Superstore BIE

EVAN HARYOWIDYATNA (BIE-WAVE-6)

Technical Requirements Document (TRD) Dashboard Department Marketing & Sales

Superstore, Pltd. adalah salah satu perusahaan retail yang terletak di US. Perusahaan ini menjual berbagai kebutuhan sehari-hari seperti furniture dan sebagainya. Dengan cabang yang sudah tersebar di berbagai tempat di US. Superstore, Pltd. menunjukkan pertumbuhan yang sangat bagus dari tahun ke tahun.

BI Engineer   TRD

BI Engineer   TRD

1   Document Revisions

Date	Version Number	Document Changes
01/07/2022	0.1	Draft Pertama

2   Approvals

Role	Name	Title	Signature	Date
User				
BI				

3 Introduction

3.1 Project Overview

Proyek ini adalah proyek dashboard Business Intelligence yang berfungsi untuk memberikan visibilitas kepada Department Marketing & Sales atas monitoring penjualan produk, performa cabang, pencapaian target penjualan secara berkala (daily, monthly, quarterly dan yearly). Proyek ini dapat dilakukan dengan melakukan proses ETL pada data *Order, Customer*, dan *Product* yang ada pada spreadsheet

3.2 Project Objectives

Proyek ini diharapkan untuk menggantikan proses konsolidasi report manual yang selama ini dilakukan oleh Departemen Marketing & Sales serta menjadi dashboard yang dapat diakses oleh seluruh *branch manager* yang bertugas di Superstore untuk memonitoring dan mengevaluasi kinerja toko mereka.

Selain itu dashboard yang dibuat bertujuan untuk dapat memberi gambaran end-to-end kepada Department Marketing & Sales atas penjualan produk di semua regional serta dapat melakukan monitoring penjualan secara daily, monthly, quarterly dan yearly.

3.3 Technical Design Diagram

3.3.1 Components

- **Data Source Location**

  Connection & Location data yang digunakan pada proyek ini berasal dari *spreadsheet* data Order, Customer, dan Product Superstore yang telah dimuat dalam *Google BigQuery.* Data yang digunakan merupakan data internal perusahaan

  Database Penjualan Superstore

  IP Address: 11.123.22.234

  Port Number: 123

- **Server & Storage**

  Proyek pembuatan dashboard ini menggunakan *cloud storage* atau sebuah model penyimpanan berbasis internet. Data yang disimpan di *cloud*, akan disimpan di server penyedia layanan dan bisa diakses dengan menggunakan koneksi internet.

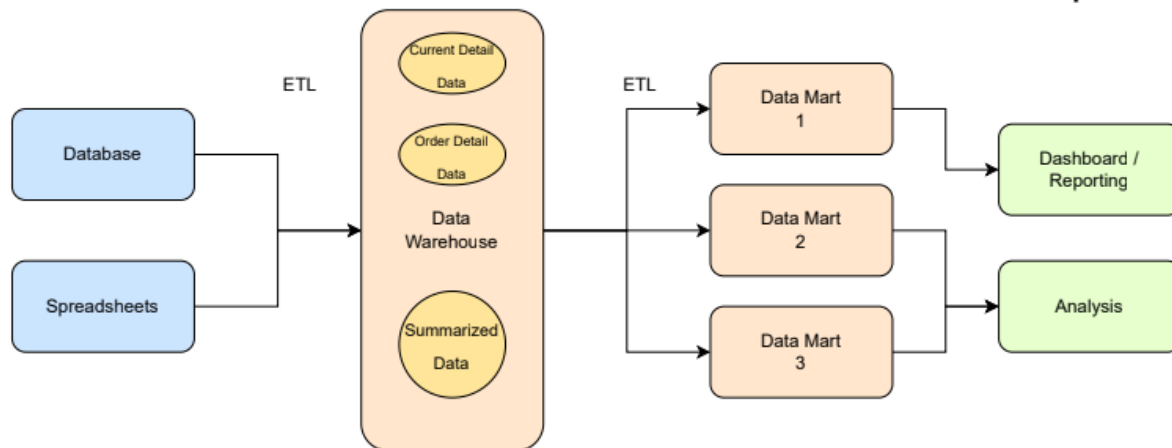 Data warehouse Penjualan Superstore

  IP Address: 33.123.22.234

  Port Number: 345

- **Logical Data Flow**

Data Source	Data Warehouse	Presentation / Reports

3.4 Technical Specification

Terdapat tiga kategori spesifikasi teknis pada proyek ini yang meliputi:

(1) Spesifikasi software untuk pemrosesan data;

(2) Detail kebutuhan database yang meliputi nama database, nama table, dan desain ERD

