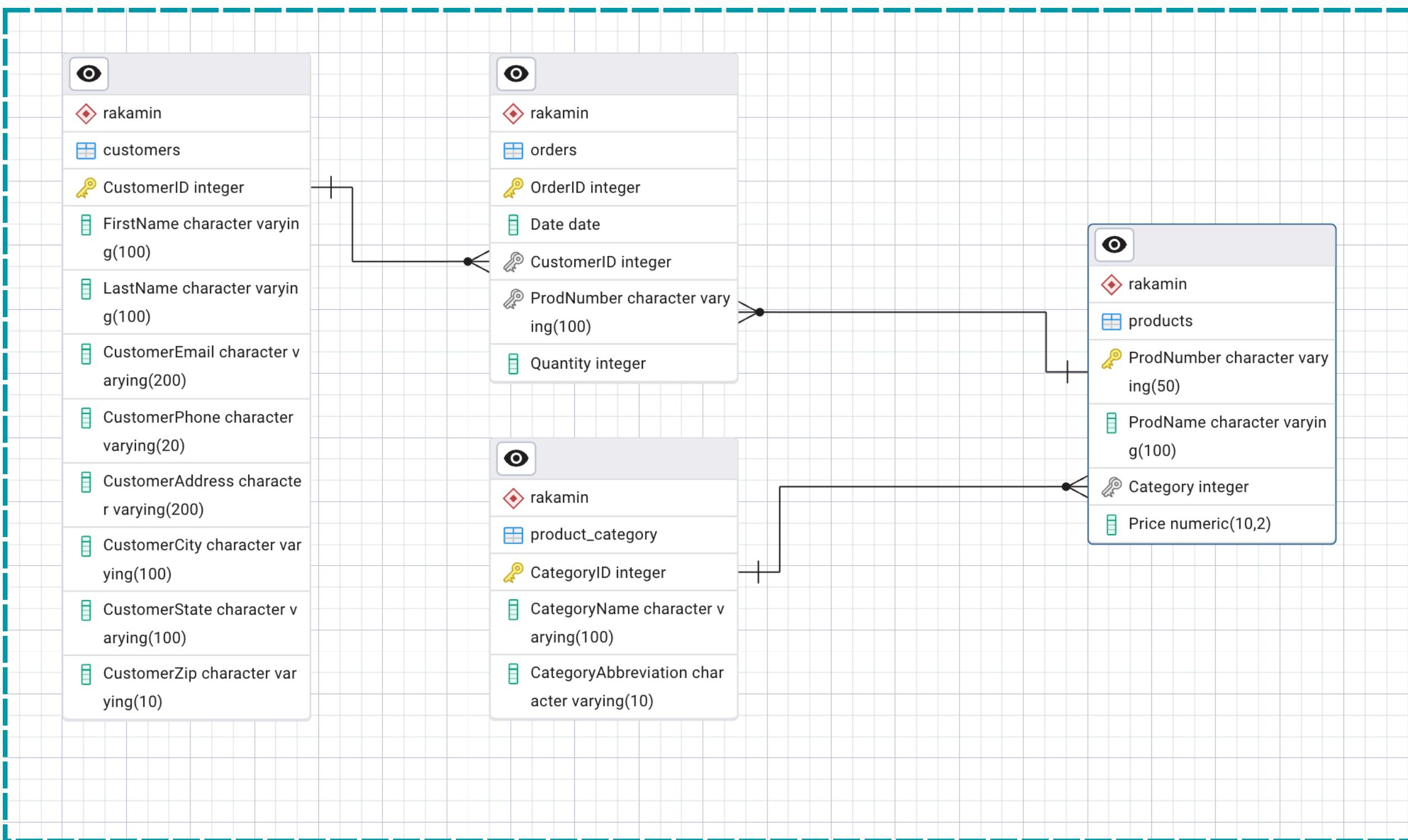
CREATE TABLE rakamin.customers (
    CustomerID INT PRIMARY KEY,
    FirtsName VARCHAR(50) NOT NULL,
    LastName VARCHAR(50) NOT NULL,
    CustomerEmail VARCHAR(100) UNIQUE NOT NULL,
    CustomerPhone VARCHAR(50),
    CustomerAddress VARCHAR(100),
    CustomerCity VARCHAR(50),
    CustomerState VARCHAR(50),
    CustomerZip INT
);

CREATE TABLE rakamin.product_category (
    ProduNumber VARCHAR(50) PRIMARY KEY,
    ProdName VARCHAR(100) NOT NULL,
    Category INT NOT NULL,
    Price NUMERIC (10,2) NOT NULL
);
```

DATA MODEL

RELATIONSHIP

- Orders & Customers: A customer (CustomerID) places an order.
