

Slice of Success Analysis

Database creation:

```
create database pizza;
```

```
use pizza;
```

Data Exploration :

```
select * from pizza_sales limit 10; (Check whether the data is correctly inserted or not.)
```

	pizza_id	order_id	pizza_name_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients	pizza_name
▶	1	1	hawaiian_m	1	01-01-2015	11:38:36	13.25	13.25	Medium	Classic	Sliced Ham, Pineapple, Mozzarella Cheese	The Hawaiian
	2	2	classic_dlx_m	1	01-01-2015	11:57:40	16	16	Medium	Classic	Pepperoni, Mushrooms, Red Onions, Red Pepperoni	The Classic C
	3	2	five_cheese_l	1	01-01-2015	11:57:40	18.5	18.5	Large	Veggie	Mozzarella Cheese, Provolone Cheese, Smoked ...	The Five Che
	4	2	ital_supr_l	1	01-01-2015	11:57:40	20.75	20.75	Large	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red O...	The Italian S
	5	2	mexicana_m	1	01-01-2015	11:57:40	16	16	Medium	Veggie	Tomatoes, Red Peppers, Jalapeno Peppers, Re...	The Mexican
	6	2	thai_dkn_l	1	01-01-2015	11:57:40	20.75	20.75	Large	Chicken	Chicken, Pineapple, Tomatoes, Red Peppers, T...	The Thai Chi
	7	3	ital_supr_m	1	01-01-2015	12:12:28	16.5	16.5	Medium	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red O...	The Italian S
	8	3	prsc_argla_l	1	01-01-2015	12:12:28	20.75	20.75	Large	Supreme	Prosciutto di San Daniele, Arugula, Mozzarella C...	The Proscut
	9	4	ital_supr_m	1	01-01-2015	12:16:31	16.5	16.5	Medium	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red O...	The Italian S
	10	5	ital_supr_m	1	01-01-2015	12:21:30	16.5	16.5	Medium	Supreme	Calabrese Salami, Capocollo, Tomatoes, Red O...	The Italian S

```
select count(*) from pizza_sales; ( count no of records inserted)
```

	count(*)
▶	48620

Data Cleaning :

checking missing values – (Blank record means absence of missing values)

```
select * from pizza_sales where pizza_id is null or
```

```
order_id is null or
```

```
pizza_name_id is null or
```

```
quantity is null or
```

```
order_date is null or
```

```
order_time is null or
```

```
unit_price is null or
```

```
total_price is null or
```

```
pizza_size is null or
```

```
pizza_category is null or
```

```
pizza_ingredients is null or
```

```
pizza_name is null ;
```

	pizza_id	order_id	pizza_name_id	quantity	order_date	order_time	unit_price	total_price	pizza_size	pizza_category	pizza_ingredients	pizza_name	Day_name
--	----------	----------	---------------	----------	------------	------------	------------	-------------	------------	----------------	-------------------	------------	----------

checking duplicates – (Empty columns means no duplicates)

```
select count(distinct pizza_id) from pizza_sales;
```

(or)

```
select pizza_id, count(pizza_id) from pizza_sales group by pizza_id having count(pizza_id) > 1;
```

pizza_id	count(pizza_id)
----------	-----------------

Data Transformation:

Replacing S,M,L,XL,XXL size to small,medium,large,medium_large,extra_large -

```
update pizza_sales
```

```
set pizza_size="Small"
```

```
where pizza_size='S';
```

```
update pizza_sales
```

```
set pizza_size="Medium"
```

```
where pizza_size='M';
```

```
update pizza_sales
```

```
set pizza_size="Large"
```

```
where pizza_size='L';
```

```
update pizza_sales
```

```
set pizza_size="Medium_large"
```

```
where pizza_size='XL';
```

```
update pizza_sales
```

```
set pizza_size="Extra_large"
```

```
where pizza_size='XXL';
```

```
select distinct pizza_size from pizza_sales;
```

	pizza_size
▶	Medium
	Large
	Small
	Medium_large
	Extra_large

Retriving days name from order_date -

```
alter table pizza_sales
```

```
add Day_name varchar(10);
```

```
update pizza_sales
```

```
set Day_name= case (weekday(order_date)) when 0 then 'monday'
```

```
when 1 then 'tuesday'
```

```
when 2 then 'wednesday'
```

```
when 3 then 'thrusday'
```

```
when 4 then 'friday'
```

```
when 5 then 'saturday'
```

```
when 6 then 'sunday'
```

```
end;
```

```
select distinct day_name from pizza_sales;
```

	day_name
▶	thrusday
	friday
	saturday
	sunday
	monday
	tuesday
	wednesday

KPI'S Analysis:

