

# Digital User Churn Dashboard PT. Sejahtera Bersama

Bank Muamalat Business Intelligence Analyst  
Project-Based Internship Program

Presented by  
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# Muhammad Fadhilah Faqih R

## About You

Graduate of Informatics Engineering with a strong interest in data and analytics. During my studies, I developed skills in programming, databases, and information technology. However, as the digital world continues to evolve, I discovered a new passion for the field of data analysis.

## Experience

-  **RevoU Mini Course: Data Analytics**  
*Microsoft Excel, SQL, Python, Data Vizualization*
-  **Data Analysis MySkill Fullstack Intensive Bootcamp Batch 18**  
*Statistics, Problem Solving, Data Formatting & Validation, Data Cleansing, SQL ,Python, Data Visualization*
-  **Menguasai Fundamental Business Analyst by Kelas.com**  
*Fundamental Business Analyst, BRD, Model Business & Process, Analitics. Communication & Presentation, Data Analysis & Decision Making, Project Management, Etika & Proffesionalisme*

# Case Study

PT Sejahtera Bersama aims to analyze sales data to identify transaction patterns and enhance business performance. By integrating data from four different tables, a master table is created to consolidate key information.

This data is then visualized in Looker Studio to monitor total sales, order quantities, and top-performing cities. Based on the analysis, several strategic business recommendations are proposed. With this data-driven approach, PT Sejahtera Bersama can effectively sustain and accelerate sales growth.



# Tools



**Google**  
Big Query



**Looker**  
PART OF Google Cloud

# Dataset

## Tabel Customer

CustomerID	FirstName	LastName	CustomerEmail	CustomerPhone	CustomerAddress	CustomerCity	CustomerState	CustomerZip
1	Grazia	Rasmus	grasmusas@i2i.jp#mailto:gra	(202) 577-2595	628 Buhler Junction	Washington	District of Columbia	20029
2	Bunny	Trevan	btrevanmj@wordpress.org#r	917-903-2827	52 Cascade Drive	Jamaica	New York	11436
3	Tracie	Grayston	tgrayston7k@pagesperso-or	404-868-2391	672 Comanche Way	Atlanta	Georgia	30343
4	Amerigo	Garrelts	agarrelts6e@oaic.gov.au#ma	415-190-3290	8252 Village Green Hill	San Francisco	California	94177
5	Shea	Stronghill	sstronghillc1@google.nl#mai	432-775-7828	542 3rd Point	Midland	Texas	79705
6	Geoffry	Bonde	gbonde90@vimeo.com#mail	415-176-9919	781 Larry Place	San Francisco	California	94159
7	Noelle	Carlile	ncarlile37@mit.edu#mailto:n	405-745-9826	539 Crowley Parkway	Oklahoma City	Oklahoma	73114
8	Binny	Whetson	bwhetsonio@amazon.de#m	585-968-0566	579 Sugar Circle	Rochester	New York	14619

## Tabel Orders

OrderID	Date	CustomerID	ProdNumber	Quantity
1	1/1/2020	1866	EB514	2
2	1/1/2020	1567	RS706	3
3	1/1/2020	2064	TV804	6
4	1/1/2020	287	DK203	1
5	1/1/2020	422	EB517	5
6	1/1/2020	954	EB519	5
7	1/2/2020	726	RK604	2
8	1/2/2020	1740	TV810	1

## Tabel ProductCategory

CategoryID	CategoryName	CategoryAbbreviation
1	Blueprints	BP
2	Drone Kits	DK
3	Drones	DS
4	eBooks	EB
5	Robot Kits	RK
6	Robots	RS
7	Training Videos	TV

## Tabel Products

ProdNumber	ProdName	Category	Price
BP101	All Eyes Drone Blueprint	1	9.99
BP102	Bsquare Robot Blueprint	1	8.99
BP104	Cat Robot Blueprint	1	4.99
BP105	Creature Robot Arms Blueprint	1	12.00
BP106	Hexacopter Drone Blueprint	1	8.99
BP107	Ladybug Robot Blueprint	1	12.00
BP108	Panda Robot Blueprint	1	7.99

# Primary Keys

To Create a table master for analysis, we first need to define primary keys for each dataset. A **Primary keys** is a unique identifier for each record in table, ensuring data integrity and enabling relationships between tables. The primary keys for each dataset are:

1. **Customers → CustomerID**
2. **Products → ProdNumber**
3. **Orders → OrderID**
4. **ProductCategory → CategoryID**

These primary keys allow us to establish relationships between tables, making it possible to join and analyze data effectively.

