BUSINESS CASE: TARGET SQL

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Context: -

Target is a globally renowned brand and a prominent retailer in the United States. Target makes itself a preferred shopping destination by offering outstanding value, inspiration, innovation and an exceptional guest experience that no other retailer can deliver.

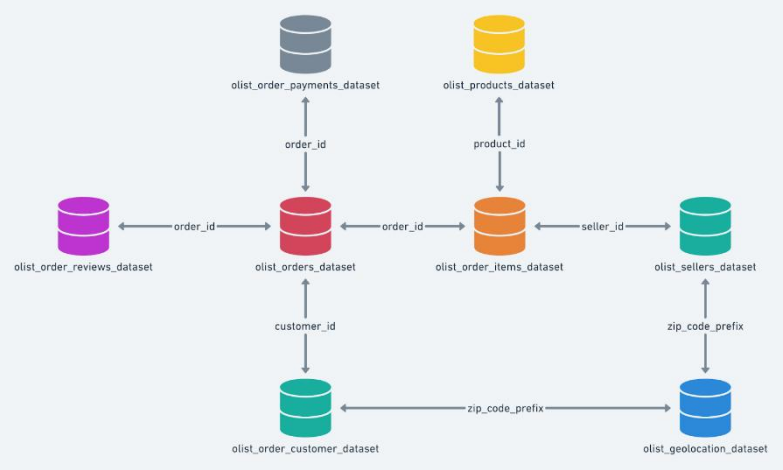
This particular business case focuses on the operations of Target in Brazil and provides insightful information about 100,000 orders placed between 2016 and 2018. The dataset offers a comprehensive view of various dimensions including the order status, price, payment and freight performance, customer location, product attributes, and customer reviews.

By analyzing this extensive dataset, it becomes possible to gain valuable insights into Target's operations in Brazil. The information can shed light on various aspects of the business, such as order processing, pricing strategies, payment and shipping efficiency, customer demographics, product characteristics, and customer satisfaction levels.

About Dataset: -

The data is available in 8 csv files:

1. customers.csv
2. sellers.csv
3. order_items.csv
4. geolocation.csv
5. payments.csv
6. reviews.csv
7. orders.csv
8. products.csv



Analysis: -

1. Import the dataset and do usual exploratory analysis steps like checking the structure & characteristics of the dataset -

1. a. Data type of columns in a table

Orders table:

```
SELECT
  column_name,
  data_type
FROM
  sqlproject.INFORMATION_SCHEMA.COLUMNS
WHERE
  table_name = 'orders';
```

Row	column_name	data_type
1	order_id	STRING
2	customer_id	STRING
3	order_status	STRING
4	order_purchase_timestamp	TIMESTAMP
5	order_approved_at	TIMESTAMP
6	order_delivered_carrier_date	TIMESTAMP
7	order_delivered_customer_date	TIMESTAMP
8	order_estimated_delivery_date	TIMESTAMP

1.b. Time period for which the data is given

```
SELECT
  MIN (order_purchase_timestamp) AS first_purchase,
  MAX (order_purchase_timestamp) AS last_purchase
FROM
  `sqlproject.orders`;
```

Row	first_purchase	last_purchase
1	2016-09-04 21:15:19 UTC	2018-10-17 17:30:18 UTC

1.c. Cities and states of customers ordered during the given period.

```
SELECT
  COUNT(DISTINCT(geolocation_city)) AS city_count,
  COUNT(DISTINCT(geolocation_state)) AS state_count
FROM
  `sqlproject.geolocation`
```

Row	city_count	state_count
1	8011	27

1.d. Total Number of Consumers –

```
SELECT
  count (customer_id) AS count_of_customers
FROM
  `sqlproject.orders`;
```

Row	count_of_customers
1	99441

1.e. Total numbers of orders, products & sellers –

```
SELECT
  COUNT (order_item_id) AS numbers_of_orders,
  COUNT (DISTINCT product_id) AS numbers_of_products,
  COUNT (DISTINCT seller_id) AS numbers_of_sellers
FROM
  `sqlproject.order_items`
```

Row	numbers_of_orders	numbers_of_products	numbers_of_sellers
1	112650	32951	3095

Insight:

- Target SQL Business case has information about the E-commerce market in Brazil. The data consists of information on 27 states across 8011 cities of Brazil.
- Time period of the data ranges from September 04, 2016 to October 17, 2018.
- Data has details of around 3095 sellers and 99,441 consumers. Total orders during the study period amounts to 1,12,650 across 32,951 products.