Total Revenue of pizza :-

```
select cast(sum(total_price) as decimal (10,2)) as total_revenue from pizza_sales;
```

	total_revenue
▶	817860.05

Total no of order of pizza :-

```
select count (distinct order_id) as total_order from pizza_sales;
```

	total_order
▶	21350

Total no of pizza sold :-

```
select sum(quantity)as total_pizza_sold from pizza_sales;
```

	total_pizza_sold
▶	49574

Average order value :- Customer spent avg amount per order (in dollars) .

```
select  cast(sum(total_price) / count (distinct order_id) as decimal (5,2)) as  
average_order_value from pizza_sales;
```

	average_order_value
▶	38.31

Average pizzas sold per order :-

```
select cast(sum(quantity) / count (distinct order_id) as decimal (5,2)) as avg_pizzas_per_order  
from pizza_sales;
```

	avg_pizzas_per_order
▶	2.32

Client questions:

Sales by day:

```
select case( weekday(order_date))  
when 0 then 'Sunday'  
when 1 then 'Monday'  
when 2 then 'Tuesday'  
when 3 then 'Wednesday'  
when 4 then 'Thursday'  
when 5 then 'Friday'  
when 6 then 'Saturday'  
end as sales_day, sum(total_price) from pizza_sales group by  
case ( weekday (order_date))
```

```

when 0 then 'Sunday'
when 1 then 'Monday'
when 2 then 'Tuesday'
when 3 then 'Wednesday'
when 4 then 'Thursday'
when 5 then 'Friday'
when 6 then 'Saturday'
end order by sum(total_price);

```

	sales_day	total_sales
►	sunday	99203.50
	monday	107329.55
	tuesday	114133.80
	wednesday	114408.40
	saturday	123182.40
	thursday	123528.50
	friday	136073.90

Sales by month:

```

select monthname(order_date)as months,cast(sum(total_price)as decimal(10,2))as
total_sales from pizza_sales group by months order by total_sales;

```

	months	total_sales
►	October	64027.60
	September	64180.05
	December	64701.15
	February	65159.60
	June	68230.20
	August	68278.25
	April	68736.80
	January	69793.30
	November	70395.35
	March	70397.10
	May	71402.75
	July	72557.90

- Min sales in October
- Max sales in july

Busiest day of week:

```

select case( weekday(order_date))
when 0 then 'Sunday'
when 1 then 'Monday'

```

```

when 2 then 'Tuesday'

when 3 then 'Wednesday'

when 4 then 'Thursday'

when 5 then 'Friday'

when 6 then 'Saturday'

end as sales_day,COUNT(distinct order_id)as total_order from pizza_sales group by
sales_day order by total_order desc limit 1;

```

	sales_day	total_order
▶	Thursday	3538

Laziest Day of the week:

```

select case( weekday(order_date))

when 0 then 'Sunday'

when 1 then 'Monday'

when 2 then 'Tuesday'

when 3 then 'Wednesday'

when 4 then 'Thursday'

when 5 then 'Friday'

when 6 then 'Saturday'

end as sales_day,COUNT(distinct order_id)as total_order from pizza_sales group by
sales_day order by total_order asc limit 1;

```

	sales_day	total_order
▶	Saturday	2624

Timing of the day having highest order value:

```

select concat(hour(order_time),' ',if(hour(order_time)<12,"AM","PM")) as
HOURS,count(distinct order_id)as order_placed from pizza_sales group by HOURS order by
order_placed;

```

- lunch and evening hours are the busiest hours.
- Peak hour for order is 12 pm.

	HOURS	order_placed
▶	9 AM	1
	10 AM	8
	23 PM	28
	22 PM	663
	21 PM	1198
	11 AM	1231
	15 PM	1468
	14 PM	1472
	20 PM	1642
	16 PM	1920
	19 PM	2009
	17 PM	2336
	18 PM	2399
	13 PM	2455
	12 PM	2520

Category pizza sold the most:

```
select pizza_category,sum(quantity)as pizza_sold from pizza_sales group by pizza_category
order by pizza_sold desc limit 1 ;
```

	pizza_category	pizza_sold
▶	Classic	14888

Category pizza sold the least:

```
select pizza_category,sum(quantity)as pizza_sold from pizza_sales group by pizza_category
order by pizza_sold asc limit 1 ;
```

	pizza_category	pizza_sold
▶	Chicken	11050

Category wise revenue of pizza:

```
Select  pizza_category,cast(sum(total_price)as decimal(10,2))as  pizza_revenue  from
pizza_sales group by pizza_category order by pizza_revenue;
```

	pizza_category	pizza_revenue
▶	Veggie	193690.45
	Chicken	195919.50
	Supreme	208197.00
	Classic	220053.10

- Classic pizza highest revenue making
- Veggie making lowest revenue.