# Entity Relationship Diagram (ERD)

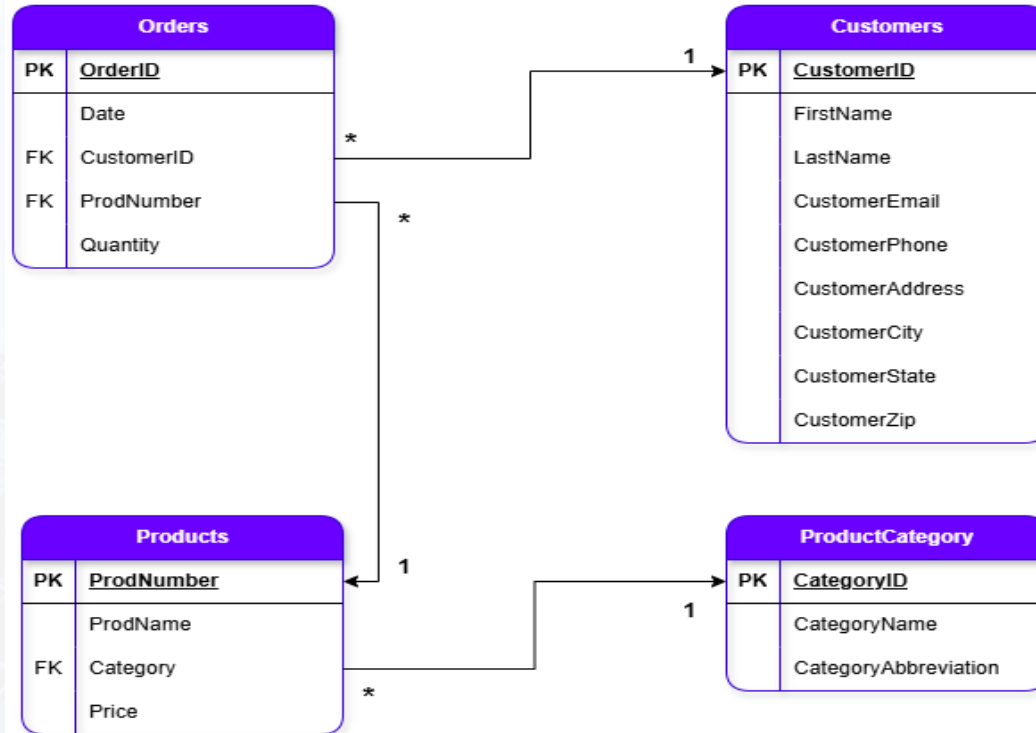
The Relationships among these tables are structured as follows:

1. **Customers** → **Orders** (CustomerID) → **One to Many (1:M)**
2. **Orders** → **Products** (ProdNumber) → **Many to Many (M:1)**
3. **Products** → **Product CategoryID** (Category → CategoryID) → **Many to One (M:1)**

To Analyze sales data, we use SQL JOIN operations to merge these tables based on their relationships. A SQL Query can be written to join all four tables and extract the necessary fields for future insight.



# Entity Relationship Diagram (ERD)



# Table Master

From these datasets, we will create a table master containing:

- CustomerEmail (cust\_email)
- CustomerCity (cust\_city)
- OrderDate (order\_date)
- OrderQty (order\_qty)
- ProductName (product\_name)
- ProductPrice (product\_price)
- ProductCategory (product\_category)
- TotalSales (total\_sales)

This table master will be sorted by order date ( from earliest to latest ) and saved in CSV format for further analysis.

