



REVOU FULL-STACK DATA ANALYTICS COURSE

ADVANCED ASSIGNMENT

THE LOOK ECOMMERCE

USING SQL (STRUCTURED QUERY LANGUAGE)

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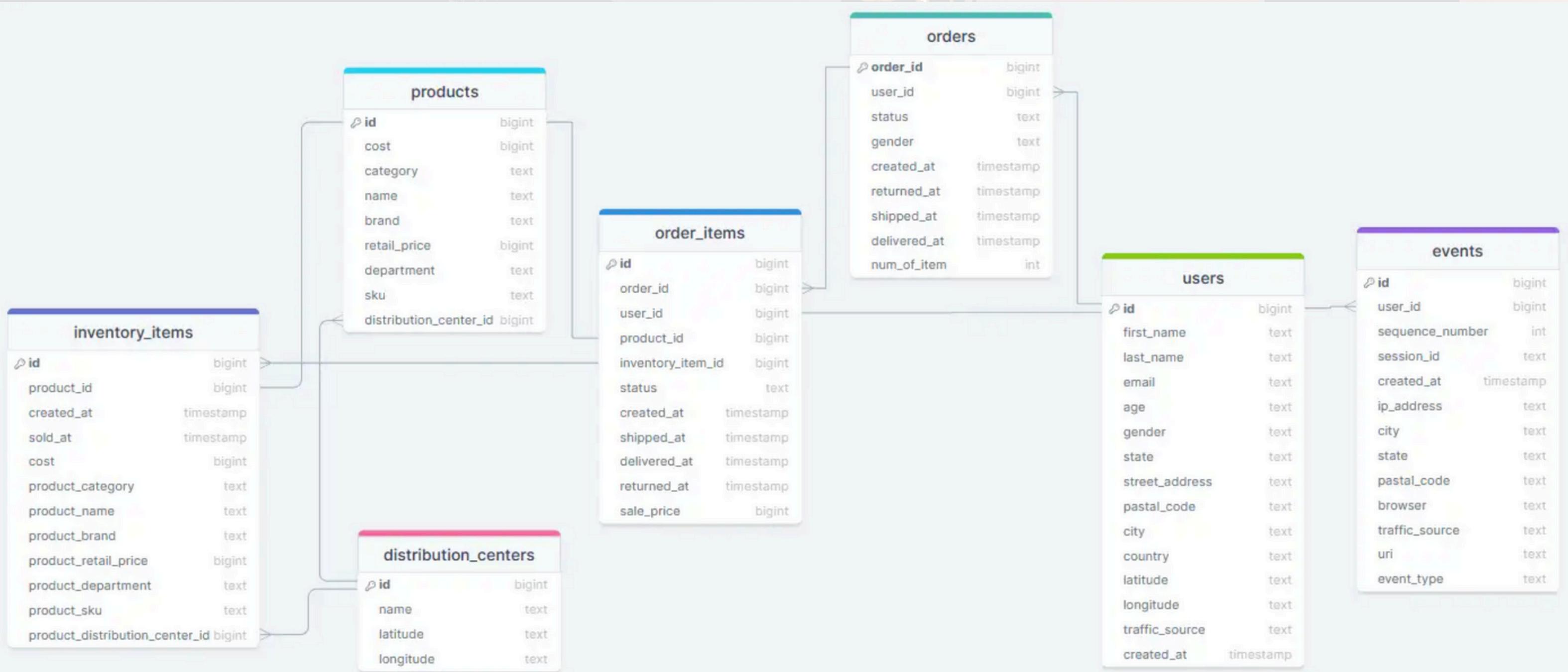
BUSINESS BACKGROUND



TheLook eCommerce is a fictitious Commerce clothing site developed by the Looker team. Currently, TheLook e-commerce company is in the optimization mode caused by the potential crisis in 2023. The management has decided to cut off resources in some categories with the lowest growth in the past 1 year.