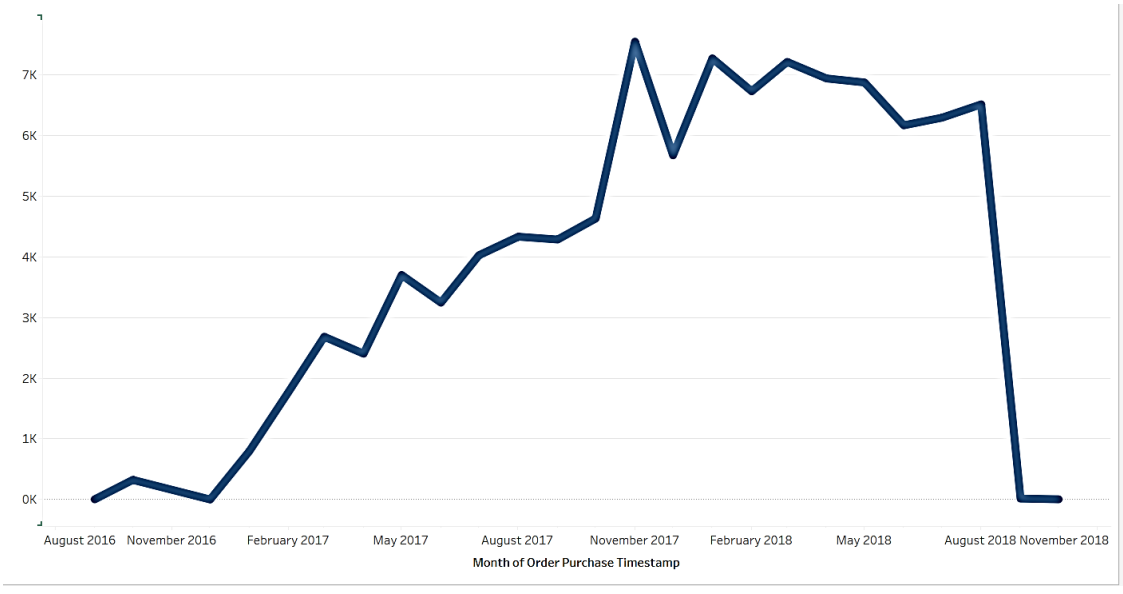
2. In-depth Exploration:

2. a. Is there a growing trend on e-commerce in Brazil? How can we describe a complete scenario? Can we see some seasonality with peaks at specific months?

Assumption: Counted order_ids that are delivered**.** Higher the numbers of order_ids, higher the sale & hence will see a growing trend in the business & vice-a-verse.

```
SELECT
  EXTRACT (year
  FROM
    order_purchase_timestamp) AS Year,
  EXTRACT (month
  FROM
    order_purchase_timestamp) AS Month,
  count (DISTINCT order_id) AS numbers_of_orders
FROM
  `sqlproject.orders`
WHERE
  order_status = 'delivered'
GROUP BY
  Year,
  Month
ORDER BY
  Year,
  Month;
```

Row	Year	Month	numbers_of_orders
1	2016	9	1
2	2016	10	265
3	2016	12	1
4	2017	1	750
5	2017	2	1653
6	2017	3	2546
7	2017	4	2303
8	2017	5	3546
9	2017	6	3135
10	2017	7	3872



2.b. What time do Brazilian customers tend to buy (Dawn, Morning, Afternoon or Night)?

Assumption: Timestamp in order_purchase_timestamp is for Brazil Region.

```
SELECT
  CASE
    WHEN EXTRACT (hour FROM order_purchase_timestamp) >= 4 AND EXTRACT (hour FROM o
rder_purchase_timestamp) < 6 THEN 'Dawn'
    WHEN EXTRACT (hour
  FROM
    order_purchase_timestamp) >= 6
  AND EXTRACT (hour
  FROM
    order_purchase_timestamp) < 12 THEN 'Morning'
    WHEN EXTRACT (hour FROM order_purchase_timestamp) >= 12 AND EXTRACT (hour FROM
order_purchase_timestamp) < 17 THEN 'Afternoon'
  ELSE
  'Night'
END
  AS time_to_order,
  COUNT(order_id) AS number_of_orders
FROM
  `sqlproject.orders`
GROUP BY
  time_to_order
ORDER BY
  number_of_orders DESC;
```

Row	time_to_order	number_of_orders
1	Night	44596
2	Afternoon	32211
3	Morning	22240
4	Dawn	394

Actionable insight:

- From the in-depth exploration of data (refer graphs and analysis), we found a growing trend in the E-commerce sector in the country of Brazil from 2016 to November, 2017. After that, there is a downfall from December,2017. Overall, there is a growing trend. The main reason behind the growing trend in e-commerce is attributed to the platform being the most convenient way of shopping from anywhere and at any-time. Consumer gets access to all kinds of products at a single place. Some other reasons include rapid adoption of smartphones, easy access to technology.
- Out of all the months, it was seen that November had higher number of orders, thus, making it seasonality peak month. September is least in terms of orders made by the consumers of Brazil.
- Also, it was seen that people tend to order products during Night followed by Afternoon and Morning respectively. Dawn time was least preferred while placing order.

