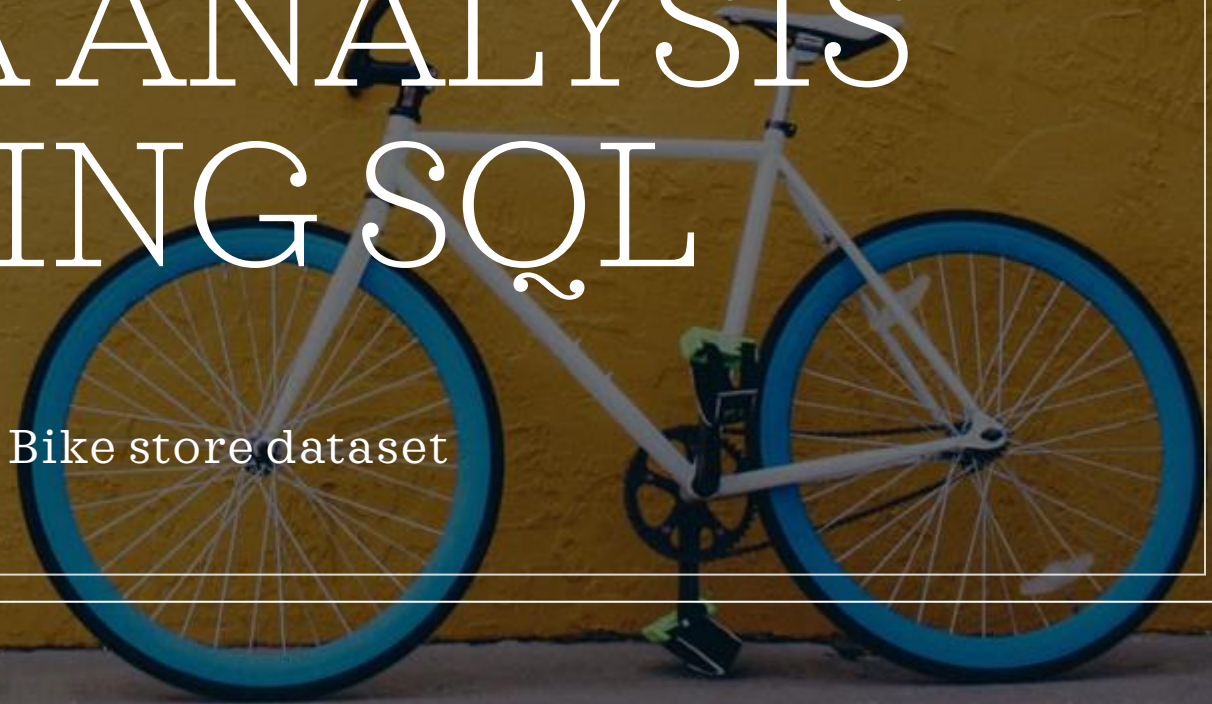


DATA ANALYSIS USING SQL

Bike store dataset



Project overview



introduction



Data set overview



KPI's



Answering questions

INTRODUCTION

This project focuses on utilizing SQL to analyze and extract insights from a dataset centered on a bike store's operations. In this project, I have executed a series of queries that address business questions.