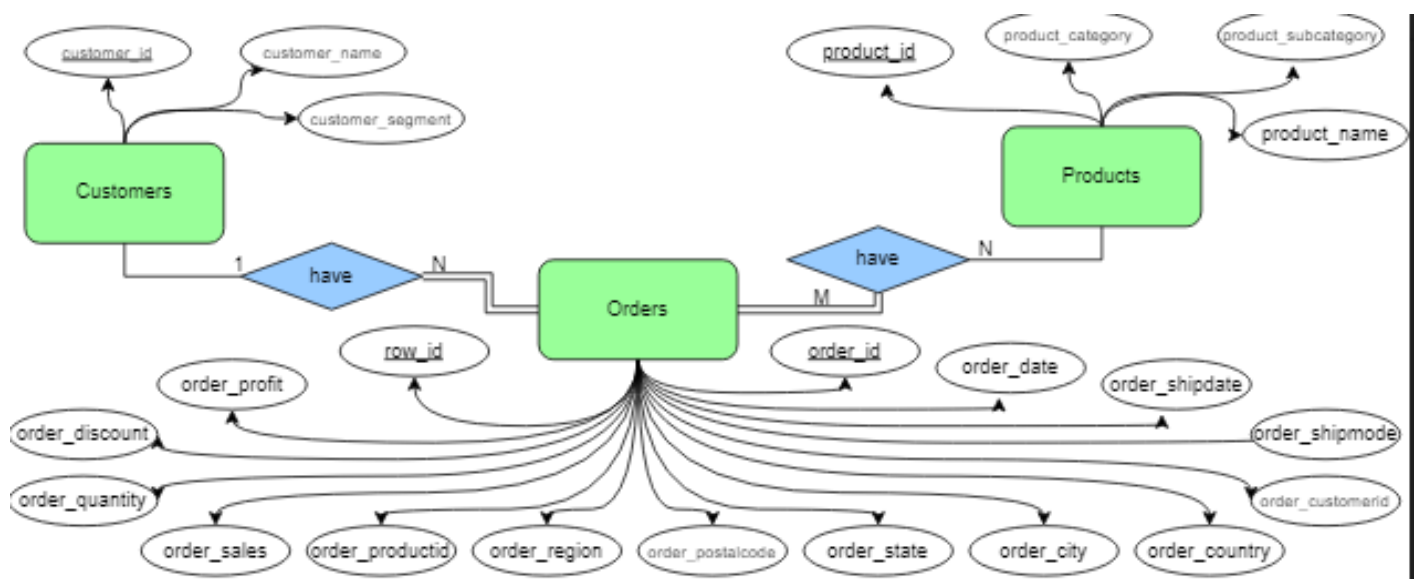(3) Daftar user yang dapat mengakses hasil olahan data

3.4.1 Application Requirement

1. Operating system: Windows 10 Pro 64-bit (10.0, Build 19044) or Up
2. Processor/CPU: Intel(R) Core(TM) i5-8550U CPU @ 1.80 GHz (8 CPUs), 2.0 GHz or Up
3. Memory: 16GB RAM or Up
4. Google BigQuery
5. Browser versi ter-update
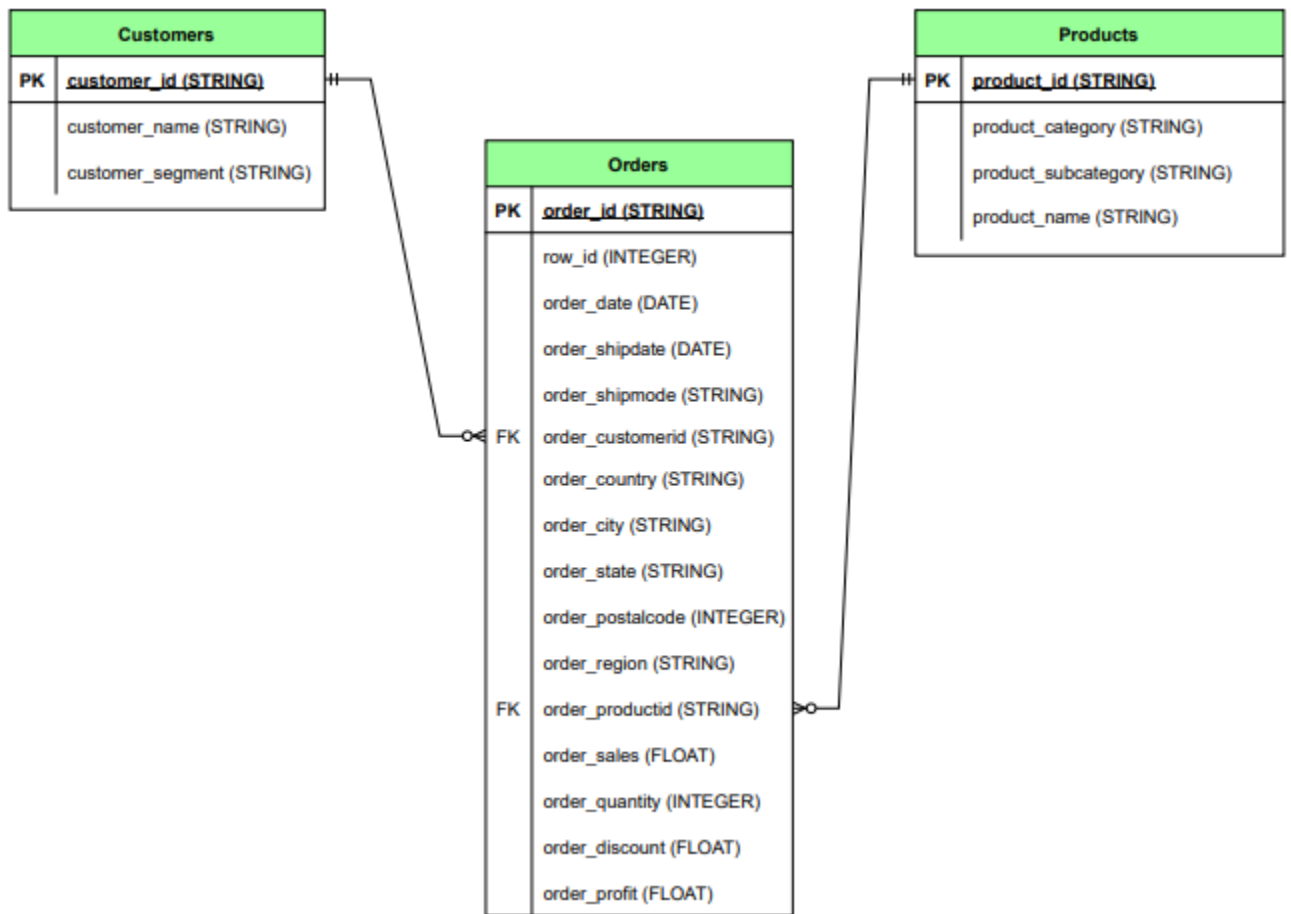6. Google Data Studio
7. Storage : 256GB HDD