# Table Master

## Query

```
SELECT
    o.Date AS order_date,
    pc.CategoryName AS category_name,
    p.ProdName AS product_name,
    p.Price AS product_price,
    o.Quantity AS order_qty,
    (p.Price * o.Quantity) AS total_sales,
    c.CustomerEmail AS cust_email,
    c.CustomerCity AS cust_city
FROM
    `pbirakamin-453715.MajuSejahtera.Orders` o
JOIN
    `pbirakamin-453715.MajuSejahtera.Products` p
    ON o.ProdNumber = p.ProdNumber
JOIN
    `pbirakamin-453715.MajuSejahtera.ProductCategory` pc
    ON p.Category = pc.CategoryID
JOIN
    `pbirakamin-453715.MajuSejahtera.Customer` c
    ON o.CustomerID = c.CustomerID
ORDER BY
    o.Date ASC;
```

## Query Result

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#mailto:edew...	Honolulu
2	2020-01-01	eBooks	Polar Robots	23.99	2	47.98	fvaslerqt@comsenz.com#mailt...	Jackson
3	2020-01-01	eBooks	SCARA Robots	19.5	5	97.5	llespercx@com.com#mailto:lle...	Des Moines
4	2020-01-01	eBooks	Spherical Robots	16.75	5	83.75	lfromonte9@de.vu#mailto:lfro...	Birmingham
5	2020-01-01	Robots	RWW-75 Robot	883.0	3	2649.0	tmckemot@tinyurl.com#mailto...	Katy
6	2020-01-01	Training Videos	Drone Video Techniques	37.99	6	227.94	gstiggersdd@eventbrite.com#mailto:gstiggersdd@eventbrite.com#	Saint Petersburg
7	2020-01-02	Blueprints	Ladybug Robot Blueprint	12.0	2	24.0	akingaby78@deviantart.com#...	West Palm Beach
8	2020-01-02	Drone Kits	BYOD-100	54.0	5	270.0	jzellick84@ustream.tv#mailto:j...	Washington
9	2020-01-02	Drones	DTE-QFN20 Drone	250.0	2	500.0	jcolthurstgu@cbsnews.com#m...	Sacramento
10	2020-01-02	eBooks	Fixed Wing Drones	15.5	3	46.5	ohalbardv@booking.com#mailt...	Birmingham
11	2020-01-02	Robot Kits	BYOR-2640S	189.0	2	378.0	aguiongo@behance.net#mailto...	Houston

## Key Metrics

Using **Looker Studio**, Create a visualization to display the sales data. The dashboard should include at least the following key metrics:

- Total Sales
- Total Sales by Product Category
- Total Quantity by Product Category
- Total Sales by City
- Total Quantity by City
- Top 5 Product Categories by Sales
- Top 5 Product Categories by Total Quantity

As a BI Analyst at PT Sejahtera Bersama, we can leverage the detailed transaction table to develop strategies for maintaining and increasing sales.



# Visualisasi Dashboard



PT Sejahtera Bersama  
Digital User Churn Dashboard

Jan 1, 2020 - Dec 31, 2021

Product Price

4,99 899

\$1.754.751

Total Sales

11.654

Order Quantity



3.339

Total Customer

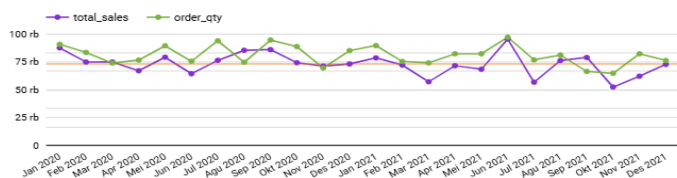
Product Category

Product Name

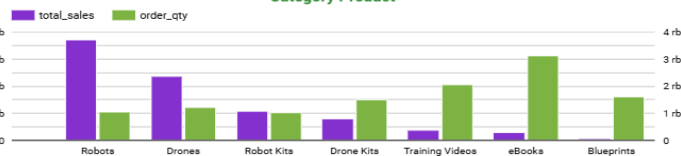
Product Name

Customer City

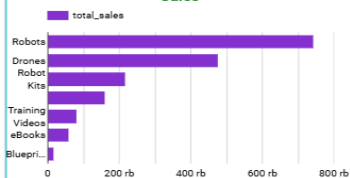
Sales Trend per Month(2020 - 2021)