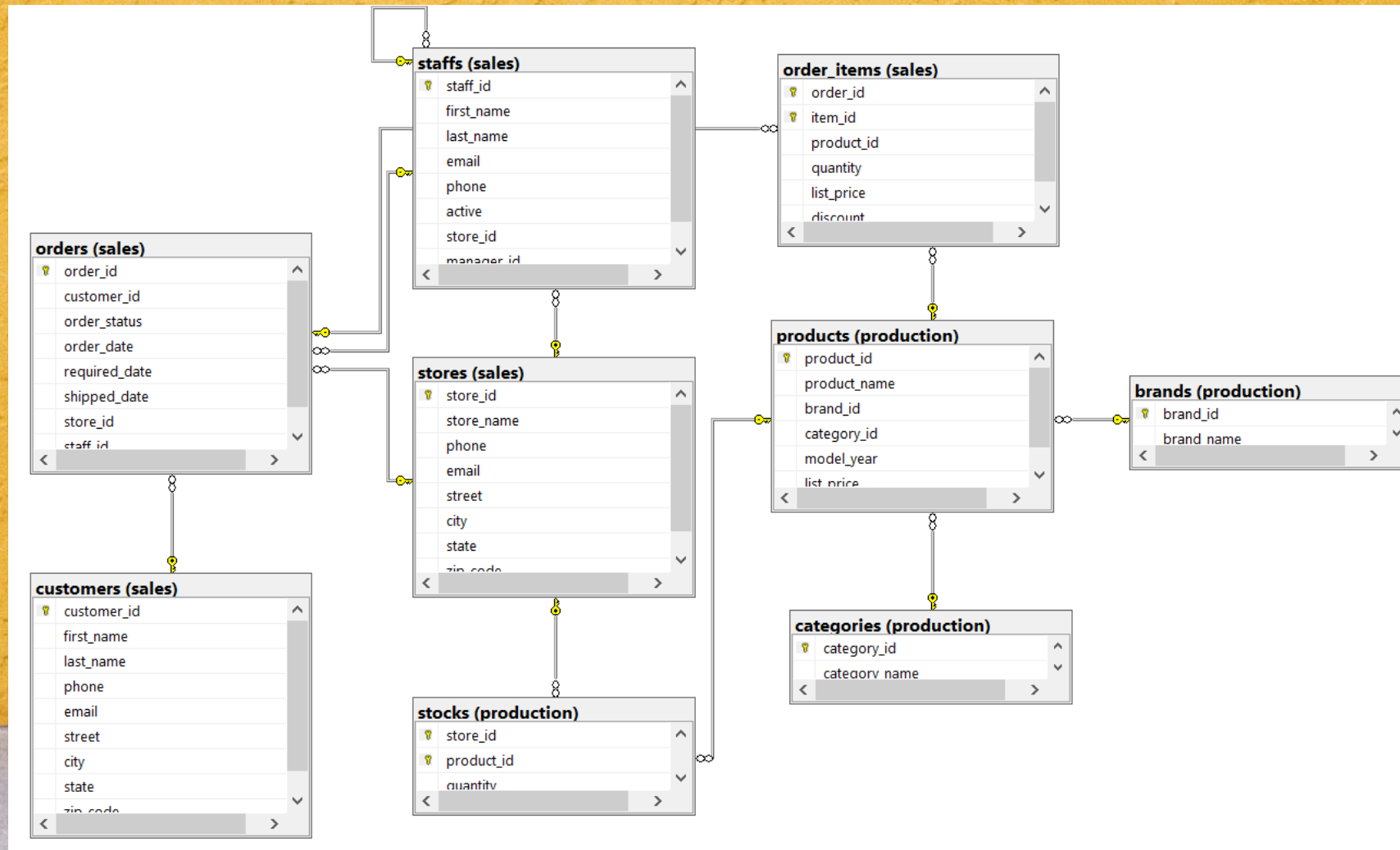


Data set overview

- The dataset used in this project provides a detailed and structured representation of the operations within a bike store. It is divided into two main areas: **Production** and **Sales**.
- 1-Production Categories , Production Brands , Production Products , Production stocks
- 2- Sales Customers , Sales Order Items , Sales Orders , Sales Staffs, Sales Stores



Schema overview



KPI's

Number of customers

```
select count(customer_id) '# customers'  
from sales.customers
```



customers
1445

Total price

```
select round(sum([list_price]*quantity*(1-[discount])),0) 'total_price'  
from sales.order_items
```



total_price
7689117.0000

Total bike sold

```
select sum(quantity) 'Total bike sold'  
from sales.order_items
```



Total bike sold
7078

Answering questions

- 1- Which bike is most expensive? What could be the motive behind pricing this bike at the high price?

Query

```
select top (1) list_price , model_year , category_name  
from production.products pp inner join production.categories pc  
on pp.category_id=pc.category_id  
order by list_price desc
```

result

list_price	model_year	category_name
11999.99	2018	Road Bikes

the motive behind pricing this bike because it is a road bike and the model year is 2018



2-

How many total customers does BikeStore have? Would you consider people with order status 3 as customers substantiate your answer?

