

BUSINESS INTELLIGENCE ANALYST

Project Based Virtual Internship

By Ratna Hanum Puspita



ABOUT ME

Ratna Hanum Puspita

A Bachelor of Science from Universitas Indonesia.
A data analyst enthusiast. Currently, studying Data Science at Rakamin Academy. Proficient in use Microsoft Excel, SQL, Python, SPSS, and LookerStudio. Good in english with TOEFL ITP 547 / 677.



Experience

- Project-Based Internship
Bank Muamalat x Rakamin Academy
Business Intelligence Analyst
- Rakamin Academy
Data Science Student

A vertical image on the left side of the slide shows a drone in flight, carrying a large cardboard box. The box has a white label with the word 'DELIVERY' printed vertically. The background is blurred, suggesting an outdoor setting.

TABLE OF CONTENTS

01

Background

04

Master Table

02

Primary Key

05

Dashboard

03

**Relationship
Database**

06

**Business
Recommendation**

BACK GROUND



As a Business Intelligence Analyst, we have a duty to provide insights about product, business, and marketing. Here we will analyze the business of PT. Sejahtera Bersama, a fictitious commerce company in the technology sector. Therefore, we are asked about the business current sales in order to adjust the new strategy that can boost the business performance in the future.

TOOLS TO ANALYZE:



Google Sheets



Google
BigQuery



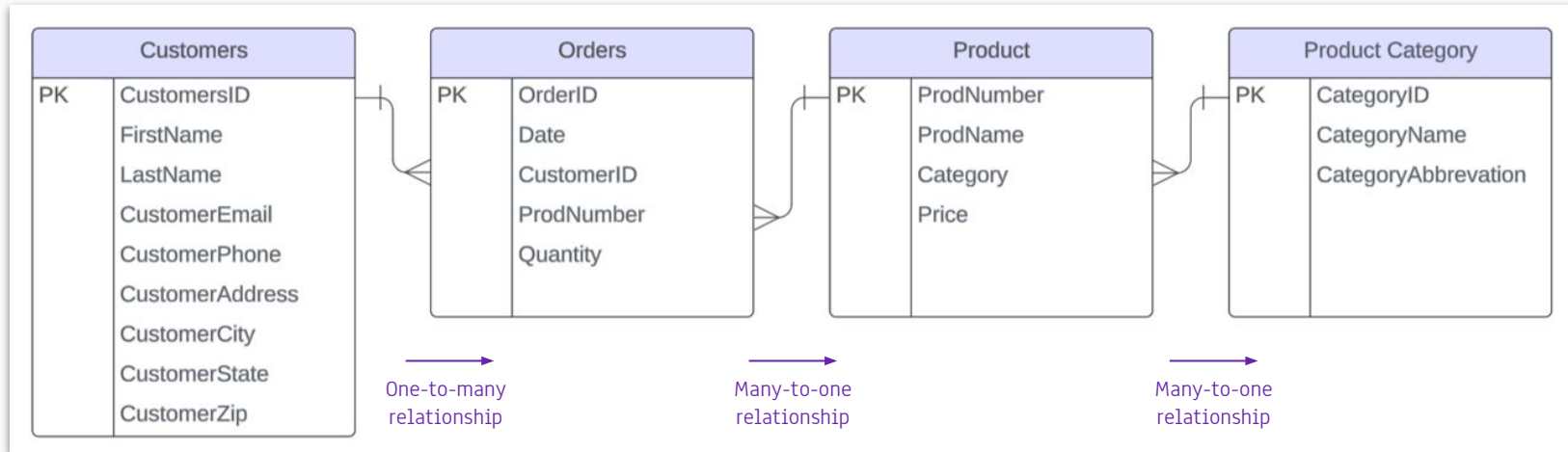
Looker Studio

PRIMARY KEY

A primary key is a column in a relational database table that is used to identify or differentiate each row in the table. The characteristics of the primary key include unique columns, not null, and stable.

Tabel	Primary Key
Customer	CustomerID
Products	ProdNumber
Orders	OrderID
ProductCategory	CategoryID

RELATIONSHIP DATABASE



Relationship Table is a description of the data structure and relationships between tables. This is important to use when you want to combine several tables into one entity. In general, it generally takes the form of matching the primary key of one table with a foreign key in another table.