3.4.2 Database Request

No	Process Name	Data	Formula
1	**Daily reporting**	Dateset: Superstore Table: Superstore_Orders	Lihat bagian Technical Dependencies
2	**Actual vs Target**	Dateset: Superstore Table: Superstore_Orders	Lihat bagian Technical Dependencies
3	**Growth Percentage**	Dateset: Superstore Table: Superstore_Orders	Lihat bagian Technical Dependencies

4	**Loss reporting**	Dateset: Superstore Table: Superstore_Orders dan Superstore_Categories	Lihat bagian Technical Dependencies
5	**Segmentasi Customer**	Dateset: Superstore Table: Superstore_Orders dan Superstore_Customers	Lihat bagian Technical Dependencies
6	**Segmentasi Product**	Dateset: Superstore Table: Superstore_Orders dan Superstore_Categories	Lihat bagian Technical Dependencies
7	**Segmentasi Toko Cabang**	Dateset: Superstore Table: Superstore_Orders	Lihat bagian Technical Dependencies

ERD Superstore

Tabel Relasional Superstore

3.4.3 Access Request

No	Position	Department	Access
1	Head Departement Marketing & Sales pusat	Marketing & Sales	All Access (Region dan Kota)
2	PIC Departement Marketing & Sales pusat	Marketing & Sales	All Access (Region dan Kota)
3	Region Manager	Region	Access Region Bersangkutan
4	Branch Manager	Branch	Access Kota Bersangkutan

3.5 Resources Requirement

Terdapat tiga kategori resources requirement pada proyek ini yang meliputi:

(1) Department & Staff

(2) Technical Dependencies

(3) Non-Technical Dependencies

3.5.1 Department & Staff

Pre-condition tim yang terlibat dalam proses bisnis ini :
1. Semua Manager di masing-masing region
2. Semua Branch Manager di masing-masing kota
3. PIC dari Departemen Marketing & Sales yang bertugas melakukan konsolidasi dan pembuatan report di pusat
4. Head Department Marketing & Sales

Pra-condition tim yang terlibat dalam proses bisnis ini :
1. Semua Manager di masing-masing region
2. Semua Branch Manager di masing-masing kota
3. PIC dari Departemen Marketing & Sales yang bertugas melakukan konsolidasi dan pembuatan report di pusat
4. Head Department Marketing & Sales
5. BI Analyst
6. BI Engineer

3.5.2 Technical Dependencies

Current and Detail Order Data

```sql
SELECT o.order_id, o.order_date, EXTRACT(year FROM o.order_date) as tahun,
EXTRACT(Quarter FROM o.order_date) as perempat_tahun, EXTRACT(month FROM o.order_date)
as bulan, EXTRACT(Day FROM o.order_date) as hari, o.order_customerid, c.customer_name,
o.order_productid, p.product_name, o.order_sales, o.order_quantity, o.order_profit

FROM `Gold_Challenge.Orders` as o

JOIN `Gold_Challenge.Customers` as c

ON o.order_customerid=c.customer_id

JOIN `Gold_Challenge.Products` as p

ON o.order_productid = p.product_id

WHERE o.order_id is not null
```