Query

```
select count(distinct customer_id) '# customers'
from sales.orders
where order_status !=3
```

result

customers
1445

No, we do not consider them as customers because the order is rejected.

Based on this information

NB: Order Status

1= Pending
2= Processing
3= Rejected
4= Completed

3) How many stores does BikeStore have?

Query

```
select COUNT(store_id) '# stores'  
from sales.stores
```

result

stores
3



4) What is the total price spent per order?

Query

```
select order_id , sum([list_price]*quantity*(1-[discount])) 'total_price'  
from sales.order_items  
group by order_id
```

Sample of result

	order_id	total_price
1	1	10231.0464
2	2	1697.9717
3	3	1519.9810
4	4	1349.9820
5	5	3900.0607
6	6	9442.5048
7	7	2165.0817

5) What's the sales revenue per store?

Query

```
select store_id , sum([list_price] *[quantity]*(1-[discount])) 'Sales revenue'  
from sales.order_items soi join sales.orders so  
on soi.order_id = so.order_id  
group by store_id  
order by store_id
```

Sample of result

	store_id	Sales revenue
1	1	1605823.0365
2	2	5215751.2775
3	3	867542.2436

6) Which category is most sold?

Query

```
select top(1) pc.category_name , sum(so.list_price*quantity*(1-[discount])) 'Total price'
from production.categories pc join production.products pp
on pc.category_id = pp.category_id join sales.order_items so
on pp.product_id = so.product_id
group by pc.category_name
order by [Total price] desc
```

result

	category_name	Total price
1	Mountain Bikes	2715079.5337

7) Which category rejected more orders?

Query

```
select top(1) pc.category_name , count(so.order_status) '#order is 3'
from production.categories pc join production.products pp
on pc.category_id = pp.category_id join sales.order_items soi
on pp.product_id = soi.product_id join sales.orders so
on soi.order_id = so.order_id
where order_status=3
group by pc.category_name
order by '#order is 3' desc
```

result

	category_name	#order is 3
1	Cruisers Bicycles	41

8) Which bike is the least sold?

Query

```
select top(1) pp.product_name , sum(quantity) '# of sales'
from production.products pp join sales.order_items so
on pp.product_id = so.product_id
group by pp.product_name
order by sum(quantity) asc
```

result

	product_name	# of sales
1	Electra Amsterdam Royal 8i - 2017/2018	1

9) What's the full name of a customer with ID 259?

Query

```
select first_name+' '+last_name as full_name  
from sales.customers  
where customer_id=259
```

result

	full_name
1	Johnathan Velazquez

10) What did the customer on question 9 buy and when? What's the status of this order?

Query

```
select product_name, so.order_date,so.order_status
from sales.orders so join sales.order_items soi
on so.order_id = soi.order_id join production.products pp
on soi.product_id=pp.product_id
where so.customer_id=259
```

result

	product_name	order_date	order_status
1	Electra Townie Original 7D EQ - Women's - 2016	2016-01-01	4
2	Trek Remedy 29 Carbon Frameset - 2016	2016-01-01	4
3	Surly Straggler - 2016	2016-01-01	4
4	Electra Townie Original 7D EQ - 2016	2016-01-01	4
5	Trek Fuel EX 8 29 - 2016	2016-01-01	4

11) Which staff processed the order of customer 259? And from which store?

Query

```
select s.staff_id , store_name  
from sales.staffs s join sales.stores ss  
on s.store_id=ss.store_id join sales.orders so  
on s.staff_id=so.staff_id  
where customer_id=259
```

result

	staff_id	store_name
1	2	Santa Cruz Bikes

12) How many staff does BikeStore have? Who seems to be the lead Staff at BikeStore?

Query

```
select count(staff_id) '# staffs'
from sales.staffs

select top(1) staff_id 'lead staff' , sum([list_price]*quantity*(1-[discount])) 'total_price'
from sales.orders so join sales.order_items soi
on so.order_id=soi.order_id
group by staff_id
order by total_price desc
```

result

Results		
Messages		
	# staffs	
1	10	
	lead staff	total_price
1	6	2624120.6530

13) Which brand is the most liked?