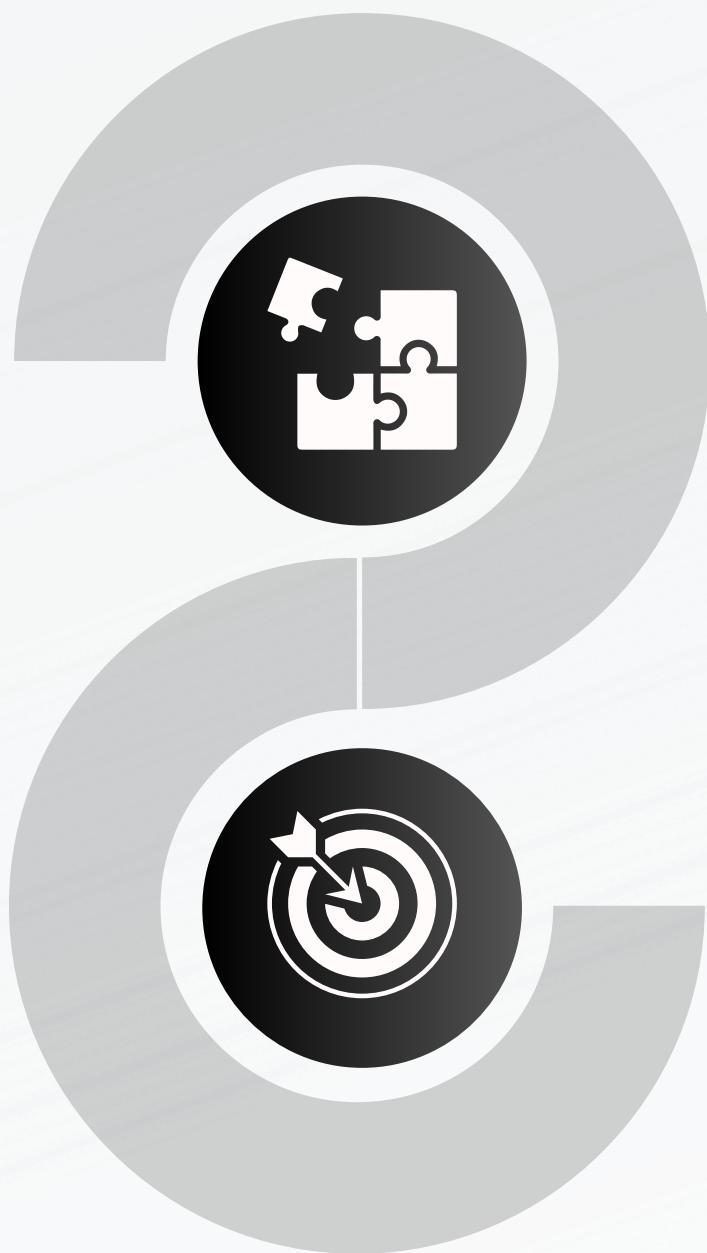
ENTITY RELATIONSHIP DIAGRAM



OBJECTIVES

- 01** To provide insights based on data how the condition of the company is to face potential crisis in 2023

- 02** Give actions recommendation to face potential crisis in 2023



BUSINESS QUESTION 1

What is the most as the least profit margin category for the past year (Year to Date)?

```
SELECT products.category,
       SUM(order_items.sale_price) AS total_revenue,
       SUM(products.cost) AS total_cost,
       (SUM(order_items.sale_price) - SUM(products.cost))/SUM(order_items.sale_price) * 100 AS profit_margin
  FROM `fsda-sql-01.TheLook_Ecommerce.products` AS products
LEFT JOIN `fsda-sql-01.TheLook_Ecommerce.order_items` AS order_items
    ON products.id = order_items.product_id
 WHERE order_items.status = 'Complete'
   AND order_items.created_at BETWEEN '2022-04-01'
   AND '2023-04-21'
 GROUP BY 1
 ORDER BY 4 DESC
 LIMIT 5
```

Row	category ▾	total_revenue ▾	total_cost ▾	profit_margin ▾
1	Blazers & Jackets	44602.84010696...	17001.29023990...	61.88294243340...
2	Skirts	17517.23001527...	6980.874007522...	60.14852804105...
3	Suits & Sport Coats	104312.2598934...	41838.64096363...	59.89096487183...
4	Accessories	62387.95996332...	25043.41350047...	59.85857925920...
5	Socks & Hosiery	8897.199980735...	3579.643430280...	59.76662952354...

