



SQL Project: Bee-Cycle

TOOLS:



SQLite



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SQL PROJECT:BEE-CYCLE

About Dataset

Bee-Cycle is a bicycle manufacturing company. There are 4 product categories:

- Bikes (eg Touring, Mountain, etc)
- Accessories (eg Helm, Lights, etc)
- Clothing (eg Sock, Jersey, etc)
- Component (eg wheels, pedal etc)

We'll analyze bee-cycle using SQL query. There are 5 tables:

dim_product = Product information

dim_customer = Customer information

dim_territory = Branch store information

dim_geography = Geography information (related customer address)

fact_sales = Transaction detail



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1. TOP 10 MOST PURCHASED PRODUCT

Query

```
WITH trans AS (
    SELECT product_id, count(distinct order_detail_id) AS count_ts
    FROM fact_sales
    GROUP BY 1)

SELECT dp.product_id, dp.product_name, dp.model_name, dp.category, ts.count_ts
FROM dim_product dp LEFT JOIN trans ts ON dp.product_id = ts.product_id
WHERE count_ts is not null
GROUP BY 1,2,3,4,5
ORDER BY count_ts DESC
LIMIT 10
```

Result

product_id	product_name	model_name	category	count_ts	
477	Water Bottle - 30 oz.	Water Bottle	Accessories	363	
480	Patch Kit/8 Patches		Patch kit	Accessories	262
478	Mountain Bottle Cage	Mountain Bottle Cage	Accessories	228	
222	Sport-100 Helmet, Blue		Sport-100	Accessories	221
214	Sport-100 Helmet, Red		Sport-100	Accessories	201
528	Mountain Tire Tube	Mountain Tire Tube	Accessories	200	
537	HL Mountain Tire	HL Mountain Tire	Accessories	199	
479	Road Bottle Cage	Road Bottle Cage	Accessories	191	
225	AWC Logo Cap		Cycling Cap	Clothing	190
485	Fender Set - Mountain	Fender Set - Mountain	Accessories	188	

Insight

Accessories become the product category with the most purchased by customers. We can communicate and give advice to product team to improve or develop new innovation to our accessories product. For marketing team, we can give advice to improve the promotion strategy for the improved product.



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2. TOP 10 CUSTOMER WITH THE BIGGEST PURCHASES

Query

```
WITH purch AS (
    SELECT customer_id, sum(totalprice_rupiah) AS purchase
    FROM fact_sales
    GROUP BY 1
    ORDER BY purchase DESC)

SELECT pu.customer_id, dc.customer_name
FROM purch pu LEFT JOIN dim_customer dc ON pu.customer_id = dc.customer_id
WHERE purchase is not null
GROUP BY 1,2
ORDER BY purchase DESC
LIMIT 10
```

Result

customer_id	customer_name
12301.0	Nichole Nara
12132.0	Kaitlyn Henderson
12308.0	Margaret He
12131.0	Randall Dominguez
12300.0	Adriana Gonzalez
12321.0	Rosa Hu
12124.0	Brandi Gill
12307.0	Brad She
12296.0	Francisco Sara
13263.0	Kate Anand

Insight

We can conclude that these 10 customers are our most loyal customers. It is highly recommended to maintain good relations with these customers, like give them rewards, or discount for certain products.



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3. PRODUCT WITH THE BIGGEST PROFIT

Query

```
SELECT sub_category,category, round(sum(totalprice_rupiah - totalcost_rupiah),0) AS profit,
count(order_detail_id) AS Purchase_quantity
from fact_sales fs

LEFT JOIN dim_product dp on fs.product_id = dp.product_id
GROUP BY 1,2
ORDER BY profit DESC
LIMIT 10
```

Result

sub_category	category	profit	Purchase_quantity
Mountain Bikes	Bikes	17100271011.0	1113
Road Bikes	Bikes	9813019279.0	670
Touring Bikes	Bikes	4858806716.0	467
Helmets	Accessories	183071125.0	597
Tires and Tubes	Accessories	161341257.0	1254
Bottles and Cages	Accessories	50884924.0	782
Hydration Packs	Accessories	44819657.0	93
Jerseys	Clothing	41678167.0	247
Fenders	Accessories	36215004.0	188
Bike Racks	Accessories	30498720.0	29

Insight

Bikes and it's accessories become the product categories with the highest profit. For the product sub category, mountain bikes have the highest profit. We can increase the sales from these category for each branch store to increase the profit.



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4. WHICH CUSTOMERS HAVE THE FIRST NAME 'CAMERON' (RANDOM PROMOTIONS FOR CUSTOMERS WHO HAVE THE FIRST NAME 'CAMERON')

Query

```
SELECT customer_id, customer_name  
FROM dim_customer  
WHERE customer_name like 'Cameron%'
```

Result

customer_id	customer_name
11301	Cameron Rodriguez
11534	Cameron Lewis
28177	Cameron Henderson
15371	Cameron Bryant
16595	Cameron Anderson

Insight

It looks like we have 5 lucky customers with this kind of promotion. We can give these customers an appropriate reward because it will potentially increase their loyalty to our products.



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5. PROFIT FROM EACH STORE TERRITORY

Query

```
WITH prof AS (
    SELECT territory_id, round(sum(totalprice_rupiah - totalcost_rupiah),0) AS profit
    FROM fact_sales
    GROUP BY 1)

SELECT dt.region, dt.country, pr.profit
FROM dim_territory dt LEFT JOIN prof pr ON dt.territory_id = pr.territory_id
WHERE profit is not null
GROUP BY 3
ORDER BY profit DESC
```

Result

region	country	profit
Australia	Australia	11586167905.0
United Kingdom	United Kingdom	4299950829.0
Southwest	United States	4216214768.0
France	France	3842289746.0
Germany	Germany	3820879188.0
Northwest	United States	2771521014.0
Canada	Canada	1867419159.0
Southeast	United States	15469054.0

Insight

We can see our branch store in Australia have the biggest profit, meanwhile our branch store in Southeast of United States have the lowest profit. We have to maintain our relationship with our customers in branch store in Australia. For the Southeast of United States branch store, we must do a deep analyze to get the answer why the profit in that area is low, before we do action related this problem.



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6. HOW MANY PROFIT EACH YEAR MONTH AND EACH MONTH

Query

```
SELECT strftime('%Y', order_date) as years,
       strftime('%m', order_date) as month,
       round(sum(totalprice_rupiah - totalcost_rupiah),0) as profit
  FROM fact_sales
 GROUP BY 1,2
```

Result

years	month	profit
2016	07	997090093.0
2016	08	913311819.0
2016	09	776805604.0
2016	10	1086675261.0
2016	11	1368102704.0
2016	12	1600224999.0
2017	01	1172777526.0
2017	02	1293926999.0
2017	03	1745053920.0
2017	04	739188002.0
2017	05	634520113.0
2017	06	594386891.0
2017	07	818790654.0
2017	08	725717958.0
2017	09	503576081.0
2017	10	601826453.0
2017	11	178067292.0
2017	12	203855025.0
2018	03	39761961.0
2018	04	79380066.0
2018	05	145841811.0

Insight

We can see the high profit were made in the changing months of the year period. It is most likely because our customers get their end of year incentive from their company where they worked. We can increase profit for that period by doing promotion.



CONCLUSION



SQL is used to communicate with a database. It is the standard language for relational database management systems (RDBMS). SQL is a very powerful tool because it is good for creating and managing large databases, which most tech corporations utilize, and also enables you to perform many functions at high efficiency and speed.

Documentation:
shorturl.at/firIN



THANK YOU

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