Size wise pizza Sold:

```
select pizza_size,sum(quantity) from pizza_sales group by pizza_size;
```

	pizza_size	sum(quantity)
▶	medium	15635
	large	18956
	small	14403
	medium_large	552
	extra_large	28

- most order is medium size

- least order is extra large size.

Pizza category and size wise sales and revenue:

Select pizza_category, pizza_size, sum(quantity) as pizza_sold, cast(sum(total_price) as decimal(10,2)) as pizza_revenue from pizza_sales group by pizza_category, pizza_size order by pizza_revenue, pizza_sold;

	pizza_category	pizza_size	pizza_sold	pizza_revenue
▶	Classic	extra_large	28	1006.60
	Classic	medium_large	552	14076.00
	Chicken	small	2224	28356.00
	Veggie	small	2663	32386.75
	Supreme	small	3377	47463.50
	Veggie	medium	3583	57101.00
	Classic	medium	4112	60581.75
	Chicken	medium	3894	65224.50
	Supreme	medium	4046	66475.00
	Classic	small	6139	69870.25
	Classic	large	4057	74518.50
	Supreme	large	4564	94258.50
	Chicken	large	4932	102339.00
	Veggie	large	5403	104202.70

- veggie (xl) make large revenue and sales

- classic (xxl) make lest revenue and sales.

Top 5 pizza based on revenue:

select pizza_name, cast(sum(total_price) as decimal(10,2)) as total_revenue from pizza_sales group by pizza_name order by total_revenue desc limit 5;

	pizza_name	total_revenue
▶	The Thai Chicken Pizza	43434.25
	The Barbecue Chicken Pizza	42768.00
	The California Chicken Pizza	41409.50
	The Classic Deluxe Pizza	38180.50
	The Spicy Italian Pizza	34831.25

Bottom 5 pizza based on revenue:

select pizza_name, cast(sum(total_price) as decimal(10,2)) as total_revenue from pizza_sales group by pizza_name order by total_revenue asc limit 5;

	pizza_name	total_revenue
▶	The Brie Carre Pizza	11588.50
	The Green Garden Pizza	13955.75
	The Spinach Supreme Pizza	15277.75
	The Mediterranean Pizza	15360.50
	The Spinach Pesto Pizza	15596.00

Top 5 pizza based on quantity :

```
select  pizza_name,cast(sum(quantity)as decimal(10,2))as total_no_sales from pizza_sales
group by pizza_name order by total_no_sales desc limit 5;
```

	pizza_name	total_no_sales
▶	The Classic Deluxe Pizza	2453.00
	The Barbecue Chicken Pizza	2432.00
	The Hawaiian Pizza	2422.00
	The Pepperoni Pizza	2418.00
	The Thai Chicken Pizza	2371.00

Bottom 5 pizza based on quantity:

```
select  pizza_name,cast(sum(quantity)as decimal(10,2))as total_no_sales from pizza_sales
group by pizza_name order by total_no_sales asc limit 5;
```

	pizza_name	total_no_sales
▶	The Brie Carre Pizza	490.00
	The Mediterranean Pizza	934.00
	The Calabrese Pizza	937.00
	The Spinach Supreme Pizza	950.00
	The Soppressata Pizza	961.00

Top 5 pizza based on order :

```
select  pizza_name,cast(count(distinct order_id)as decimal(10,2))as total_no_orders from
pizza_sales group by pizza_name order by total_no_orders desc limit 5;
```

	pizza_name	total_no_orders
▶	The Classic Deluxe Pizza	2329.00
	The Hawaiian Pizza	2280.00
	The Pepperoni Pizza	2278.00
	The Barbecue Chicken Pizza	2273.00
	The Thai Chicken Pizza	2225.00

Bottom 5 pizza based on order:

```
select  pizza_name,cast(count(distinct order_id)as decimal(10,2))as total_no_orders from
pizza_sales group by pizza_name order by total_no_orders asc limit 5;
```

	pizza_name	total_no_orders
►	The Brie Carre Pizza	480.00
	The Mediterranean Pizza	912.00
	The Calabrese Pizza	918.00
	The Spinach Supreme Pizza	918.00
	The Chicken Pesto Pizza	938.00