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    ON products.id = order_items.product_id
   WHERE order_items.status = 'Complete'
     AND order_items.created_at BETWEEN '2022-04-01'
     AND '2023-04-21'
  GROUP BY 1
 ORDER BY 4 ASC
LIMIT 5
```

Row	category ▾	total_revenue ▾	total_cost ▾	profit_margin ▾
1	Clothing Sets	2322.060005187...	1419.998936805...	38.84744866055...
2	Socks	17989.87001585...	10847.85716583...	39.70019151735...
3	Suits	18106.96993827...	10916.55825830...	39.71073959076...
4	Leggings	12953.58000278...	7791.961083362...	39.84704551415...
5	Tops & Tees	76629.00023269...	42943.35299644...	43.95939805290...

BUSINESS QUESTION 2

What is the sales trend of the highest and the lowest profit margin category in the past year (Year To Date)?

```
SELECT
    products.category,
    DATE_TRUNC(created_at, MONTH) AS month,
    SUM(order_items.sale_price) AS total_revenue
FROM `fsda-sql-01.TheLook_Ecommerce.products` AS products
LEFT JOIN `fsda-sql-01.TheLook_Ecommerce.order_items` AS order_items
    ON order_items.product_id = products.id
WHERE order_items.status = 'Complete'
    AND order_items.created_at BETWEEN '2022-04-01'
        AND '2023-04-21'
    AND products.category IN ('Blazers & Jackets', 'Clothing Sets')
GROUP BY 1, 2
ORDER BY 1, 2
```

Row	category ▾	month ▾	total_revenue ▾
1	Blazers & Jackets	2022-04-01 00:00:00 UTC	3310.159998893...
2	Blazers & Jackets	2022-05-01 00:00:00 UTC	1257.980015754...
3	Blazers & Jackets	2022-06-01 00:00:00 UTC	2697.970029830...
4	Blazers & Jackets	2022-07-01 00:00:00 UTC	1506.669998168...
5	Blazers & Jackets	2022-08-01 00:00:00 UTC	2552.390000343...
6	Blazers & Jackets	2022-09-01 00:00:00 UTC	2072.940002441...
7	Blazers & Jackets	2022-10-01 00:00:00 UTC	2950.360009193...
8	Blazers & Jackets	2022-11-01 00:00:00 UTC	3013.359992980...
9	Blazers & Jackets	2022-12-01 00:00:00 UTC	4058.940021514...
10	Blazers & Jackets	2023-01-01 00:00:00 UTC	5418.4500207901
11	Blazers & Jackets	2023-02-01 00:00:00 UTC	4475.440019607...
12	Blazers & Jackets	2023-03-01 00:00:00 UTC	6114.019996643...
13	Blazers & Jackets	2023-04-01 00:00:00 UTC	5174.160000801...
14	Clothing Sets	2022-04-01 00:00:00 UTC	120.0
15	Clothing Sets	2022-07-01 00:00:00 UTC	332.9299964904...
16	Clothing Sets	2022-08-01 00:00:00 UTC	222.9699974060...
17	Clothing Sets	2022-09-01 00:00:00 UTC	147.1300048828...
18	Clothing Sets	2022-10-01 00:00:00 UTC	59.0
19	Clothing Sets	2022-11-01 00:00:00 UTC	95.84999847412...
20	Clothing Sets	2022-12-01 00:00:00 UTC	125.9800033569...
21	Clothing Sets	2023-01-01 00:00:00 UTC	546.9300003051...
22	Clothing Sets	2023-02-01 00:00:00 UTC	158.8400001525...
23	Clothing Sets	2023-03-01 00:00:00 UTC	381.4400024414...
24	Clothing Sets	2023-04-01 00:00:00 UTC	130.9900016784...

BUSINESS QUESTION 3

What is the top 3 categories that have the highest and the lowest inventory turnover for the past year?