- Orders & Products: An order contains products (ProdNumber).
- Products & Product Category: A product (CategoryID) belongs to a category.



DATA PREPARATION

This project constructs a master transaction table by integrating data from Customers, Products, Orders, and OrderDetails. The table includes Customer Email, Customer City, Order Date, Order Quantity, Product Name, Product Price, Product Category Name, and Total Sales. All records are arranged chronologically from the earliest to the latest transaction, providing a solid foundation for sales performance analysis.

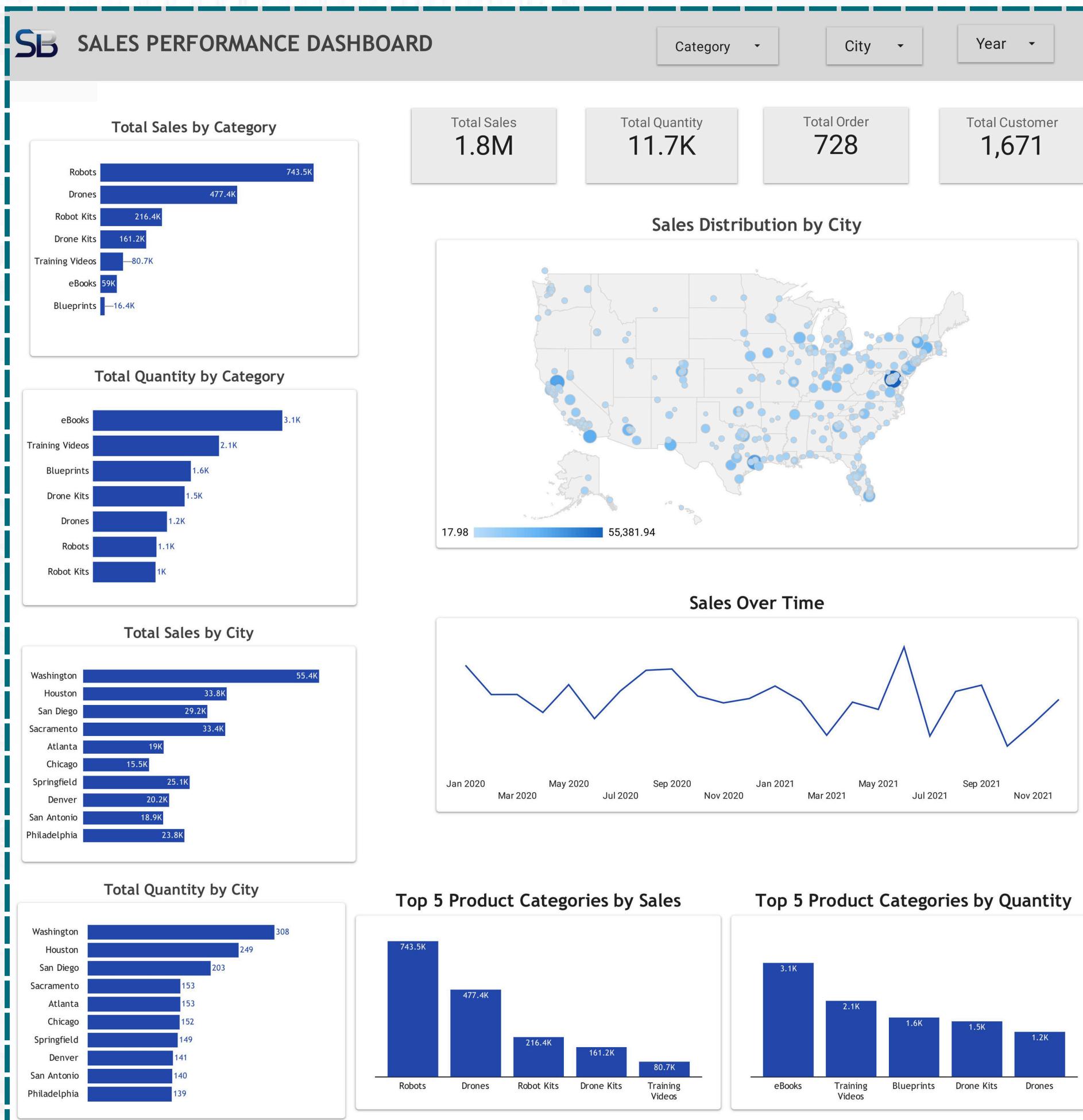
Row	order_date	category_name	product_name	product_price	order_qty	total_sales	cust_email	cust_city
1	2020-01-01	Drone Kits	BYOD-220	69.0	1	69.0	edew@nba.com	Honolulu
2	2020-01-01	eBooks	Polar Robots	23.99	2	47.98	fvaslerqt@comsenz.com	Jackson
3	2020-01-01	Robots	RWW-75 Robot	883.0	3	2649.0	tmckernot@tinyurl.com	Katy
4	2020-01-01	eBooks	Spherical Robots	16.75	5	83.75	lfromonte9@de.vu	Birmingham
5	2020-01-01	eBooks	SCARA Robots	19.5	5	97.5	llespercx@com.com	Des Moines
6	2020-01-01	Training Videos	Drone Video Techniques	37.99	6	227.94	gstiggersdd@eventbrite.com	Saint Petersburg
7	2020-01-02	Training Videos	Understanding Automation	44.95	1	44.95	ksteersh@ameblo.jp	San Diego

CREATE THE MASTER TABLE

```
1 WITH new_orders AS (
2   SELECT
3     CustomerID,