Total Sales and Total Quantity by Category Product



Top 7 Product Category by Total Sales



Top 7 Product Category by Total Quantity



Total Sales by City

cust_city	total_sales
Washington	55.382
Houston	33.761
Sacramento	33.380
San Diego	29.229
Albany	25.406
Springfield	25.061
Miami	24.833
El Paso	24.457
Phoenix	24.085
Philadelphia	23.845
Birmingham	23.174

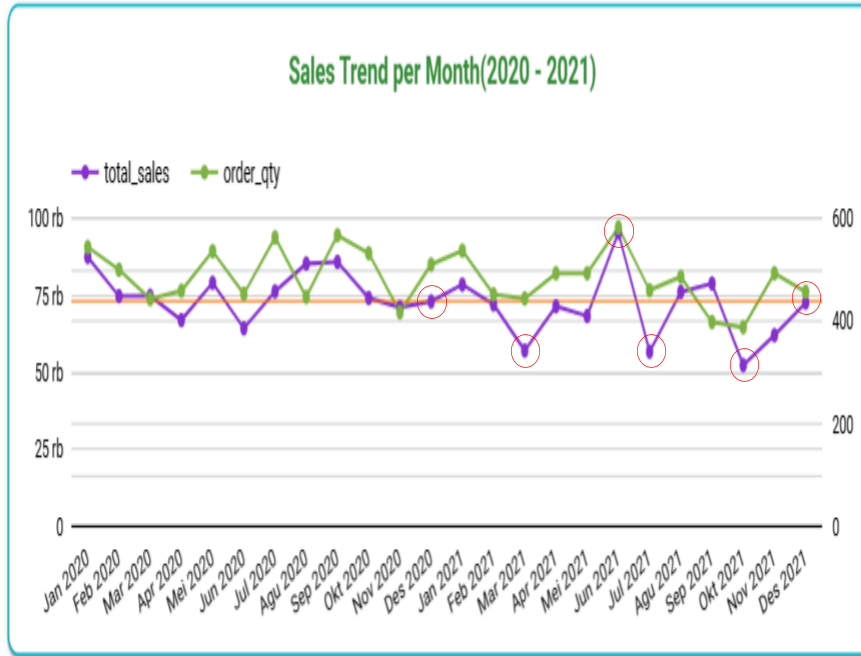
Total Quantity by City

cust_city	order_qty
Washington	308
Houston	249
San Diego	203
Sacramento	153
Atlanta	153
Chicago	152
Springfield	149
Denver	141
San Antonio	140
Philadelphia	139
Miami	138

Link Looker Studio :

<https://lookerstudio.google.com/reporting/1726aa9b-c22d-4d22-b1a4-beedff3b4524>

# Insight



The trendlines indicate a gradual decline in both **Total Sales** and **Order Quantity** over time, accompanied by noticeable seasonal fluctuations throughout each year.

A significant peak was observed in **June 2021**, where **Total Sales** reached **95,401.53** and **Order Quantity** climbed to **582**, most likely driven by major promotional campaigns or mid-year market demand.