Result

Row	order_id	order_date	tahun	perempat_tahun	bulan	hari	order_customerid	customer_name	order_productid	product_name	order_sales	order_quantity	order_profit
1	CA-2016-152156	2016-11-08	2016	4	11	8	CG-12520	Claire Gute	FUR-BO-10001798	Bush Somerset Collection Bookcase	261.96	2	41.9136
2	CA-2016-152156	2016-11-08	2016	4	11	8	CG-12520	Claire Gute	FUR-CH-10000454	Hon Deluxe Fabric Upholstered Stacking Chairs, Rounded Back	731.94	3	219.582
3	CA-2016-138688	2016-06-12	2016	2	6	12	DV-13045	Darrin Van Huff	OFF-LA-10000240	Self-Adhesive Address Labels for Typewriters by Universal	14.62	2	6.8714
4	US-2015-108966	2015-10-11	2015	4	10	11	SO-20335	Sean O'Donnell	FUR-TA-10000577	Bretford CR4500 Series Slim Rectangular Table	957.5775	5	-383.031
5	US-2015-108966	2015-10-11	2015	4	10	11	SO-20335	Sean O'Donnell	OFF-ST-10000760	Eldon Fold 'N Roll Cart System	22.368	2	2.5164
6	CA-2014-115812	2014-06-09	2014	2	6	9	BH-11710	Brosina Hoffman	FUR-FU-10001487	Eldon Expressions Wood and Plastic Desk Accessories, Cherry Wood	48.86	7	14.1694
7	CA-2014-115812	2014-06-09	2014	2	6	9	BH-11710	Brosina Hoffman	OFF-AR-10002833	Newell 322	7.28	4	1.9656

Summarized Data

- Query Daily Reporting

```sql
#Kemampuan monitoring penjualan

SELECT EXTRACT(Year FROM o.order_date)AS tahun_penjualan, EXTRACT(Quarter FROM
o.order_date)AS quarter_penjualan, EXTRACT(Month FROM o.order_date)AS
bulan_penjualan,EXTRACT(Day FROM o.order_date)AS hari_penjualan,
sum(o.order_quantity)AS Banyak_Produk_Terjual, round(sum(o.order_sales),2) AS
Sales_Cabang, round(sum(o.order_profit),2) AS Keuntungan_Cabang

FROM `Gold_Challenge.Orders`as o

WHERE o.order_id is not null

GROUP BY rollup(1,2,3,4)

ORDER BY 1,2,3,4
```

Result

Row	tahun_penjualan	quarter_penjualan	bulan_penjualan	hari_penjualan	Banyak_Produk_Terjual	Sales_Cabang	Keuntungan_Cabang
1	null	null	null	null	37873	2297200.86	286397.02
2	2014	null	null	null	7581	484247.5	49543.97
3	2014	1	null	null	1028	74447.8	3811.23
4	2014	1	1	null	284	14236.89	2450.19
5	2014	1	1	3	2	16.45	5.55
6	2014	1	1	4	8	288.06	-65.99
7	2014	1	1	5	3	19.54	4.88
8	2014	1	1	6	30	4407.1	1358.05
9	2014	1	1	7	10	87.16	-71.96
10	2014	1	1	9	5	40.54	10.92

- Query Actual VS Target

```sql
###peryear

with a as (SELECT year, null as quarter, null as month, sales, lag(sales)
over(partition by 1 ORDER BY year)*1.1 AS target

FROM (SELECT EXTRACT(year FROM o.order_date) AS year, sum(o.order_sales) AS sales FROM
`Gold_Challenge.Orders` AS o

GROUP BY rollup(1))

WHERE year is not null

ORDER BY 1),

###permonth

b as (SELECT year, quarter,month,sales, lag(sales) over(partition by 1 ORDER BY year,
quarter, month)*1.1 AS target

FROM (SELECT EXTRACT(year FROM o.order_date) AS year, EXTRACT(Quarter FROM
o.order_date) AS Quarter, EXTRACT(month FROM o.order_date) AS Month,
sum(o.order_sales) AS sales FROM `Gold_Challenge.Orders` AS o
```

```sql
GROUP BY 1,2,3)
WHERE year is not null
ORDER BY 1,2,3),
###perquarter
c as (SELECT year, quarter, null as month,sales, lag(sales) over(partition by 1 ORDER
BY year, quarter)*1.1 AS target
FROM (SELECT EXTRACT(year FROM o.order_date) AS year, EXTRACT(Quarter FROM
o.order_date) AS Quarter,sum(o.order_sales) AS sales FROM `Gold_Challenge.Orders` AS o
GROUP BY 1,2)
WHERE year is not null
ORDER BY 1,2)
select * from a
union all
select * from c
union all
select * from b
order by year, quarter, month
```