MASTER TABLE (1/2)

Combine four tables into one master table using [Google BigQuery](#). The aim is to obtain one file containing all the information that later be used as main data for visualization.

Syntax SQL:

```
1      WITH tmp AS
2      (
3      SELECT
4          c.CustomerEmail,
5          c.CustomerCity,
6          o.Date,
7          o.Quantity,
8          p.ProdName,
9          p.Price,
10         pc.CategoryName
11     FROM `Muamalat.orders` AS o
12     JOIN `Muamalat.customers` AS c
13         ON o.CustomerID = c.CustomerID
14     JOIN `Muamalat.products` AS p
15         ON o.ProdNumber = p.ProdNumber
16     JOIN `Muamalat.product_category` AS pc
17         ON p.Category = pc.CategoryID
18     )
19     SELECT
20         Date AS order_date,
21         CategoryName AS category_name,
22         ProdName AS product_name,
23         Price AS product_price,
24         Quantity AS order_qty,
25         SUM(Quantity*Price) AS total_sales,
26         CustomerEmail AS cust_email,
27         CustomerCity AS cust_city
28     FROM tmp
29     GROUP BY 1,2,3,4,5,7,8
30     ORDER BY Date ASC
```

MASTER TABLE (2/2)

Output:

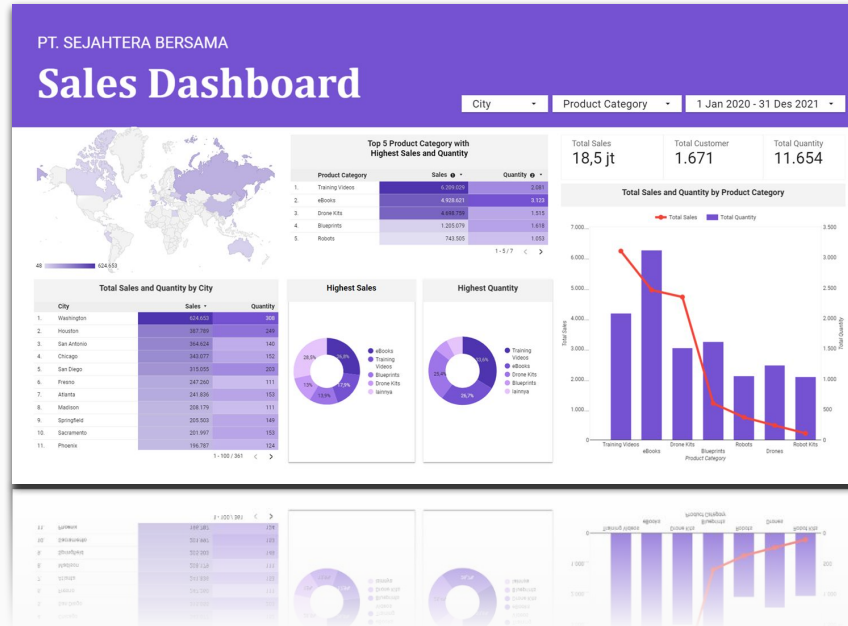
Row	order_date	category_name	product_name	product_price	order_qty	total_sales	cust_email	cust_city
1	2020-01-01	Drone Kits	BYOD-220	69	1	69	edew@nba.com#mailto:edew...	Honolulu
2	2020-01-01	eBooks	Polar Robots	2399	2	4798	fvaslerqt@comsenz.com#mailt...	Jackson
3	2020-01-01	eBooks	SCARA Robots	195	5	975	llespercx@com.com#mailto:lle...	Des Moines
4	2020-01-01	eBooks	Spherical Robots	1675	5	8375	lfromonte9@de.vu#mailto:lfro...	Birmingham
5	2020-01-01	Robots	RWW-75 Robot	883	3	2649	tmckernot@tinyurl.com#mailto...	Katy



Google Sheets

The result query is a table formed, the results of the query are then saved by exporting into a **Google Sheet**.