4     ProdNumber,
5     Date AS order_date,
6     Quantity AS order_qty
7   FROM `RM.Orders`
8 ),
9 new_customer AS (
10   SELECT
11     CustomerID,
12     REGEXP_EXTRACT(CustomerEmail, r'^[^#]+') AS cust_email,
13     CustomerCity AS cust_city
14   FROM `RM.Customers`
15 ),
16 new_products AS(
17   SELECT
18     ProdNumber,
19     Category,
20     ProdName AS product_name,
21     Price AS product_price
22   FROM `RM.Products`
23 ),
24 new_prod_cat AS(
25   SELECT
26     CategoryID,
27     CategoryName AS category_name
28   FROM `RM.Prod_Cat`
29 ),
```

```
master_table AS (
  SELECT
    order_date,
    pc.category_name,
    p.product_name,
    p.product_price,
    o.order_qty,
    ROUND(o.order_qty*p.product_price,2) AS total_sales,
    c.cust_email,
    c.cust_city,
  FROM new_orders o
  JOIN new_customer c ON o.CustomerID = c.CustomerID
  JOIN new_products p ON o.ProdNumber = p.ProdNumber
  JOIN new_prod_cat pc ON p.Category = pc.CategoryID
)

SELECT * FROM master_table
ORDER BY master_table.order_date, order_qty
```



Dashboard

After building the master table, we created a dashboard to turn the data into clear visuals. The dashboard highlights key metrics such as sales, top products, customer activity, and city performance. By using charts and maps, it makes complex data easy to understand and helps identify trends, opportunities, and risks at a glance.