Recommendations:

- Penetrating more products to the site is suggested, so that it is easier for consumers to get all kinds of products at a single place.
- Adapting the trends.
- Get more reviews from consumers.
- More social media advertisements.
- During slow shopping months, it is recommended to engage in promotional activities, offer discounts, gift vouchers and other feasible incentives to increase sale on these months.
- Company can also provide some other benefits to consumers such as free delivery or low delivery charges up to a shopping of certain amount while ordering during time other than night so as to increase more orders from consumers during that time period also.

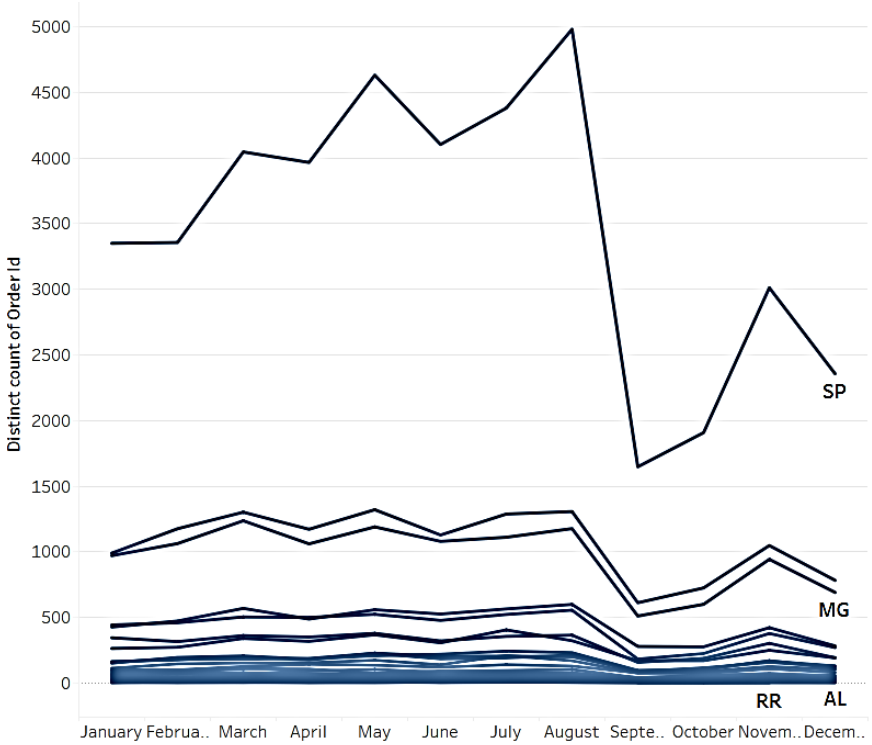
3. Evolution of E-commerce orders in the Brazil region:

3. a. Get month on month orders by states

Assumption: Counted all order_ids for a particular month for all years together to analyse monthly orders per state.

```
SELECT
  customer_state,
  FORMAT_DATETIME ('%B', order_purchase_timestamp) AS Month,
  count (o.order_id) AS number_of_orders
FROM
  `sqlproject.orders` AS o
LEFT JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state,
  Month
ORDER BY
  number_of_orders DESC;
```

Row	customer_state	Month	number_of_orders
1	SP	August	4982
2	SP	May	4632
3	SP	July	4381
4	SP	June	4104
5	SP	March	4047
6	SP	April	3967
7	SP	February	3357
8	SP	January	3351
9	SP	November	3012
10	SP	December	2357
11	SP	October	1908
12	SP	September	1648



3.b. Distribution of customers across the states in Brazil

```
SELECT
  COUNT (customer_unique_id) AS numbers_of_customers,
  customer_state
FROM
  `sqlproject.customers`
GROUP BY
  customer_state
ORDER BY
  numbers_of_customers DESC;
```

Row	numbers_of_customers	customer_state
1	41746	SP
2	12852	RJ
3	11635	MG
4	5466	RS
5	5045	PR
6	3637	SC
7	3380	BA
8	2140	DF
9	2033	ES
10	2020	GO