DASHBOARD

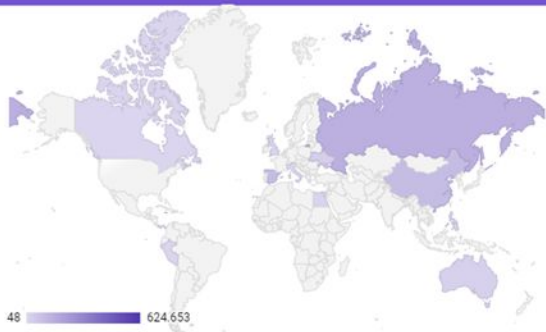


Sales Dashboard

City

Product Category

1 Jan 2020 - 31 Des 2021

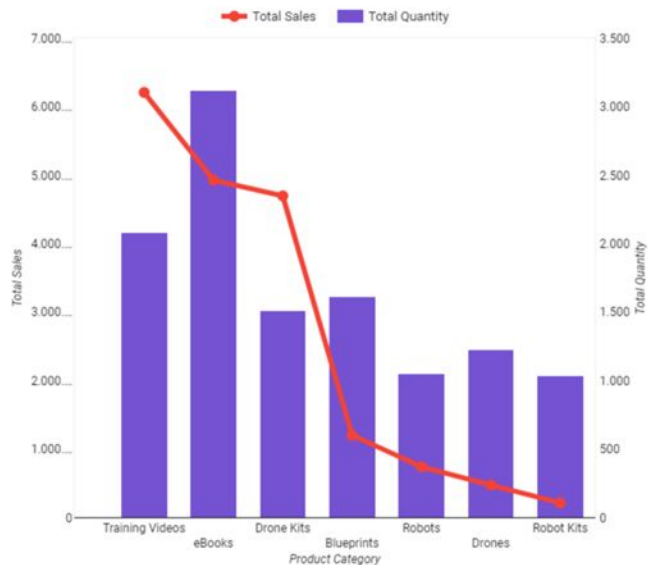


Top 5 Product Category with Highest Sales and Quantity

Product Category	Sales	Quantity
1. Training Videos	6.209.029	2.081
2. eBooks	4.928.621	3.123
3. Drone Kits	4.698.759	1.515
4. Blueprints	1.205.079	1.618
5. Robots	743.505	1.053

Total Sales
18,5 jtTotal Customer
1.671Total Quantity
11.654

Total Sales and Quantity by Product Category

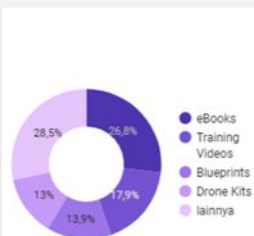


Total Sales and Quantity by City

City	Sales	Quantity
1. Washington	624.653	308
2. Houston	387.789	249
3. San Antonio	364.624	140
4. Chicago	343.077	152
5. San Diego	315.055	203
6. Fresno	247.260	111
7. Atlanta	241.836	153
8. Madison	208.179	111
9. Springfield	205.503	149
10. Sacramento	201.997	153
11. Phoenix	196.787	124

1 - 100 / 361

Highest Sales



Highest Quantity



DASHBOARD FEATURES (1/3)

Dashboard Title

PT. SEJAHTERA BERSAMA

Sales Dashboard

Users can get information such as: what kind of dashboard, what the main information the dashboard tell.

Score Card

Users can find quick insights from the key metrics in the business.

Total Sales
18,5 jt

Total Customer
1.671

Total Quantity
11.654

Control Filter

Using control filter, users can filter the data based on their needs. In this dashboard, user can filter based on time period, city, and state.

