

# **Customer Shopping Behavior Analysis Report**

A complete, clean, reformatted version with optimized spacing.

**13Fdbcf4-2010-42Ee-B654-10470Abbb829**



**1F7017Be-5Fc8-4254-97B5-60C706B91201**

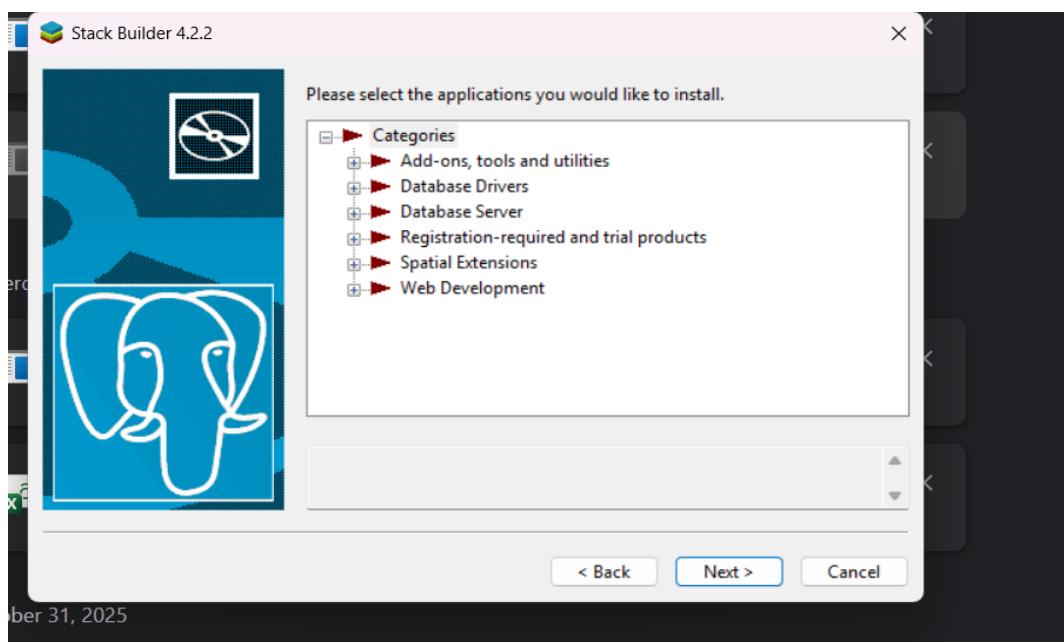


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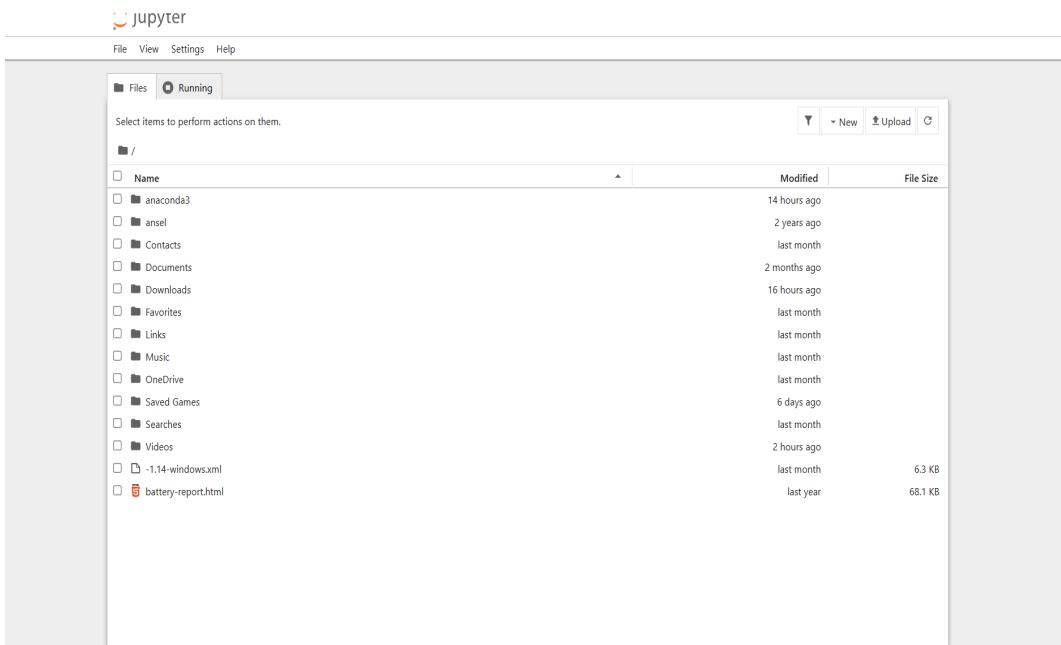
A screenshot of a database table interface. The table has 11 columns with the following headers: customer\_id, age, gender, item\_purchased, category, purchase\_amount, location, size, color, season, and review. The data rows show the following values:

customer_id	age	gender	item_purchased	category	purchase_amount	location	size	color	season	review
bright	bright	text	text	bright	bright	text	text	text	text	double
1	35	Male	House	Clothing	53	Kentucky	1	Gray	Winter	

**40751E1F-1Ae8-4896-8E29-Dd92C080833E**



**6B5B9E27-Ad06-4945-B274-9C26Dd0724Ed**



**9787021C-E244-48B2-A79D-50923E738A50**

A screenshot of a Jupyter Notebook interface. The title bar shows 'Customer\_Shopping\_Behavior.ipynb' and the URL 'localhost:8888/notebooks/Data%20Analytics%20Project/Customer\_Shopping\_Behavior\_Analysis.ipynb'. The main area has a toolbar with File, Edit, View, Insert, Cell, Kernel, Widgets, Help, Trusted, Python 3 (ipykernel), and Logout. A code cell in the center contains the following Python code:

```
In [ ]: import pandas as pd
        df = pd.read_csv('')
```

The interface includes a sidebar on the right with various icons and a progress bar at the bottom indicating '7:04 / 1:23:19' and 'Data Loading & Exploratory Data... >'. A small 'Data Dredge' logo is visible in the bottom right corner of the main notebook area.