SP	41,746	41.98%
RJ	12,852	12.92%
MG	11,635	11.70%
RS	5,466	5.50%
PR	5,045	5.07%
SC	3,637	3.66%
BA	3,380	3.40%
DF	2,140	2.15%
ES	2,033	2.04%
GO	2,020	2.03%
PE	1,652	1.66%
CE	1,336	1.34%
PA	975	0.98%
MT	907	0.91%
MA	747	0.75%
MS	715	0.72%
PB	536	0.54%
PI	495	0.50%
RN	485	0.49%
AL	413	0.42%
SE	350	0.35%
TO	280	0.28%
RO	253	0.25%
AM	148	0.15%
AC	81	0.08%
AP	68	0.07%
RR	46	0.05%

Actionable insight:

- State SP had received highest number of orders. On the contrary, States like AP & RR received least numbers of orders.
- With respect to distribution of consumers, corresponding to the number of orders, SP topped the list with around 41,746 consumers which constitutes around 41.98% of all consumers in Brazil during the studied time period. The second position in terms of number of customers was held by RJ with 12,852 consumers, followed by MG with 11,635 consumers. Similarly, corresponding to the number of orders, States RR and AP had lowest consumers.
- There could be many possible reasons for this, such as: -
    i. Population
    ii. More time taken to deliver product to the consumers which eventually led to loss of interest among consumers for buying products online.
    iii. Per capita income of consumers

Recommendations:

- Company can collect data of the states with less numbers of orders and less consumers (such as per capita income and other demographic variables - age, gender, etc) and analyse the same to find out the probable reason behind the less numbers of consumers for better outcomes.
- Company may give rewards to customers by offering discounts on particular amount of spending money or discounts for buying additional items.

4. Impact on Economy: Analyse the money movement by e-commerce by looking at order prices, freight and others.

4.a. Get % increase in cost of orders from 2017 to 2018 (include months between Jan to Aug only) - You can use "payment_value" column in payments table

Assumption: Higher the number of payment value, higher the sale/revenue generated in that year. Counted payment value only for the delivered products.

```
SELECT
  year,
  total_payment,
  ROUND ((total_payment - LAG (total_payment) OVER (ORDER BY year))/ LAG (total_pay
ment) OVER (ORDER BY year) * 100,0) || '%' AS growth_perecentage
FROM (
  SELECT
    EXTRACT( year
    FROM
      order_purchase_timestamp) AS year,
    round (SUM (payment_value),
      2) AS total_payment
  FROM
    `sqlproject.orders` AS o
  JOIN
    `sqlproject.payments` AS p
  ON
    o.order_id = p.order_id
  WHERE
    EXTRACT(month
    FROM
      order_purchase_timestamp) NOT IN (9,
      10,
      11,
      12)
    AND EXTRACT( year
    FROM
      order_purchase_timestamp) IN (2017,
      2018)
    AND order_status = 'delivered'
  GROUP BY
    year
  ORDER BY
    year) AS tab
ORDER BY
  year;
```

Row	year	total_payment	growth_perecentage
1	2017	3473862.76	*null*
2	2018	8452975.2	143%

4.b. Mean & Sum of price and freight value by customer state

```
SELECT
  customer_state,
  round (avg (price),
    0) AS mean_price,
  round (sum (price),
    0) AS sum_price,
  round (avg (freight_value),
    0) AS mean_freight_value,
  round (sum (freight_value),
    0) AS sum_freight_value
FROM
  `sqlproject.order_items` AS ot
JOIN
  `sqlproject.orders` AS o
ON
  ot.order_id = o.order_id
JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  mean_price,
  mean_freight_value;
```

Row	customer_state	mean_price	sum_price	mean_freight_value	sum_freight_value
1	SP	110.0	5202955.0	15.0	718723.0
2	PR	119.0	683084.0	21.0	117852.0
3	RS	120.0	750304.0	22.0	135523.0
4	MG	121.0	1585308.0	21.0	270853.0
5	ES	122.0	275037.0	22.0	49765.0
6	RJ	125.0	1824093.0	21.0	305589.0
7	SC	125.0	520553.0	21.0	89660.0
8	DF	126.0	302604.0	21.0	50625.0
9	GO	126.0	294592.0	23.0	53115.0
10	BA	135.0	511350.0	26.0	100157.0

Actionable insight:

- There was about 143% increase in sales (revenue) from 2017 to 2018 including months August to January only. This is a positive sign about the growing trend in E-Commerce. Company should goal on making consumers feel they are getting better deal when purchasing from company's site in order to increase number of orders in the coming years.
- From the above data, it has been inferred that the average price of products and freight charges is inversely proportional to number of orders and hence consumers. We can clearly see that as the average price of the products and freight charges are low in states of SP, PR and RS, consumer participation was higher in these states. Since, price of products and freight charges are higher in the states of PB and AL, less orders and consumers were seen. This might be the one probable reason for less consumer participation from these states eventually leading to less number of orders.