City Filter

☒ City

☒ Washington

☒ Houston

☒ San Antonio

☒ Chicago

☒ San Diego

☒ Fresno

☒ Atlanta

☒ Madison

☒ Springfield

☒ Sacramento

☒ -- Lainnya --

Product Category Filter

☒ Product Category total_sales

☒ Training Videos

6,2 jt

☒ eBooks

4,9 jt

☒ Drone Kits

4,7 jt

☒ Blueprints

1,2 jt

☒ Robots

743,5 rb

☒ Drones

477,4 rb

☒ Robot Kits

216,4 rb

Date Range Filter

Tanggal Mulai

Tanggal Akhir

<

January 2020

>

Sun

Mon

Tue

Wed

Thu

Fri

Sat

29

30

31

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

1

2

3

4

5

6

7

8

<

December 2021

>

Sun

Mon

Tue

Wed

Thu

Fri

Sat

28

29

30

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

26

27

28

29

30

31

1

2

3

4

5

6

7

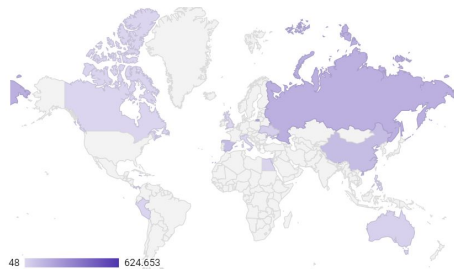
8

BATAL

TERAPKAN

DASHBOARD FEATURES (2/3)

Range of commerce areas in the world map



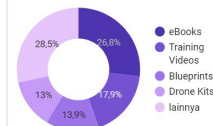
Top 10 city with the highest sales & quantity

Total Sales and Quantity by City		
City	Sales	Quantity
1. Washington	624.653	308
2. Houston	387.789	249
3. San Antonio	364.624	140
4. Chicago	343.077	152
5. San Diego	315.055	203
6. Fresno	247.260	111
7. Atlanta	241.836	153
8. Madison	208.179	111
9. Springfield	205.503	149
10. Sacramento	201.997	153

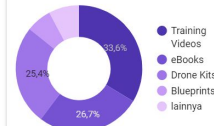
Top 5 product category with the highest sales & quantity

Top 5 Product Category with Highest Sales and Quantity		
Product Category	Sales	Quantity
1. Training Videos	6.209.029	2.081
2. eBooks	4.928.621	3.123
3. Drone Kits	4.698.759	1.515
4. Blueprints	1.205.079	1.618
5. Robots	743.505	1.053

Highest Sales



Highest Quantity



DASHBOARD FEATURES (3/3)

Insight +
Recommendation

Total Sales and Quantity by Product Category



There is an imbalance between the available quantity and sales sold in a number of Product Categories.

Understock product

(Training videos & Drone kits)

Sales demand > available quantity. If it is not handled immediately, it will result in revenue loss. Therefore, it is best to immediately re-stock, especially in areas with high demand.

Overstock products

(eBooks, Blueprints, Drones, Robots, Robots Kits)

Sales demand < available quantity. Preferably, marketing can start by finding out the root problem, such as whether it is a mismatch with trends, expensive rate price, etc. From this, strategies can be formed, for example providing discounts and cross-selling.

Product: "Drones vs Drone Kits"

Unlike the products "Robots" and "Robot Kits" which both have lower sales than stock. There are interesting things about "Drone" and "Drone Kits". "Drone Kits" have very high sales demand and are among the top 3 products, but there is not enough stock. On the other hand "Drone" is the opposite. This is valuable insight and can be done to root problems. For example, if "Drone kits" are more affordable, perhaps the same strategy can be applied to "Robot Kits" to increase sales variables.

BUSINESS RECOMMENDATION

The dataset is sales data held over a period of 2 years (Jan'20 - Dec'21) with sales revenue of 18.5 million dollars, and has 1,671 customers spread across 361 countries. The following are insights and recommendations that can be used to maintain and increase sales:



Maintaining good service



Focusing on the top of 5 Product Categories

Top 5 product: training videos, eBooks, Drone Kits, Blueprints, and Robots. Examples include adding new variety to training videos; or collaborate with items in eBooks. This can maintain customer retention (CRM) and increase revenue.



Campaign Limited Product

Create a limited campaign by upgrading an existing product but has low sales. The way to do this is by holding limited pre-orders or it can be limited per certain season or use cross-selling strategy. This can have good impacts, such as increasing brand and product awareness, increasing customer curiosity who are ultimately interested in buying special edition products.

FILE



Looker Studio : [Link to Lookerstudio](#)



GitHub : [Link to GitHub](#)

THANK YOU

Regards, Ratna Hanum Puspita.

Portfolio

Click here



: ratnahanum1@gmail.com



: linkedin.com/ratnahanum



: github.com/RatnaHanum