Query

```
select top 1 brand_name, sum(soi.list_price*quantity*(1-[discount])) 'total_price'
from production.brands pb join production.products pp
on pb.brand_id = pp.brand_id
join sales.order_items soi on soi.product_id = pp.product_id
group by brand_name
order by total_price desc
```

result

	brand_name	total_price
1	Trek	4602754.3509

14) How many categories does BikeStore have, and which one is the least liked?

Query

```
select count(category_id) '# categories'
from production.categories

select top 1 category_name ,sum(soi.list_price*quantity*(1-[discount])) 'total_price'
from production.categories pc join production.products pp
on pc.category_id = pp.category_id join sales.order_items soi
on pp.product_id = soi.product_id
group by category_name
order by total_price desc
```

result

Results		Messages	
	# categories		
1	7		
	category_name	total_price	
1	Mountain Bikes	2715079.5337	

15) Which store still have more products of the most liked brand?

Query

```
select ss.store_name , sum(ps.quantity)
from sales.stores ss join production.stocks ps
on ss.store_id=ps.store_id
group by ss.store_name
order by sum(ps.quantity) desc
```

result

	store_name	(No column name)
1	Rowlett Bikes	4620
2	Santa Cruz Bikes	4532
3	Baldwin Bikes	4359

16) Which state is doing better in terms of sales?

Query

```
select top 1 state , sum([list_price] *[quantity]*(1-[discount])) 'Total_sales'  
from sales.stores ss join sales.orders so  
on ss.store_id=so.store_id join sales.order_items soi  
on so.order_id =soi.order_id  
group by state  
order by Total_sales desc
```

result

	state	Total_sales
1	NY	5215751.2775

17) What's the discounted price of product id 259?

Query

```
select sum(list_price*discount*quantity) 'discounted price'  
from sales.order_items where product_id=259
```

result

	discounted price
1	563.9953

18) What's the product name, quantity, price, category, model year and brand name of product number 44?

Query

```
select product_name ,sum(quantity) quantity, list_price , category_name , model_year , brand_name
from production.products pp join production.stocks ps
on ps.product_id=pp.product_id join production.categories pc
on pc.category_id = pp.category_id join production.brands pb
on pb.brand_id = pp.brand_id
where pp.product_id=44
group by product_name,list_price , category_name , model_year , brand_name
```

result

	product_name	quantity	list_price	category_name	model_year	brand_name
1	Haro SR 1.1 - 2017	51	539.99	Mountain Bikes	2017	Haro

19) What's the zip code of CA?

Query

```
select zip_code  
from sales.stores  
where state='CA'
```

result

	zip_code
1	95060



20) How many states does BikeStore operate in?

Query

```
select count(state) '# states'
from sales.stores
```

result

	# states
1	3



21) How many bikes under the children category were sold in the last 8 months?

Query

```
select sum(quantity) '# children bicycles'
from production.categories pc join production.products pp
on pc.category_id = pp.category_id join sales.order_items soi
on pp.product_id=soi.product_id join sales.orders so on so.order_id =soi.order_id
where pc.category_name='children bicycles' and so.order_date >=DATEADD(MM,-8,GETDATE())
```

result

	# children bicycles
1	NULL

22) What's the shipped date for the order from customer 523

Query

```
select shipped_date  
from sales.orders  
where customer_id=523
```

result

	shipped_date
1	2016-01-03



23) How many orders are still pending?

Query

```
select count(order_status) '# pending orders'  
from sales.orders  
where order_status=1
```

result

	# pending orders
1	62

Based on this information

NB: Order Status

- 1= Pending
- 2= Processing
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- 4= Completed

24) What's the names of category and brand does "Electra white water 3i - 2018" fall under?

Query

```
select category_name , brand_name  
from production.products pp join production.categories pc on  
pp.category_id=pc.category_id join production.brands pb  
on pp.brand_id=pb.brand_id  
where product_name='Electra white water 3i - 2018'
```

result

	category_name	brand_name
1	Cruisers Bicycles	Electra

- **Thank you for your attention, and if you have any questions , please don't hesitate to ask**