Global Performance Overview

Total Sales
1.8M

Total Quantity
11.7K

Total Order
728

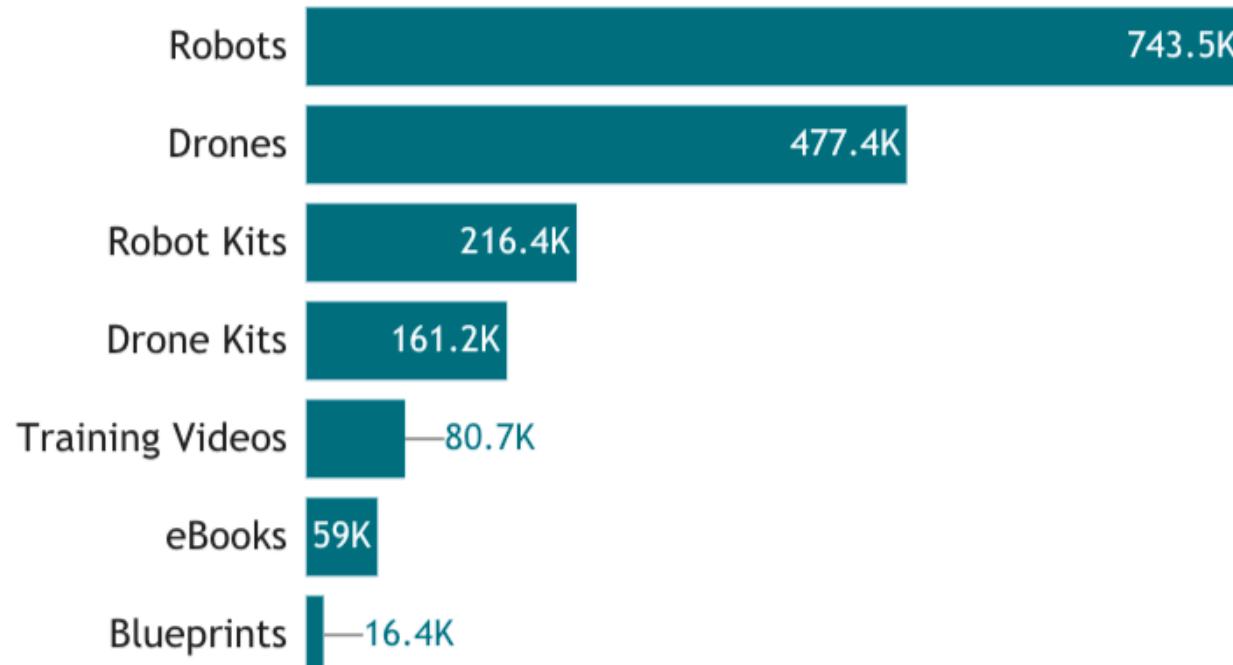
Total Customer
1,671

Global Performance Overview:

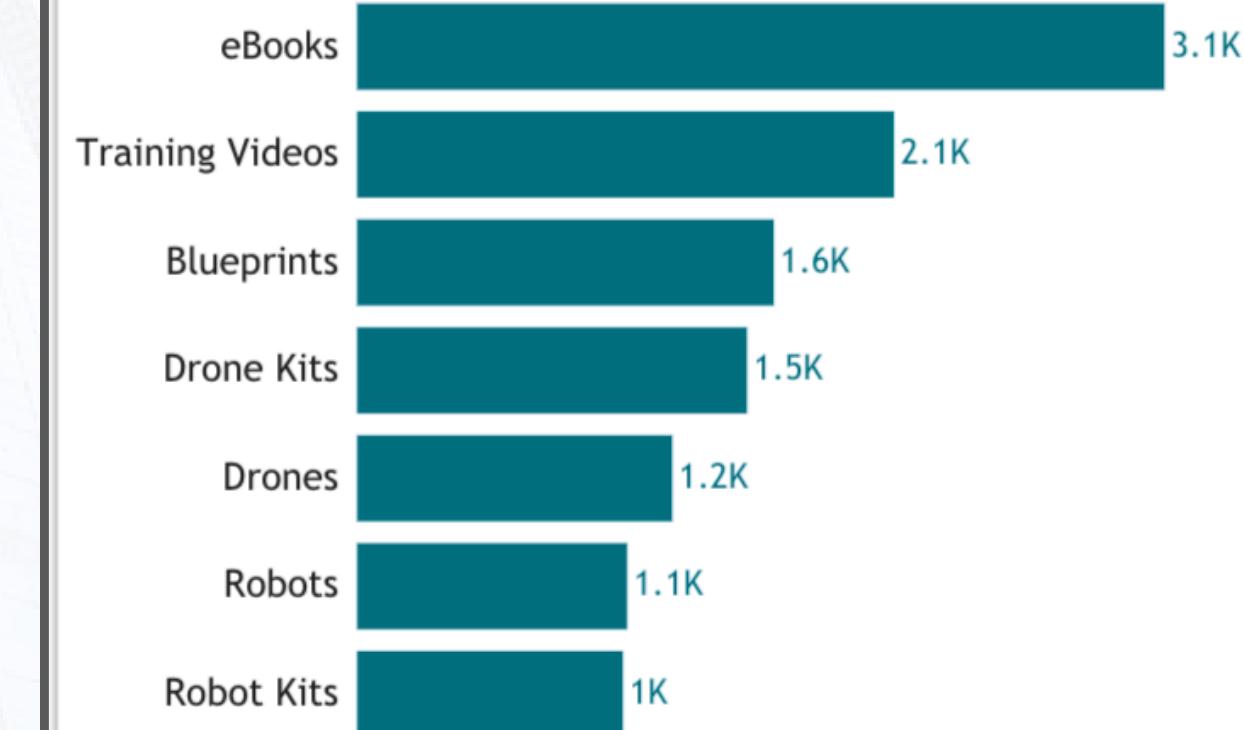
- Total Sales: \$1.8M
 - Total Quantity: 11.7K units
 - Total Orders: 728
 - Total Customers: 1,671