Recommendations:

- To cut the cost of product & freight charges, the company can contact more sellers from those states where less number of orders and hence consumer participation was seen and incentivise them to sell their products via the site. This will eventually lead to less freight charges and cost of product as compared to when products are shipped from different state which increases cost of freight and hence the product.
- To increase number of orders per transaction, company may recommend consumers to buy other related products along with the initial product they were buying during checkout. This will help to increase chances of customers buying more products.
- Company can also bundle products in which multiple products are grouped together and sell as single unit. The cost of this bundled products will be slightly lower than the individually sold products. This will encourage customers to buy more items than they planned to and this will in turn increase number of orders.

5. Analysis on sales, freight and delivery time

5. a. Calculate days between purchasing, delivering and estimated delivery

```
SELECT
  order_id,
  TIMESTAMP_DIFF(order_delivered_customer_date,order_purchase_timestamp, day) AS or
der_delivery_days,
  TIMESTAMP_DIFF(order_estimated_delivery_date,order_delivered_customer_date, day)
AS estimated_delivery_days
FROM
  `sqlproject.orders`;
```

Row	order_id	order_delivery_days	estimated_delivery_days
1	1950d777989f6a877539f5379...	30	-12
2	2c45c33d2f9cb8ff8b1c86cc28...	30	28
3	65d1e226dfaeb8cdc42f66542...	35	16
4	635c894d068ac37e6e03dc54e...	30	1
5	3b97562c3aee8bdedcb5c2e45...	32	0
6	68f47f50f04c4cb6774570cfde...	29	1
7	276e9ec344d3bf029ff83a161c...	43	-4
8	54e1a3c2b97fb0809da548a59...	40	-4
9	fd04fa4105ee8045f6a0139ca5...	37	-1
10	302bb8109d097a9fc6e9cefc5...	33	-5

5.b. Find time_to_delivery & diff_estimated_delivery

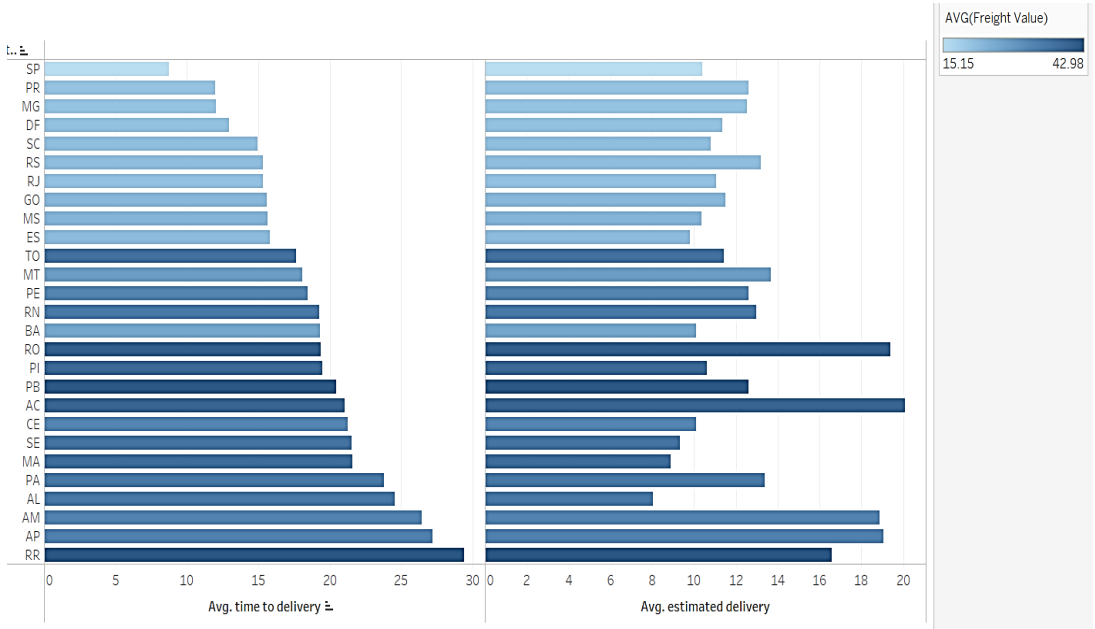
```
SELECT
  customer_state,
  round (avg (TIMESTAMP_DIFF(order_delivered_customer_date,order_purchase_timestamp
, day)),
    0) AS time_to_delivery,
  round (avg (TIMESTAMP_DIFF(order_estimated_delivery_date,order_delivered_customer
_date, day)),
    0) AS diff_estimated_delivery
FROM
  `sqlproject.orders` AS o
LEFT JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  customer_state;
```