Result

Row	year	quarter	month	sales	target
1	2014	null	null	484247.49810000096	null
2	2014	1	null	74447.7960000001	null
3	2014	1	1	14236.894999999997	null
4	2014	1	2	4519.892	15660.584499999997
5	2014	1	3	55691.009000000027	4971.8812
6	2014	2	null	86538.7596	81892.575600000127
7	2014	2	4	28295.344999999994	61260.109900000032
8	2014	2	5	23648.287	31124.879499999995
9	2014	2	6	34595.127600000029	26013.115700000002
10	2014	3	null	143633.21229999998	95192.63556000001
11	2014	3	7	33946.393	38054.640360000034
12	2014	3	8	27909.468499999992	37341.0323
13	2014	3	9	81777.350799999971	30700.415349999992
14	2014	4	null	179627.73020000019	157996.53353

- Query Growth Percentage

```
#GROWTH %

###peryear

WITH year AS (WITH a AS (SELECT year, null as quarter, null as month,sales, lag(sales)
over(partition by 1 ORDER BY year) AS sales_periode_sebelumnya,

FROM (SELECT EXTRACT(year FROM o.order_date) AS year, sum(o.order_sales) AS sales FROM
`Gold_Challenge.Orders` AS o

GROUP BY rollup(1))

WHERE year is not null

ORDER BY 1)

SELECT year, quarter, month, sales, sales_periode_sebelumnya, ((sales -
sales_periode_sebelumnya )/sales_periode_sebelumnya)*100 as growth_percentage

FROM a),

###permonth

month AS (WITH b AS (SELECT year, quarter,month,sales, lag(sales) over(partition by 1
ORDER BY year, quarter, month) AS sales_periode_sebelumnya

FROM (SELECT EXTRACT(year FROM o.order_date) AS year, EXTRACT(Quarter FROM
o.order_date) AS Quarter, EXTRACT(month FROM o.order_date) AS Month,
sum(o.order_sales) AS sales FROM `Gold_Challenge.Orders` AS o

GROUP BY 1,2,3)

WHERE year is not null

ORDER BY 1,2,3)

SELECT year, quarter, month, sales, sales_periode_sebelumnya, ((sales -
sales_periode_sebelumnya )/sales_periode_sebelumnya)*100 as growth_percentage

FROM b),

###perquarter

quarter AS(WITH c AS (SELECT year, quarter,null as month,sales, lag(sales)
over(partition by 1 ORDER BY year, quarter) AS sales_periode_sebelumnya

FROM (SELECT EXTRACT(year FROM o.order_date) AS year, EXTRACT(Quarter FROM
o.order_date) AS Quarter,sum(o.order_sales) AS sales FROM `Gold_Challenge.Orders` AS o

GROUP BY 1,2)

WHERE year is not null

ORDER BY 1,2)

SELECT year, quarter, month, sales, sales_periode_sebelumnya, ((sales -
sales_periode_sebelumnya )/sales_periode_sebelumnya)*100 as growth_percentage
```

```
        FROM c)

select * from year

union all

select * from quarter

union all

select * from month

order by year, quarter, month
```

Result

Row	year	quarter	month	sales	sales_tahun_kemarin	growth_percentage
1	2014	null	null	484247.49810000096	null	null
2	2014	1	null	74447.7960000001	null	null
3	2014	1	1	14236.894999999997	null	null
4	2014	1	2	4519.892	14236.894999999997	-68.252262870520568
5	2014	1	3	55691.009000000027	4519.892	1132.13140933456
6	2014	2	null	86538.7596	74447.7960000001	16.240861717383662
7	2014	2	4	28295.344999999994	55691.009000000027	-49.192256509484359
8	2014	2	5	23648.287	28295.344999999994	-16.423401093006625
9	2014	2	6	34595.127600000029	23648.287	46.290205290556685
10	2014	3	null	143633.21229999998	86538.7596	65.975584771381421
11	2014	3	7	33946.393	34595.127600000029	-1.8752195612657083
12	2014	3	8	27909.468499999992	33946.393	-17.783699434576171
13	2014	3	9	81777.350799999971	27909.468499999992	193.00934483936877
14	2014	4	null	179627.73020000019	143633.21229999998	25.060024296344597

- Query Loss Reporting Office

```
#Kemampuan monitoring kerugian toko cabang.

SELECT EXTRACT(year FROM o.order_date) AS year, EXTRACT(Quarter FROM o.order_date) AS
Quarter, EXTRACT(month FROM o.order_date) AS Month, round(sum(o.order_profit),2) as
Jumlah_Profit,

  CASE WHEN round(sum(o.order_profit),2)<0 THEN 'Rugi'

  ELSE 'Untung'

  END AS kat_loss_report

FROM `Gold_Challenge.Orders` AS o

WHERE o.order_id is not null

GROUP BY rollup(1,2,3)

ORDER BY 1,2,3
```

Result

Row	year	Quarter	Month	Jumlah_Profit	kat_loss_report
1	*null*	*null*	*null*	286397.02	Untung
2	2014	*null*	*null*	49543.97	Untung
3	2014	1	*null*	3811.23	Untung
4	2014	1	1	2450.19	Untung
5	2014	1	2	862.31	Untung
6	2014	1	3	498.73	Untung
7	2014	2	*null*	11204.07	Untung
8	2014	2	4	3488.84	Untung
9	2014	2	5	2738.71	Untung
10	2014	2	6	4976.52	Untung
11	2014	3	*null*	12804.72	Untung
12	2014	3	7	-841.48	Rugi
13	2014	3	8	5318.1	Untung
14	2014	3	9	8328.1	Untung