However, following this peak, several months exhibited notable declines:

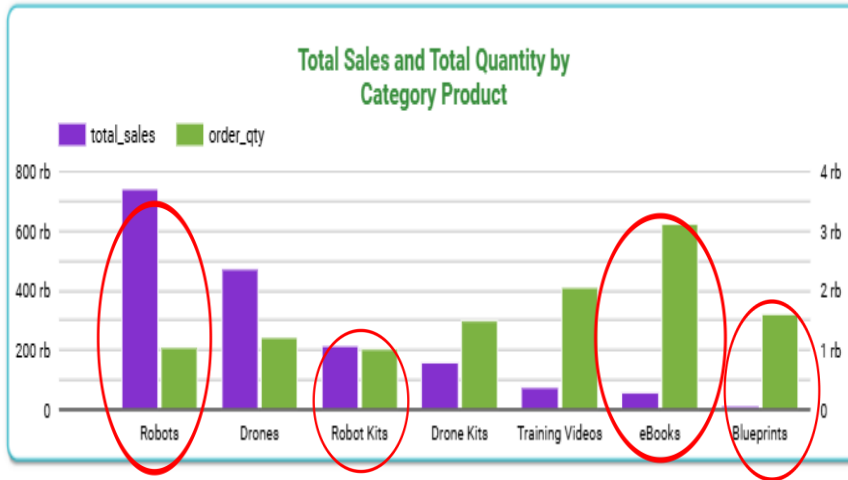
- **March 2021:** Total Sales decreased to **57,080.91**, down from **72,040.18** in February.
- **July 2021:** Total Sales dropped sharply to **56,720.86**, considerably lower compared to June.
- **October 2021:** A further decline occurred, with Total Sales falling to **52,348.49** and Order Quantity reducing to **388**.

Conversely, both **December 2020** and **December 2021** recorded positive sales growth, likely influenced by year-end shopping behavior and festive season demand.

# Recommendations

1. Given the significant peak in **June 2021**, ensure that mid-year promotional campaigns are carefully planned and well-executed.
2. Following sales peaks (such as post-**June**), implement retention strategies through loyalty programs, targeted email marketing, and personalized offers to minimize sales decline.
3. Conduct root cause analysis for months with sharp declines (**March, July, and October**).
4. Investigate potential causes, including pricing strategy, stock availability, competitive activity, or changes in customer behavior.
5. Initiate holiday campaigns starting from November to extend purchasing momentum.

# Insight



1. **Robots** – Achieved the highest total sales of **743,505** despite having a relatively low order quantity of **1,053**. This indicates that robots are premium products, primarily targeted toward corporate clients or tech-savvy individuals who are willing to invest in high-value purchases.
2. **Robot Kits** – Recorded the lowest total sales and order quantity. This suggests that the product may be less attractive to customers, possibly due to minimal marketing efforts or pricing that does not align with customer expectations. A pricing and promotion review is recommended.
3. **eBooks** – Dominated in order quantity with **3,123** units sold but generated lower total sales of **58,968.41**. This highlights their affordability and ease of distribution, making them highly accessible and often purchased in bulk for educational or complementary purposes.
4. **Blueprints** – Showed the lowest total sales value of **16,434.51**. These products are typically purchased as add-ons to primary products, with pricing that reflects their supplementary nature.

**Consumer Behavior Trends** The data shows that **eBooks** and **Blueprints** are more popular among consumers due to their affordability, ease of access, and their function as complementary products. In contrast, **Robots** are positioned as high-value items for niche markets, while **Robot Kits** require strategic attention to improve their market appeal.



# Recommendations

## 1. Robots (Premium Product)

- Strengthen targeted marketing campaigns aimed at corporate clients and tech professionals.
- Enhance the premium brand positioning through business case studies, testimonials, and presence at tech events.

## 2. Robot Kits (Lowest Sales Performance)

- Conduct a pricing review to ensure product value aligns with customer expectations.
- Increase digital promotion efforts through social media advertising and influencer collaborations to boost brand awareness.