Row	customer_state	time_to_delivery	diff_estimated_delivery
1	AC	21.0	20.0
2	AL	24.0	8.0
3	AM	26.0	19.0
4	AP	27.0	19.0
5	BA	19.0	10.0
6	CE	21.0	10.0
7	DF	13.0	11.0
8	ES	15.0	10.0
9	GO	15.0	11.0
10	MA	21.0	9.0

5.c. Group data by state, take mean of freight_value, time_to_delivery, diff_estimated_delivery

```sql
SELECT
  customer_state,
  round (avg (freight_value),
    0) AS mean_freight_value,
  round (avg (TIMESTAMP_DIFF(order_delivered_customer_date,order_purchase_timestamp
, day)),
    0) AS avg_time_to_delivery,
  round (avg (TIMESTAMP_DIFF(order_estimated_delivery_date,order_delivered_customer
_date, day)),
    0) AS avg_diff_estimated_delivery
FROM
  `sqlproject.order_items` AS ot
JOIN
  `sqlproject.orders` AS o
ON
  ot.order_id = o.order_id
JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  mean_freight_value,
  avg_time_to_delivery,
  avg_diff_estimated_delivery;
```

Row	customer_state	mean_freight_value	avg_time_to_delivery	avg_diff_estimated_delivery
1	SP	15.0	8.0	10.0
2	PR	21.0	11.0	13.0
3	MG	21.0	12.0	12.0
4	DF	21.0	13.0	11.0
5	RJ	21.0	15.0	11.0
6	SC	21.0	15.0	11.0
7	ES	22.0	15.0	10.0
8	RS	22.0	15.0	13.0
9	MS	23.0	15.0	10.0
10	GO	23.0	15.0	11.0



5.d. Sort the data to get the following:

1. Top 5 states with highest/lowest average freight value - sort in desc/asc limit 5

LOWEST:

```
SELECT
  customer_state,
  round (avg (freight_value),
    0) AS avg_freight_value
FROM
  `sqlproject.order_items` AS ot
JOIN
  `sqlproject.orders` AS o
ON
  ot.order_id = o.order_id
JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  avg_freight_value
LIMIT
  5;
```

Row	customer_state	avg_freight_value
1	SP	15.0
2	DF	21.0
3	RJ	21.0
4	SC	21.0
5	PR	21.0

HIGHEST:

```
SELECT
  customer_state,
  round (avg (freight_value),
    0) AS avg_freight_value
FROM
  `sqlproject.order_items` AS ot
JOIN
  `sqlproject.orders` AS o
ON
  ot.order_id = o.order_id
JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  avg_freight_value DESC
LIMIT
  5;
```

Row	customer_state	avg_freight_value
1	PB	43.0
2	RR	43.0
3	RO	41.0
4	AC	40.0
5	PI	39.0

2. Top 5 states with highest/lowest average time to delivery

LOWEST:

```
SELECT
  customer_state,
  round (avg (TIMESTAMP_DIFF(order_delivered_customer_date,order_purchase_timestamp
, day)),
    0) AS time_to_delivery
FROM
  `sqlproject.order_items` AS ot
JOIN
  `sqlproject.orders` AS o
ON
  ot.order_id = o.order_id
JOIN
  `sqlproject.customers` AS c
ON
  o.customer_id = c.customer_id
GROUP BY
  customer_state
ORDER BY
  time_to_delivery
LIMIT
  5;
```

Row	customer_state	time_to_delivery
1	SP	8.0
2	PR	11.0
3	MG	12.0
4	DF	13.0
5	RS	15.0

HIGHEST:

```
SELECT
customer_state,
round (avg (timestamp_diff(order_delivered_customer_date,order_purchase_timestamp,
day)), 0) as time_to_delivery
FROM `sqlproject.order_items` as ot
JOIN `sqlproject.orders` as o
ON ot.order_id = o.order_id
JOIN `sqlproject.customers` as c
ON o.customer_id = c.customer_id
GROUP BY customer_state
ORDER BY time_to_delivery desc
LIMIT 5;
```

Row	customer_state	time_to_delivery
1	AP	28.0
2	RR	28.0
3	AM	26.0
4	AL	24.0
5	PA	23.0

3. Top 5 states where delivery is really fast/ not so fast compared to estimated date

REALLY FAST:

```
SELECT
customer_state,
round (avg (timestamp_diff(order_estimated_delivery_date,order_delivered_customer_d
ate, day)), 0) as diff_estimated_delivery
FROM `sqlproject.order_items` as ot
JOIN `sqlproject.orders` as o
ON ot.order_id = o.order_id
JOIN `sqlproject.customers` as c
ON o.customer_id = c.customer_id
GROUP BY customer_state
ORDER BY diff_estimated_delivery
LIMIT 5;
```