- Query Loss Reporting Product

```
#Kemampuan monitoring kerugian setiap produk.

SELECT p.product_name, EXTRACT(Year FROM o.order_date)AS tahun_penjualan,
EXTRACT(Quarter FROM o.order_date)AS quarter_penjualan, EXTRACT(Month FROM
o.order_date)AS bulan_penjualan,  round(sum(o.order_profit),2) as Jumlah_Profit,

CASE WHEN round(sum(o.order_profit),2)<0 THEN 'Rugi'

  ELSE 'Untung'

  END AS kat_loss_report

FROM `Gold_Challenge.Orders`as o

JOIN `bie-6-week-2.Gold_Challenge.Products` AS p

ON o.order_productid = p.product_id

WHERE o.order_id is not null

GROUP BY rollup (1,2,3,4)

ORDER BY 1,2,3,4
```

Result

Row	product_name	tahun_penjualan	quarter_penjualan	bulan_penjualan	Jumlah_Profit	kat_loss_report
1	*null*	*null*	*null*	*null*	298652.17	Untung
2	"While you Were Out" Message Book, One Form per Page	*null*	*null*	*null*	10.39	Untung
3	"While you Were Out" Message Book, One Form per Page	2017	*null*	*null*	10.39	Untung
4	"While you Were Out" Message Book, One Form per Page	2017	3	*null*	3.34	Untung
5	"While you Were Out" Message Book, One Form per Page	2017	3	9	3.34	Untung
6	"While you Were Out" Message Book, One Form per Page	2017	4	*null*	7.05	Untung
7	"While you Were Out" Message Book, One Form per Page	2017	4	10	3.71	Untung
8	"While you Were Out" Message Book, One Form per Page	2017	4	11	3.34	Untung
9	#10 Gummed Flap White Envelopes, 100/Box	*null*	*null*	*null*	16.77	Untung
10	#10 Gummed Flap White Envelopes, 100/Box	2015	*null*	*null*	2.15	Untung
145	12-1/2 Diameter Round Wall Clock	2016	2	4	22.38	Untung
146	12-1/2 Diameter Round Wall Clock	2017	*null*	*null*	63.94	Untung
147	12-1/2 Diameter Round Wall Clock	2017	1	*null*	6.39	Untung
148	12-1/2 Diameter Round Wall Clock	2017	1	1	6.39	Untung
149	12-1/2 Diameter Round Wall Clock	2017	2	*null*	-14.39	Rugi
150	12-1/2 Diameter Round Wall Clock	2017	2	6	-14.39	Rugi
151	12-1/2 Diameter Round Wall Clock	2017	3	*null*	71.93	Untung
152	12-1/2 Diameter Round Wall Clock	2017	3	9	71.93	Untung

- Query Segmentasi Produk

```
#penggolongan produk perbulan

SELECT p.product_name,EXTRACT(Year FROM o.order_date)AS tahun_penjualan, EXTRACT(Month FROM o.order_date)AS bulan_penjualan, sum(o.order_quantity) AS total_produk_terjual,

CASE WHEN sum(o.order_quantity) < 5 THEN '3rd Product'
  WHEN sum(o.order_quantity) BETWEEN 5 AND 10 THEN '2nd Product'
  WHEN sum(o.order_quantity) > 10 THEN '1st Product'
  END AS kat_prod

FROM `bie-6-week-2.Gold_Challenge.Orders` AS o

JOIN `bie-6-week-2.Gold_Challenge.Products` AS p

ON o.order_productid = p.product_id

WHERE o.order_id is not null

GROUP BY rollup (1, 2,3)

ORDER BY 1,2,3
```

Result

Row	product_name	tahun_penjualan	bulan_penjualan	total_produk_terjual	kat_prod
1	null	null	null	39127	1st Product
2	"While you Were Out" Message Book, One Form per Page	null	null	8	2nd Product
3	"While you Were Out" Message Book, One Form per Page	2017	null	8	2nd Product
4	"While you Were Out" Message Book, One Form per Page	2017	9	3	3rd Product
5	"While you Were Out" Message Book, One Form per Page	2017	10	2	3rd Product
6	"While you Were Out" Message Book, One Form per Page	2017	11	3	3rd Product
7	#10 Gummed Flap White Envelopes, 100/Box	null	null	11	1st Product
8	#10 Gummed Flap White Envelopes, 100/Box	2015	null	2	3rd Product
9	#10 Gummed Flap White Envelopes, 100/Box	2015	11	2	3rd Product
10	#10 Gummed Flap White Envelopes, 100/Box	2016	null	6	2nd Product
11	#10 Gummed Flap White Envelopes, 100/Box	2016	1	4	3rd Product
12	#10 Gummed Flap White Envelopes, 100/Box	2016	4	2	3rd Product
13	#10 Gummed Flap White Envelopes, 100/Box	2017	null	3	3rd Product
14	#10 Gummed Flap White Envelopes, 100/Box	2017	10	3	3rd Product
15	#10 Self-Seal White Envelopes	null	null	10	2nd Product