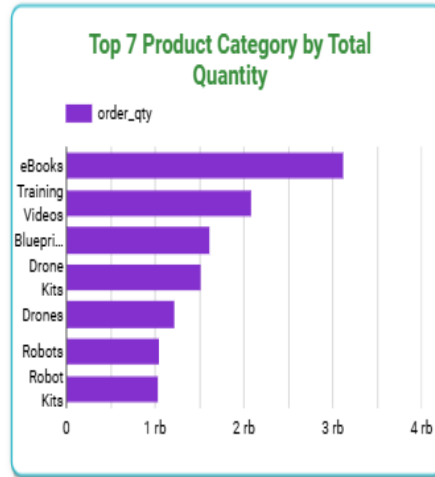
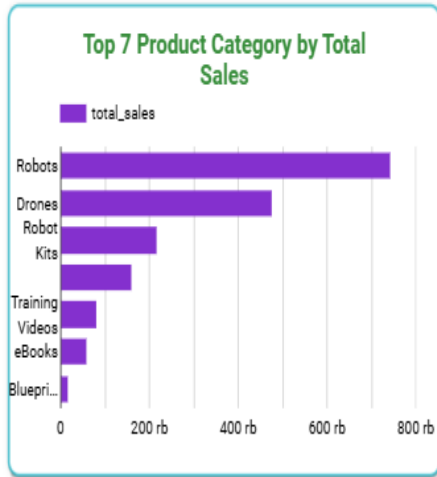
## 3. eBooks (Highest Order Volume)

- Maintain affordability and accessibility as key strengths.

## 4. Blueprints (Supplementary Product)

- Continue positioning blueprints as affordable add-on products.
- Enhance product content and visuals to clearly communicate the value of blueprints as complementary resources

# Insight



1. **Premium Products** (Robots & Drones) — High revenue contribution despite lower sales volume.
2. **Digital Products** (eBooks & Training Videos) — Strong sales due to affordability and accessibility.
3. **Drones** — High-value product with strong, consistent demand.
4. **Drone Kits** — Often purchased as accessories, showing bundling potential.
5. **Training Videos** — High demand from beginners, indicating the need for educational support.

# Recommendations

## 1. Strengthen Premium Product Promotions

- Focus marketing efforts on Robots and Drones to maximize revenue from premium categories.
- Offer installment plans or exclusive programs to encourage purchases of high-ticket items.

## 2. Expand the Digital Product Portfolio

- Add more **eBooks and Training Videos** on relevant topics to attract a wider customer base.
- Create digital product bundles to increase transaction value

## 3. Develop Bundling Strategies

- Offer Drone + Drone Kit bundles to boost accessory sales.
- Provide special discounts for package purchases.

## 4. Enhance Educational Support for New Customers

- Provide webinars, tutorials, and free educational content to attract and retain beginner-level buyers.
- Create loyalty programs based on educational engagement (e.g., reward points for purchasing training videos).

# Insight

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Springfield	25.061
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Birmingham	23.174

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Houston	249
San Diego	203
Sacramento	153
Atlanta	153
Chicago	152
Springfield	149
Denver	141
San Antonio	140
Philadelphia	139
Miami	138

1. **Washington** leads in both total sales (55,382) and order quantity (308), indicating it is the strongest and most potential market.
2. **Houston** ranks second in total sales (33,761) and order quantity (249), showing consistent and stable demand.
3. **Sacramento** has relatively high total sales (33,380) but does not appear in the top three for order quantity, suggesting higher average transaction values per order.
4. **San Diego** ranks third in order quantity but is not in the top three for total sales, indicating an opportunity to increase transaction value in this city.



# Recommendations

## 1. Focus on Washington

- Strengthen marketing campaigns and loyalty programs to maintain leadership in both sales and order quantity.
- Introduce exclusive offers to retain and grow high-value customers.

## 2. Optimize Sales in Houston

- Continue targeted promotions to maintain steady demand.
- Explore upselling and bundling strategies to increase average order value.

## 3. Leverage Sacramento's High Transaction Value

- Focus on premium product promotions and VIP customer programs.
- Highlight high-end product features to encourage repeat purchases.

## 4. Increase Value in San Diego

- Run campaigns focused on value bundles or product upgrades.
- Educate customers on premium products to drive higher-value purchases.

# Thank You



**Rakamin**  
Academy



**Bank**  
**Muamalat**