Row	customer_state	diff_estimated_delivery
1	AL	8.0
2	SE	9.0
3	MA	9.0
4	BA	10.0
5	ES	10.0

NOT SO FAST:

```
SELECT
customer_state,
round (avg (timestamp_diff(order_estimated_delivery_date,order_delivered_customer_d
ate, day)), 0) as diff_estimated_delivery
FROM `sqlproject.order_items` as ot
JOIN `sqlproject.orders` as o
ON ot.order_id = o.order_id
JOIN `sqlproject.customers` as c
ON o.customer_id = c.customer_id
GROUP BY customer_state
ORDER BY diff_estimated_delivery desc
LIMIT 5;
```

Row	customer_state	diff_estimated_delivery
1	AC	20.0
2	AM	19.0
3	RO	19.0
4	RR	17.0
5	AP	17.0

Actionable insight:

- In terms of average freight value: State SP had lowest freight charge i.e., 15, whereas, states PB and RR had highest freight value i.e., 43. This additional freight charges during check out might be the reason for less number of consumers ordering from the site. Cutting down this freight charges will possibly help to make more sales and profits.
- In terms of average time to deliver order, SP takes less time to deliver orders to customers approximately 8 days. On the contrary, AP and RR takes more time i.e., 28 days which is more than thrice the number of days taken by SP to deliver the order to a consumer. This implies that SP is fastest and states like RR is slow in terms of delivering products to the consumers.

Recommendations:

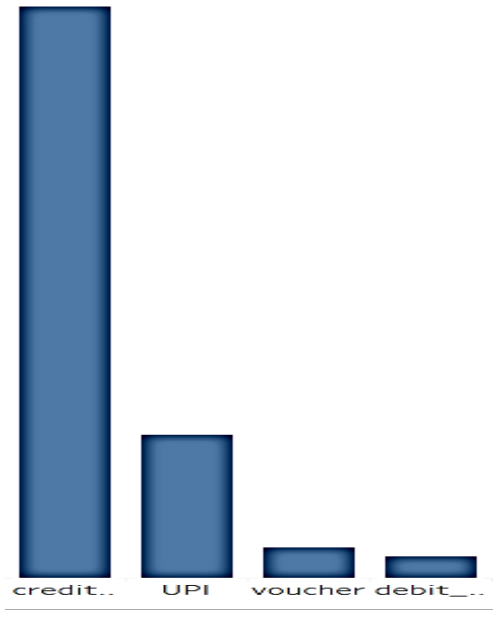
- Freight charges are directly proportional to distance of the warehouse. Hence, it is recommended to own more such kinds of warehouses near the states having high freight charges.
- To cut off the time taken to deliver products to the customers, based on the past demand trend, company can forecast the probable order so as to have some stock in hand or can have some stock in the warehouse even before the actual order placed by the consumers in that state so that the time for delivery can be shortened.

6. Payment Type Analysis:

6. a. Month over Month count of orders for different payment types

```
SELECT
payment_type,
EXTRACT (month from order_purchase_timestamp) as Month,
count (o.order_id)as number_of_orders
FROM `sqlproject.orders` as o
JOIN `sqlproject.payments` as p
ON o.order_id = p.order_id
GROUP BY payment_type, Month
ORDER BY payment_type, month;
```

Row	payment_type	Month	number_of_orders
1	UPI	1	1715
2	UPI	2	1723
3	UPI	3	1942
4	UPI	4	1783
5	UPI	5	2035
6	UPI	6	1807
7	UPI	7	2074
8	UPI	8	2077
9	UPI	9	903
10	UPI	10	1056



6.b. Count of orders based on the no. of payment installments

```
SELECT
payment_installments,
count (o.order_id) as count_of_orders,
FROM `sqlproject.orders` as o
JOIN `sqlproject.payments` as p
ON o.order_id = p.order_id
group by payment_installments
order by payment_installments;
```

Row	payment_installments	count_of_orders
1	0	2
2	1	52546
3	2	12413
4	3	10461
5	4	7098
6	5	5239
7	6	3920
8	7	1626
9	8	4268
10	9	644

Actionable insight:

- Credit Card is most preferred mode of payment by consumers followed by UPI, Voucher & Debit Card. This shows that consumers prefer variety of payment options during check-outs. Digital payment is used widely all over Brazil because it is less time consuming, easier & provide better security.
- It has been seen that higher the number of payment installments number, lower the number of orders it had. This implies that payment installments are inversely proportional to numbers of orders. Hence, it has seen inferred that consumers prefer to order products with low numbers of payment installments (since, the products are not luxurious). They prefer to pay their liability in few installments, rather than dragging the payments over a longer period.

