

Balanced Tree Clothing Co.

Introduction

Balanced Tree Clothing Company prides themselves on providing an optimised range of clothing and lifestyle wear for the modern adventurer!

Sam, the CEO of this trendy fashion company has asked you to assist the team's merchandising teams analyse their sales performance and generate a basic financial report to share with the wider business.

Available Data

For this case study there is a total of 4 datasets for this case study - however you will only need to utilize 2 main tables to solve all of the regular questions, and the additional 2 tables are used only for the bonus challenge question!

Product Details

`balanced_tree.product_details` includes all information about the entire range that Balanced Clothing sells in their store.

product_id	price	product_name	category_id	segment_id	style_id	category_name	segment_name	style_name
c4a632	13	Navy Oversized Jeans - Womens	1	3	7	Womens	Jeans	Navy Oversized
e83aa3	32	Black Straight Jeans - Womens	1	3	8	Womens	Jeans	Black Straight

e31d39	10	Cream Relaxed Jeans - Womens	1	3	9	Womens	Jeans	Cream Relaxed
d5e9a6	23	Khaki Suit Jacket - Womens	1	4	10	Womens	Jacket	Khaki Suit
72f5d4	19	Indigo Rain Jacket - Womens	1	4	11	Womens	Jacket	Indigo Rain
9ec847	54	Grey Fashion Jacket - Womens	1	4	12	Womens	Jacket	Grey Fashion
5d267b	40	White Tee Shirt - Mens	2	5	13	Mens	Shirt	White Tee
c8d436	10	Teal Button Up Shirt - Mens	2	5	14	Mens	Shirt	Teal Button Up
2a2353	57	Blue Polo Shirt - Mens	2	5	15	Mens	Shirt	Blue Polo
f084eb	36	Navy Solid Socks - Mens	2	6	16	Mens	Socks	Navy Solid

b9a74d	17	White Striped Socks - Mens	2	6	17	Mens	Socks	White Striped
2feb6b	29	Pink Fluro Polkadot Socks - Mens	2	6	18	Mens	Socks	Pink Fluro Polkadot

Product Sales

balanced_tree.sales contains product level information for all the transactions made for Balanced Tree including quantity, price, percentage discount, member status, a transaction ID and also the transaction timestamp.

prod_id	qty	price	discount	member	txn_id	start_txn_time
c4a632	4	13	17	t	54f307	2021-02-13 01:59:43.296
5d267b	4	40	17	t	54f307	2021-02-13 01:59:43.296
b9a74d	4	17	17	t	54f307	2021-02-13 01:59:43.296
2feb6b	2	29	17	t	54f307	2021-02-13 01:59:43.296
c4a632	5	13	21	t	26cc98	2021-01-19 01:39:00.3456
e31d39	2	10	21	t	26cc98	2021-01-19 01:39:00.3456

72f5d4	3	19	21	t	26cc98	2021-01-19 01:39:00.3456
2a2353	3	57	21	t	26cc98	2021-01-19 01:39:00.3456
f084eb	3	36	21	t	26cc98	2021-01-19 01:39:00.3456
c4a632	1	13	21	f	ef648d	2021-01-27 02:18:17.1648

Product Hierarchy & Product Price

These tables are used only for the bonus question where we will use them to recreate the `balanced_tree.product_details` table.

`balanced_tree.product_hierarchy`

id	parent_id	level_text	level_name
1		Womens	Category
2		Mens	Category
3	1	Jeans	Segment
4	1	Jacket	Segment
5	2	Shirt	Segment
6	2	Socks	Segment
7	3	Navy Oversized	Style
8	3	Black Straight	Style
9	3	Cream Relaxed	Style
10	4	Khaki Suit	Style

1 1	4	Indigo Rain	Style
1 2	4	Grey Fashion	Style
1 3	5	White Tee	Style
1 4	5	Teal Button Up	Style
1 5	5	Blue Polo	Style
1 6	6	Navy Solid	Style
1 7	6	White Striped	Style
1 8	6	Pink Fluro Polkadot	Style

`balanced_tree.product_prices`

id	product_id	price
7	c4a632	13
8	e83aa3	32
9	e31d39	10
1 0	d5e9a6	23
1 1	72f5d4	19
1 2	9ec847	54

1 3	5d267b	40
1 4	c8d436	10
1 5	2a2353	57
1 6	f084eb	36
1 7	b9a74d	17
1 8	2feb6b	29

High Level Sales Analysis

1. What was the total quantity sold for all products?
2. What is the total generated revenue for all products before discounts?
3. What was the total discount amount for all products?

Transaction Analysis

1. How many unique transactions were there?
2. What is the average unique products purchased in each transaction?
3. What are the 25th, 50th and 75th percentile values for the revenue per transaction?
4. What is the average discount value per transaction?
5. What is the percentage split of all transactions for members vs non-members?
6. What is the average revenue for member transactions and non-member transactions?

Product Analysis

1. What are the top 3 products by total revenue before discount?

2. What is the total quantity, revenue and discount for each segment?
3. What is the top selling product for each segment?
4. What is the total quantity, revenue and discount for each category?
5. What is the top selling product for each category?
6. What is the percentage split of revenue by product for each segment?
7. What is the percentage split of revenue by segment for each category?
8. What is the percentage split of total revenue by category?
9. What is the total transaction “penetration” for each product? (hint:
penetration = number of transactions where at least one quantity of a
product was purchased divided by total number of transactions)
10. What is the most common combination of at least 1 quantity of any 3
products in a single transaction?

Note: For every analysis (uni, bi, and multi- variant) , you need to provide

i) Non - visualization way

ii) All possible visualizations for the same