- 👉 Customers often buy many items in one order (bundling/cross-selling).
- 👉 The small number of customers compared to total units shows repeat buyers or big single purchases are very important.

Key Insight

Total Sales by Category



Total Quantity by Category

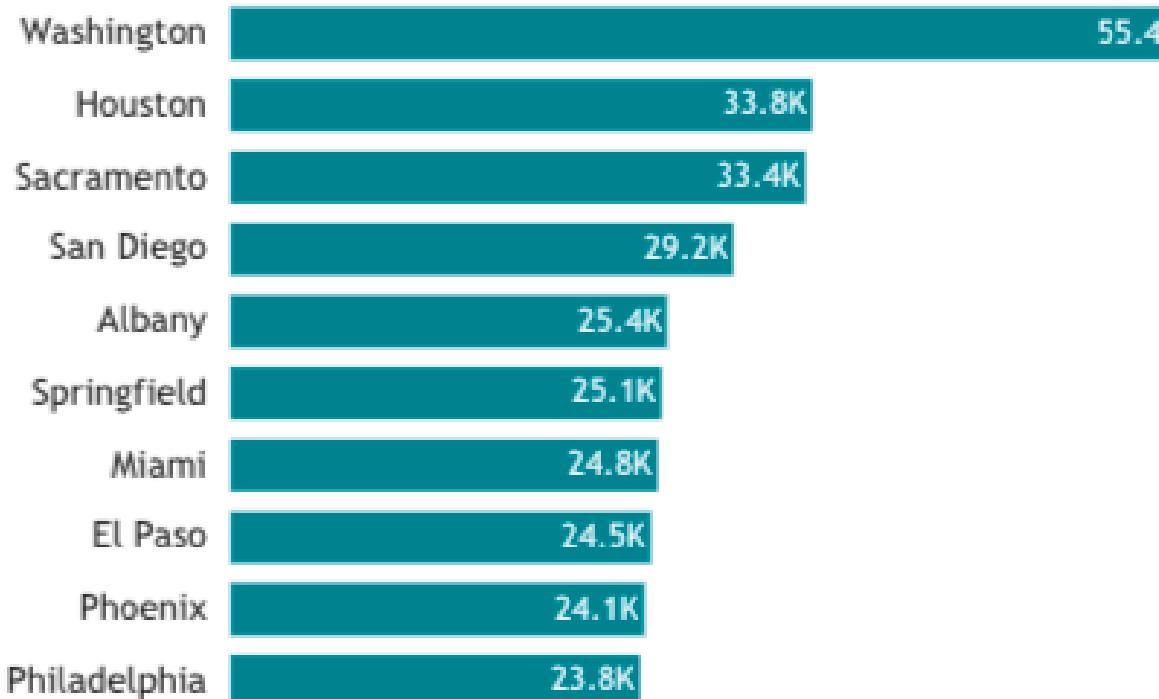


Two Types of Products:

