

# Bee-Cycle Sales Analysis

SQL Query Project

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Tools:     

# Preliminary

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)

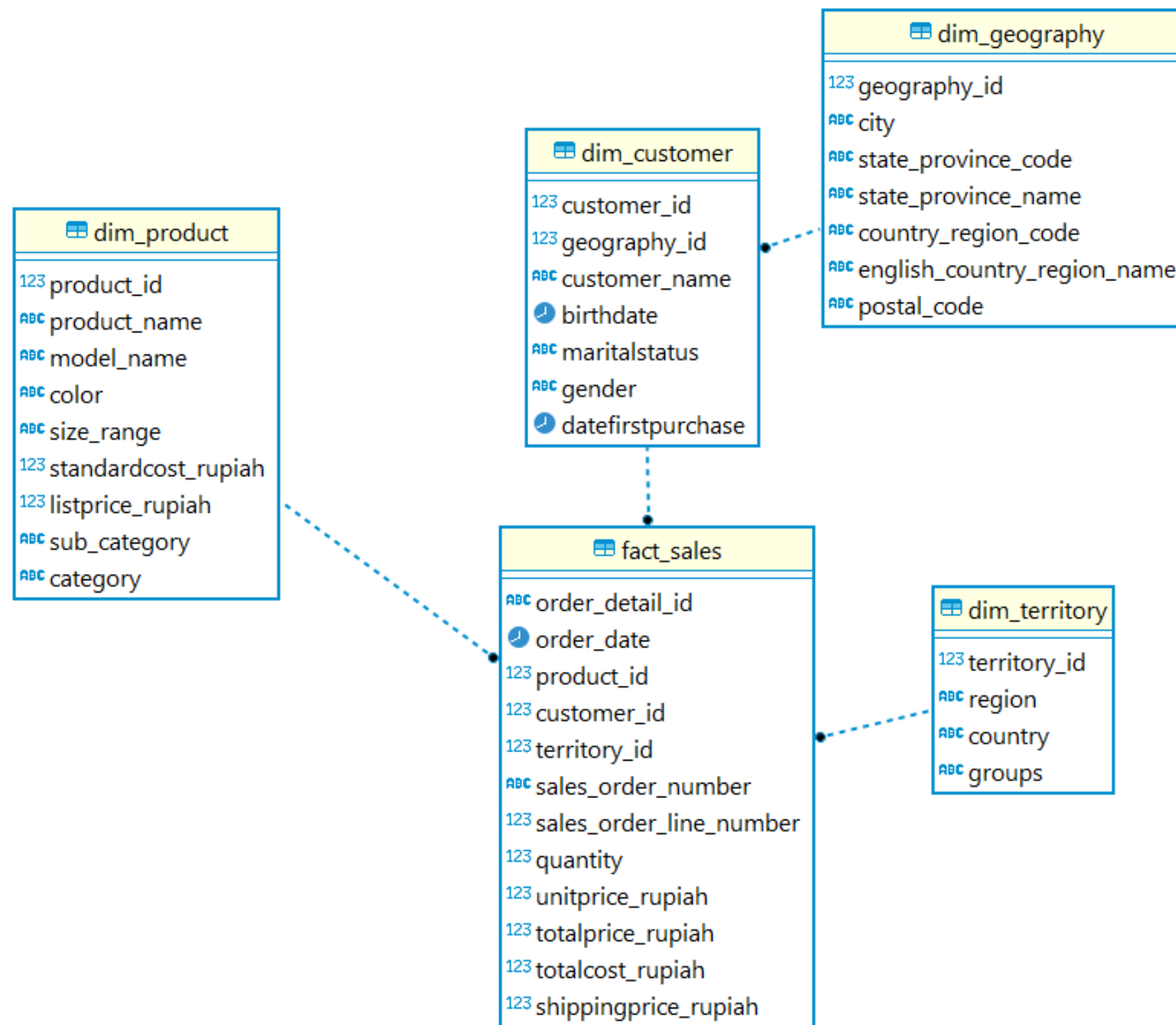
There are 5 tables used, namely:

- dim\_product = Product information
- dim\_customer = Customer information
- dim\_territory = Branch store information
- dim\_geography = Geography information
- fact\_sales = Transaction detail

By using SQL and SQLite as RDBMS, we will try to deep dive the data to answer the business questions and retrieve some important actionable insights



# Tables Relation



## Business Questions

1. Top 5 the Most Purchased Product
2. Top 10 Biggest Profit Product
3. Top 5 Biggest Customer Purchases
4. Profit Total Each Store Territory
5. Highest Product Shipping Cost
6. New Year Promo
7. Older Persons Promotion

# Top 5 the Most Purchased Product

	123 product_id ▼	ABC product_name ▼	ABC model_name ▼	ABC category ▼	ABC sub_category ▼	123 quantity_sold ▼
1	477	Water Bottle - 30 oz.	Water Bottle	Accessories	Bottles and Cages	363
2	480	Patch Kit/8 Patches	Patch kit	Accessories	Tires and Tubes	262
3	478	Mountain Bottle Cage	Mountain Bottle Cage	Accessories	Bottles and Cages	228
4	222	Sport-100 Helmet, Blue	Sport-100	Accessories	Helmets	221
5	214	Sport-100 Helmet, Red	Sport-100	Accessories	Helmets	201

Bicycle accessories (especially bottles and cages) 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.