- Query Segmentasi Customer

```
SELECT c.customer_name, EXTRACT(Year FROM o.order_date)AS tahun, EXTRACT(Quarter FROM
o.order_date)AS quarter, sum(o.order_sales) AS jumlah_belanja,

CASE WHEN sum(o.order_sales) < 200 THEN 'Bronze'

   WHEN sum(o.order_sales) BETWEEN 200 AND 500 THEN 'Silver'

   WHEN sum(o.order_sales) > 500 THEN 'Gold'

   END AS kat_cust

FROM `bie-6-week-2.Gold_Challenge.Orders` AS o

JOIN `bie-6-week-2.Gold_Challenge.Customers` AS c

ON o.order_customerid=c.customer_id

WHERE o.order_id is not null

GROUP BY rollup(1,2,3)

ORDER BY 1,2,3
```

Result

Row	customer_name	tahun	quarter	jumlah_belanja	kat_cust
1	null	null	null	2297200.8602999551	Gold
2	Aaron Bergman	null	null	886.156	Gold
3	Aaron Bergman	2014	null	322.216	Silver
4	Aaron Bergman	2014	1	322.216	Silver
5	Aaron Bergman	2016	null	563.93999999999994	Gold
6	Aaron Bergman	2016	4	563.93999999999994	Gold
7	Aaron Hawkins	null	null	1744.6999999999998	Gold
8	Aaron Hawkins	2014	null	648.28600000000006	Gold
9	Aaron Hawkins	2014	2	545.20800000000008	Gold
10	Aaron Hawkins	2014	4	103.078	Bronze
11	Aaron Hawkins	2015	null	991.26	Gold
12	Aaron Hawkins	2015	4	991.26	Gold
13	Aaron Hawkins	2016	null	86.45	Bronze
14	Aaron Hawkins	2016	1	86.45	Bronze
15	Aaron Hawkins	2017	null	18.704	Bronze

- Query Segmentasi Office

```sql
SELECT o.order_city,EXTRACT(Year FROM o.order_date)AS tahun_penjualan,EXTRACT(Month FROM o.order_date)AS bulan_penjualan, sum(o.order_sales)AS Omzet_Cabang,

  CASE WHEN sum(o.order_sales) < 1000 THEN 'Kategori I'

  WHEN sum(o.order_sales) BETWEEN 1000 AND 2000 THEN 'Kategori II'

  WHEN sum(o.order_sales) > 2000 THEN 'Kategori III'

  END AS kat_omzet_cabang

FROM `Gold_Challenge.Orders`as o

WHERE o.order_id is not null

GROUP BY rollup(1,2,3)

ORDER BY 1,2,3
```
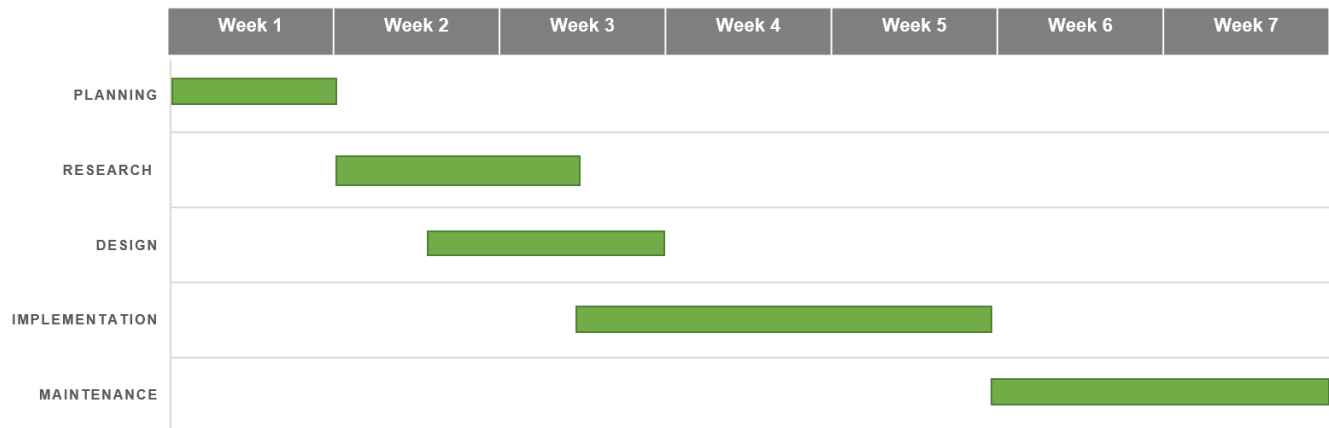
Result