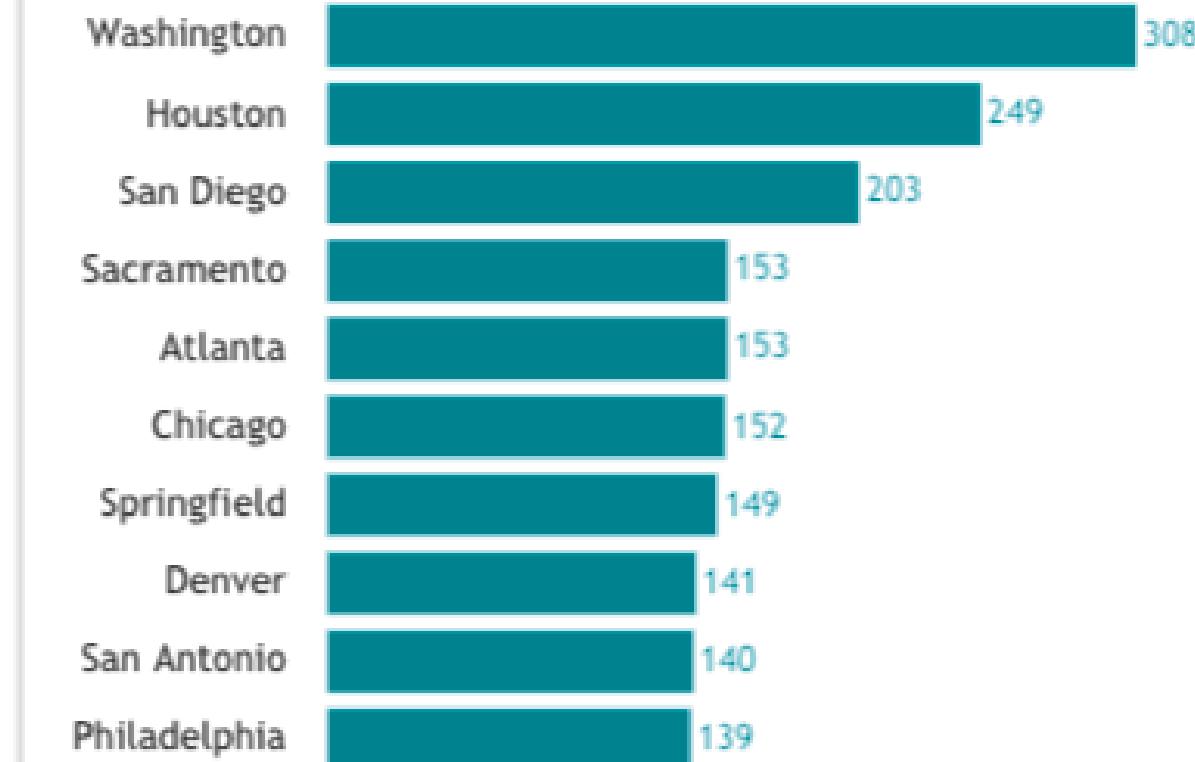
- The company earns most of its money from a few expensive products. Robots (\$745.3K) and Drones (\$477.4K) together make up the biggest share of sales.
- Digital products like eBooks (3.1K units) and Training Videos (2.1K units) sell in very high numbers but bring in very little money because they are cheap.