Recommendations:

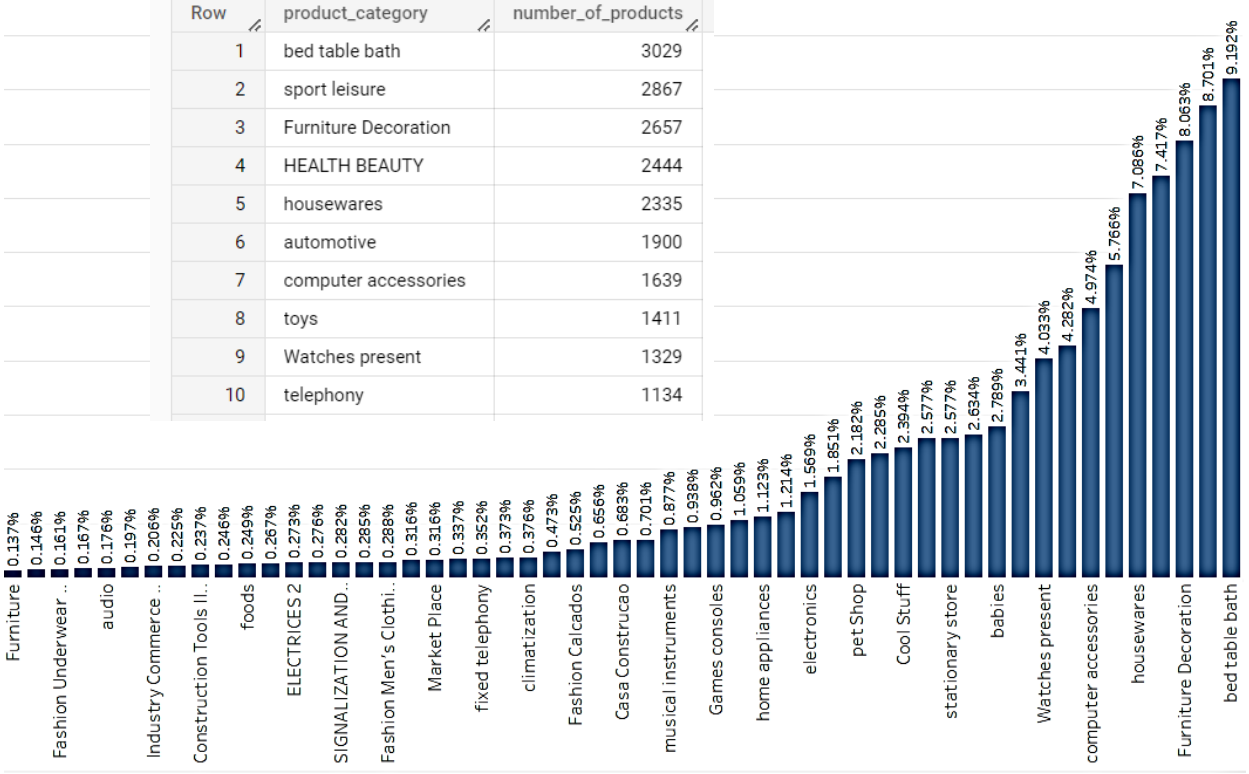
- To increase use of Debit Cards also, company can merge with financial institutes and provide some kinds of discounts or benefits for using these particular company's debit card during check-outs.
- Company can reduce the number of installments for some particular product category.

7. Product analysis:

7.a. Numbers of products per category –

```
SELECT product_category,
COUNT (product_id) as number_of_products,
FROM `sqlproject.products`
GROUP BY product_category
ORDER BY number_of_products desc;
```

Row	product_category	number_of_products
1	bed table bath	3029
2	sport leisure	2867
3	Furniture Decoration	2657
4	HEALTH BEAUTY	2444
5	housewares	2335
6	automotive	1900
7	computer accessories	1639
8	toys	1411
9	Watches present	1329
10	telephony	1134



Actionable insight:

- There is total 74 product categories.
- Out of these 74 product categories, Bed Table Bath had highest numbers of orders i.e., 3,029 which made it 9.19% of total orders. It is followed by sports leisure category which had around 2867 orders and furniture decoration with 2,657 numbers of orders respectively.
- Least purchased product category was cd music DVDs during the studied period.

Recommendations:

- As consumers prefer more Bed Table Bath, Sport leisure and Furniture, Company can increase number of product items in these categories so that consumers will get more options to select from which eventually lead to more number of orders.
- The above-mentioned items may be bundled with similar line of items or related (complementary) products, so as to increase the number of orders and thereby sales.