Row	order_city	tahun_penjualan	bulan_penjualan	Omzet_Cabang	kat_omzet_cabang
1	null	null	null	2297200.8602999551	Kategori III
2	Aberdeen	null	null	25.5	Kategori I
3	Aberdeen	2017	null	25.5	Kategori I
4	Aberdeen	2017	11	25.5	Kategori I
5	Abilene	null	null	1.392	Kategori I
6	Abilene	2017	null	1.392	Kategori I
7	Abilene	2017	12	1.392	Kategori I
8	Akron	null	null	2729.9860000000003	Kategori III
9	Akron	2014	null	170.91	Kategori I
10	Akron	2014	5	165.168	Kategori I
11	Akron	2014	11	5.742	Kategori I
12	Akron	2015	null	427.548	Kategori I
13	Akron	2015	2	427.548	Kategori I
14	Akron	2016	null	804.22800000000007	Kategori I
15	Akron	2016	8	787.044	Kategori I

62	Amarillo	2016	8	19.648	Kategori I
63	Amarillo	2016	10	107.864	Kategori I
64	Amarillo	2017	null	205.3328	Kategori I
65	Amarillo	2017	3	205.3328	Kategori I
66	Anaheim	null	null	7986.8700000000008	Kategori III
67	Anaheim	2014	null	1049.97	Kategori II
68	Anaheim	2014	12	1049.97	Kategori II
69	Anaheim	2015	null	1336.352	Kategori II
70	Anaheim	2015	9	1336.352	Kategori II
71	Anaheim	2016	null	3533.7879999999996	Kategori III
72	Anaheim	2016	6	1293.488	Kategori II
73	Anaheim	2016	12	2240.3	Kategori III

3.5.3 Non-Technical Dependencies

Tidak ada

3.6 Timeline & Deadlines

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7
PLANNING	▇						
RESEARCH		▇▇					
DESIGN		▇▇					
IMPLEMENTATION			▇▇▇▇				
MAINTENANCE						▇▇	

3.7 Assumptions

- Dalam proyek ini saya mengasumsikan bahwa semua data dari tabel orders merupakan rekap data pemesanan customer atas suatu produk dari satu cabang superstore.
- Dalam proyek ini terutama pada saat melakukan segmentasi cabang berdasarkan omzet, dikarenakan keterangan data yang kurang lengkap dan juga kebutuhan data yang kurang memenuhi saya mengasumsikan kolom "City" pada tabel order sebagai cabang Superstore, kolom "Country" pada tabel order sebagai negara cabang Superstore, kolom "State" pada tabel order sebagai state dari cabang Superstore, dan kolom "Region" pada tabel order sebagai region dari cabang Superstore guna memberikan hasil yang diminta pada BRD yang diberikan.
- Lalu terdapat data yang bernilai null pada city sehingga saya mengasumsikan bahwa datanya salah input sehingga saya filter pengambilan datanya.
- Dalam database request, saya mengasumsikan daily report sebagai monthly, quarterly dan yearly report dari cabang superstore tersebut guna memenuhi semua permintaan BRD terkait reporting cabang.
- Dalam database request, saya mengasumsikan actual vs target sebagai monthly, quarterly dan yearly actual vs target dari cabang superstore tersebut guna memenuhi semua permintaan BRD terkait actual vs reporting.
- Dalam database request, saya mengasumsikan growth percentage sebagai monthly, quarterly dan yearly growth percentage dari cabang superstore tersebut guna memenuhi semua permintaan BRD terkait growth percentage.
- Dalam database request, saya mengasumsikan loss reporting sebagai monthly, quarterly dan yearly loss reporting untuk dua hal baik cabang superstore tersebut dan juga per produk guna memenuhi semua permintaan BRD terkait growth percentage.

3.8 Project Cost

- Hardware yang memenuhi syarat (Cost depends)
- Gaji SDM yang mampu menjalankan project seperti BIE dan BIA (Cost $800)
- Head Departement Marketing & Sales pusat   : 1 orang
- PIC Departement Marketing & Sales pusat   : 2 orang
- Google BigQuery Premium
- Google Data Studio
- Google Drive Unlimited

- Total Cost $900+/month

4 Appendices

4.1 List of Acronyms

- (SDM) Sumber Daya Manusia
- (BIA) Business Intelligence Analyst
- (BIE) Business Intelligence Engineer
- (BRD) Business Requirement Document
- (PIC) Person In Charge

4.2 Glossary of Terms

- Omzet = nilai total pendapatan kotor dalam periode tertentu. Periode ini bisa harian, mingguan, bulanan dan tahunan.

4.3 Related Documents

sumber data

- https://docs.google.com/spreadsheets/d/1Jblb98OHe7dHhUoZccjy_iSfl4gbYSHgSO-n5-9_Oaw/edit#gid=633794958
- https://docs.google.com/spreadsheets/d/1b3IleujTixD4P1TjhDHai7RcQNkp33FrGGnf11j9nbs/edit#gid=1305413069
- https://docs.google.com/spreadsheets/d/1B76ji5U8LYozs6UHPHX9Y3QyAVLabP5GbrVZRHAOuv8/edit#gid=1327489741

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