Key Insight

Total Sales by City



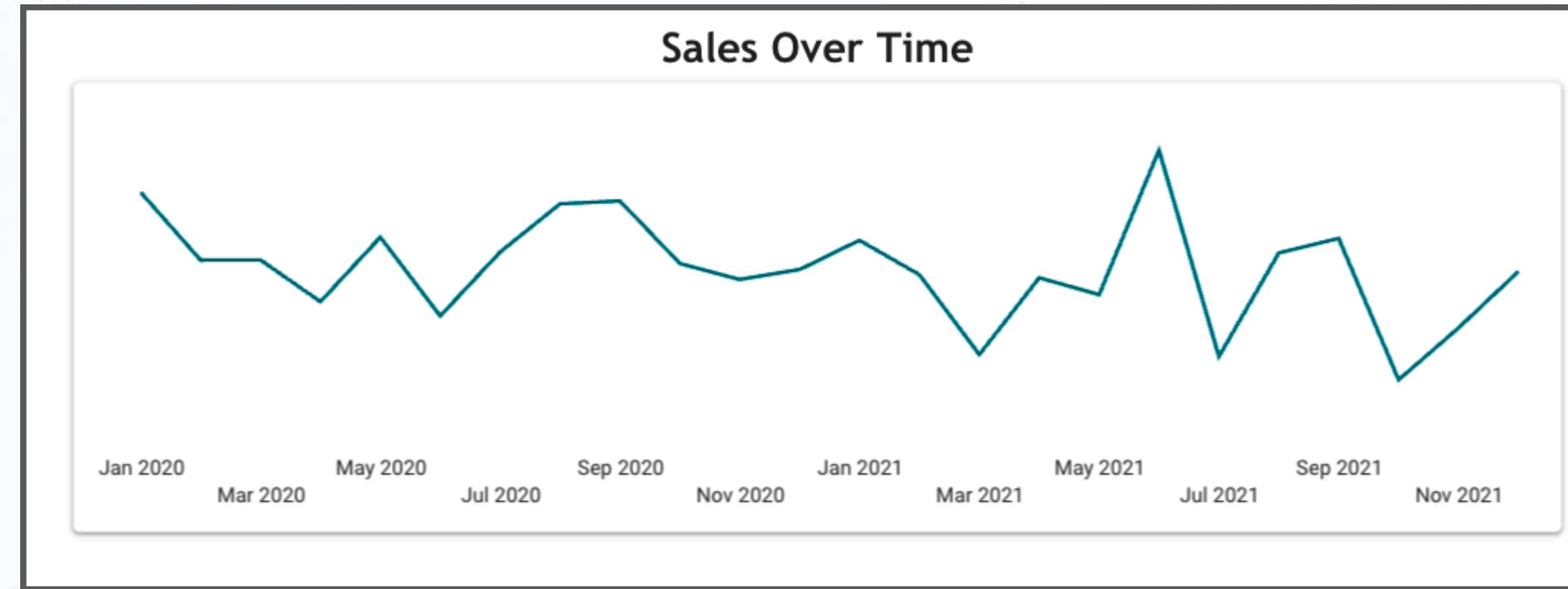
Total Quantity by City



Sales Focused in Few Cities:

- Washington is the top city with \$55K in sales and the highest number of products sold.
- Houston and Sacramento comes next with \$33K in sales.
- Other cities show much lower sales, meaning the company depends too much on just a few locations.

Key Insight



Unstable Sales Over Time:

- Sales are not steady month by month.
- There are big spikes (e.g., May and November) followed by drops, showing that sales depend on special events, promotions, or launches, not regular demand.

Conclusion

The company has strong products and a good mix of physical and digital items.

But:

- Digital products sell a lot but don't make enough money.
- Sales depend too much on a few cities.
- Revenue is unstable because it relies on events instead of steady growth.

To grow long-term, the company needs to earn more from digital products and expand into new markets.

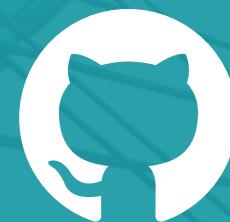
Recommendations

- **Make Digital Products More Profitable:**
 - Increase prices slightly on eBooks and Training Videos.
 - Example: Adding just \$1 more per eBook could give an extra \$3.7K in revenue.
- Consider a subscription plan for digital content to bring in regular monthly income.
- **Invest in Key Cities While Expanding:**
 - Spend more on marketing in Washington and Houston to keep sales strong.
 - Use smaller test campaigns in new cities to find the next growth markets.
- **Stabilize Sales Throughout the Year:**
 - Study what caused the sales spikes in May and November.
 - Plan promotions and product launches ahead of time to keep sales steady and avoid big ups and downs.

REFERENCES



1#



github.com/ahs1704/sales-performance-analysis



lookerstudio.google.com



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Thank You