```
SELECT inventory_items.product_category,
       SUM(order_items.sale_price)/SUM(inventory_items.cost) AS inventory_turnover_rate
  FROM `fsda-sql-01.TheLook_Ecommerce.order_items` AS order_items
LEFT JOIN `fsda-sql-01.TheLook_Ecommerce.inventory_items` AS inventory_items
    ON inventory_items.id = order_items.inventory_item_id
   WHERE order_items.status = 'Shipped'
         AND order_items.created_at BETWEEN '2022-04-01'
                                         AND '2023-04-21'
  GROUP BY 1
 ORDER BY 2 DESC
  LIMIT 3
```

Row	product_category	inventory_turnover_rate
1	Blazers & Jackets	2.624687426776...
2	Skirts	2.515343610869...
3	Accessories	2.494737440165...

Row	product_category	inventory_turnover_rate
1	Clothing Sets	1.625052381696...
2	Socks	1.651041962888...
3	Suits	1.651875877641...

BUSINESS QUESTION 4

What is the highest returned rate category in the past year?

```
WITH
total_orders AS (
  SELECT products.category,
  COUNT(DISTINCT order_items.id) AS total_order
  FROM `fsda-sql-01.TheLook_Ecommerce.order_items` AS order_items
  JOIN `fsda-sql-01.TheLook_Ecommerce.products` AS products ON
  products.id = order_items.product_id
  WHERE order_items.created_at BETWEEN '2022-04-01'
  AND '2023-04-21'
  GROUP BY 1
),
returned_orders AS(
  SELECT inventory_items.product_category AS category,
  COUNT(order_items.id) AS returned_order
  FROM `fsda-sql-01.TheLook_Ecommerce.order_items` AS order_items
  JOIN `fsda-sql-01.TheLook_Ecommerce.inventory_items` AS inventory_items
  ON inventory_items.id = order_items.inventory_item_id
  WHERE order_items.created_at BETWEEN '2022-04-01'
  AND '2023-04-21'
  AND order_items.status = 'Returned'
  GROUP BY 1
)
SELECT total_orders.category,
total_orders.total_order,
returned_orders.returned_order,
(returned_orders.returned_order/total_orders.total_order)*100 AS returned_rate
FROM total_orders
JOIN returned_orders ON total_orders.category = returned_orders.category
ORDER BY 4 DESC
LIMIT 5
```

Row	category	total_order	returned_order	returned_rate
1	Accessories	5903	621	10.52007453837...
2	Socks & Hosiery	2194	229	10.43755697356...
3	Suits & Sport Coats	3077	321	10.43223919402...
4	Jumpsuits & Rompers	537	56	10.42830540037...
5	Tops & Tees	7090	734	10.35260930888...

BUSINESS QUESTION 5

Which traffic source give the highest conversion rate in the past year?

```
SELECT users.traffic_source,
       SUM(COUNT(DISTINCT users.id)) OVER() AS total_users,
       COUNT(DISTINCT orders.user_id) AS converted_users,
       (COUNT(DISTINCT orders.user_id)/SUM(COUNT(DISTINCT users.id)) OVER())*100 AS conversion_rate
  FROM `fsda-sql-01.TheLook_Ecommerce.users` AS users
 INNER JOIN `fsda-sql-01.TheLook_Ecommerce.orders` AS orders
    ON orders.user_id = users.id
 WHERE orders.created_at BETWEEN '2022-04-01'
   AND '2023-04-21'
 GROUP BY 1
 ORDER BY 4 DESC
```

Row	traffic_source	total_users	converted_users	conversion_rate
1	Search	53583	37303	69.61722934512...
2	Organic	53583	8178	15.26230334247...
3	Facebook	53583	3267	6.097083030065...
4	Email	53583	2628	4.904540619226...
5	Display	53583	2207	4.118843663102...



CONCLUSIONS

1. If there are categories those must be cut out, it will be Clothing Sets and Suits, because they have the lowest profit margin, the least growth/flat trend, and the lowest inventory turnover rate
2. Evaluate the top 5 highest returned rate category since they have the highest returned rate.
3. In order to gain more users, focus on SEO since it gains users the most