# Top 10 Biggest Profit Product

	ABC product_name ▼	ABC model_name ▼	ABC sub_category ▼	ABC category ▼	123 product_profit ▼
1	Road-150 Red, 62	Road-150	Road Bikes	Bikes	1,831,882,492
2	Road-150 Red, 48	Road-150	Road Bikes	Bikes	1,772,789,508
3	Road-150 Red, 56	Road-150	Road Bikes	Bikes	1,477,324,590
4	Road-150 Red, 44	Road-150	Road Bikes	Bikes	1,339,440,962
5	Road-150 Red, 52	Road-150	Road Bikes	Bikes	1,181,859,672
6	Mountain-100 Black, 48	Mountain-100	Mountain Bikes	Bikes	847,738,074
7	Mountain-100 Black, 44	Mountain-100	Mountain Bikes	Bikes	785,708,459
8	Mountain-100 Silver, 44	Mountain-100	Mountain Bikes	Bikes	729,039,444
9	Mountain-100 Silver, 38	Mountain-100	Mountain Bikes	Bikes	687,380,047
10	Touring-1000 Yellow, 46	Touring-1000	Touring Bikes	Bikes	644,122,319

We can see that road bikes produce the biggest profit. We need to monitor this condition while also trying to think of other strategies to improve other products such as mountain bikes, touring bikes, etc.

# Top 5 Biggest Customer Purchases

	123 customer_id ▼	ABC customer_name ▼	123 purchase ▼
1	12,301	Nichole Nara	186,135,320
2	12,132	Kaitlyn Henderson	186,119,780
3	12,308	Margaret He	185,769,780
4	12,131	Randall Dominguez	185,723,860
5	12,300	Adriana Gonzalez	185,397,800

We can conclude that these 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.

# Profit Total Each Store Territory

	ABC region ▼	ABC country ▼	123 store_profit ▼
1	Australia	Australia	11,586,167,905
2	United Kingdom	United Kingdom	4,299,950,829
3	Southwest	United States	4,216,214,768
4	France	France	3,842,289,746
5	Germany	Germany	3,820,879,188
6	Northwest	United States	2,771,521,014
7	Canada	Canada	1,867,419,159
8	Southeast	United States	15,469,054

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.


# Highest Product Shipping Cost

	ABC sub_category ▼	ABC category ▼	123 shipping_cost ▼
1	Mountain Bikes	Bikes	950,368,006
2	Road Bikes	Bikes	630,160,955
3	Touring Bikes	Bikes	321,010,285
4	Helmets	Accessories	7,311,578
5	Tires and Tubes	Accessories	6,444,070

As expected, bicycle products spend the most on shipping costs compared to other products. We need to compare the shipper agents that we subscribe to with several other shipper agents that are safe and reliable, but have lower costs



# New Year Promo (10 Lucky Customer)

	123 customer_id ▼	ABC customer_name ▼	123 discount_amount ▼
1	12,125	Diana Ortega	84,235,014
2	14,191	Derrick Martin	81,352,838
3	11,462	Laura Lin	79,540,034
4	13,406	Craig Jiménez	71,545,390
5	13,265	Luke Adams	71,143,688
6	12,988	Barbara Goel	67,771,294
7	12,706	Louis Liang	67,143,814
8	13,078	Michele Chande	67,134,504
9	12,693	Ruth Gonzalez	66,840,602
10	12,694	Jay Arthur	66,494,256

To improve good relations with customers, we need to occasionally hold promotions, one of which is a New Year's promo where the lucky customers born in January get an appropriate discount amount (in this case, customers get 7% discount from their total purchases).

# Older Persons Promotion

	123 customer_id ▼	ABC customer_name ▼	123 age ▼
1	11,120	Beth Jiménez	67
2	12,039	Ricardo Nath	60
3	11,147	Ernest Wu	64
4	11,341	Randy Zeng	67
5	11,151	Melinda Gill	61
6	11,353	Carrie Ortega	62
7	11,351	Anne Ramos	64
8	12,037	Patricia Chapman	60
9	12,239	Alberto Ramos	61
10	11,252	Nicholas Thompson	71

In commemoration of the International Day of Older Persons, we are holding a promo related to that day, where our loyal customers who are 60 years and over will get a gift in the form of one free bicycle accessory

# Conclusion

From the results of the analysis we get:

1. The most purchased products are bicycle accessories (especially bottles and cages)
2. Road bikes become the main product of the bee-cycle (Generate the biggest profit)
3. We have several loyal customers that we must maintain so as not to lose customers trust in us
4. Store branch in Australia generate the biggest profit, meanwhile store branch in Southeast of United States generate the lowest profit
5. Shipping cost for bicycle product is the highest. We can find alternative good quality shipper agent with the lower cost
6. New Year promotion for customers who born in January get 7% discount from their purchase total
7. In commemoration of the International Day of Older Persons, we are holding a promo related to that day, where our loyal customers who are 60 years and over will get a gift

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.

**Full Documentation**





# THANK YOU



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