**Screenshot 2025-11-30 233652**

	Customer ID	Age	Gender	Item Purchased	Category	Purchase Amount (USD)	Location	Size	Color	Season	Review Rating	Subscription Status	Shipping Type	Discount Applied
count	3900.000000	3900.000000	3900	3900	3900	3900.000000	3900	3900	3900	3900	3863.000000	3900	3900	39
unique	NaN	NaN	2	25	4	NaN	50	4	25	4	NaN	2	6	
top	NaN	NaN	Male	Blouse	Clothing	NaN	Montana	M	Olive	Spring	NaN	No	Free Shipping	
freq	NaN	NaN	2652	171	1737	NaN	96	1755	177	999	NaN	2847	675	22
mean	1950.500000	44.068462	NaN	NaN	NaN	59.764359	NaN	NaN	NaN	NaN	3.750065	NaN	NaN	NaN
std	1125.977353	15.207589	NaN	NaN	NaN	23.685392	NaN	NaN	NaN	NaN	0.716983	NaN	NaN	NaN
min	1.000000	18.000000	NaN	NaN	NaN	20.000000	NaN	NaN	NaN	NaN	2.500000	NaN	NaN	NaN
25%	975.750000	31.000000	NaN	NaN	NaN	39.000000	NaN	NaN	NaN	NaN	3.100000	NaN	NaN	NaN
50%	1950.500000	44.000000	NaN	NaN	NaN	60.000000	NaN	NaN	NaN	NaN	3.800000	NaN	NaN	NaN
75%	2925.250000	57.000000	NaN	NaN	NaN	81.000000	NaN	NaN	NaN	NaN	4.400000	NaN	NaN	NaN
max	3900.000000	70.000000	NaN	NaN	NaN	100.000000	NaN	NaN	NaN	NaN	5.000000	NaN	NaN	NaN

## Screenshot 2025-11-30 233711

Discount Applied	Promo Code Used	Previous Purchases	Payment Method	Frequency of Purchases
3900	3900	3900.000000	3900	3900
2	2	NaN	6	7
No	No	NaN	PayPal	Every 3 Months
2223	2223	NaN	677	584
NaN	NaN	25.351538	NaN	NaN
NaN	NaN	14.447125	NaN	NaN
NaN	NaN	1.000000	NaN	NaN
NaN	NaN	13.000000	NaN	NaN
NaN	NaN	25.000000	NaN	NaN
NaN	NaN	38.000000	NaN	NaN
NaN	NaN	50.000000	NaN	NaN

## Screenshot 2025-11-30 233730

	gender text	revenue numeric
1	Female	75191
2	Male	157890

Screenshot 2025-11-30 233745

	customer_id bigint	purchase_amount bigint
1	2	64
2	3	73
3	4	90
4	7	85
5	9	97
6	12	68
7	13	72
8	16	81
9	20	90
10	22	62
11	24	88

Total rows: 839    Query complete 00:00

Screenshot 2025-11-30 233756

	item_purchased	Average Product Rating
1	Gloves	3.86
2	Sandals	3.84
3	Boots	3.82
4	Hat	3.80
5	Skirt	3.78

Screenshot 2025-11-30 233804

	shipping_type	round
1	Standard	58.46
2	Express	60.48

Screenshot 2025-11-30 233814

	subscription_status	total_customers	avg_spend	total_revenue
1	Yes	1053	59.49	62645.00
2	No	2847	59.87	170436.00

Screenshot 2025-11-30 233823

	item_purchased	discount_rate
1	Hat	50.00
2	Sneakers	49.66
3	Coat	49.07
4	Sweater	48.17
5	Pants	47.37

Screenshot 2025-11-30 233833

	customer_segment	Number of Customers
	text	bigint
1	Loyal	3116
2	New	83
3	Returning	701

**Screenshot 2025-11-30 233846**

	item_rank	category	item_purchased	total_orders
	bigint	text	text	bigint
1	1	Accessories	Jewelry	171
2	2	Accessories	Sunglasses	161
3	3	Accessories	Belt	161
4	1	Clothing	Blouse	171
5	2	Clothing	Pants	171
6	3	Clothing	Shirt	169
7	1	Footwear	Sandals	160
8	2	Footwear	Shoes	150
9	3	Footwear	Sneakers	145
10	1	Outerwear	Jacket	163
11	2	Outerwear	Coat	161

**Screenshot 2025-11-30 233856**

	subscription_status	repeat_buyers
1	No	2518
2	Yes	958

Screenshot 2025-11-30 233905

	age_group	total_revenue
1	Young Adult	62143
2	Middle-aged	59197
3	Adult	55978
4	Senior	55763

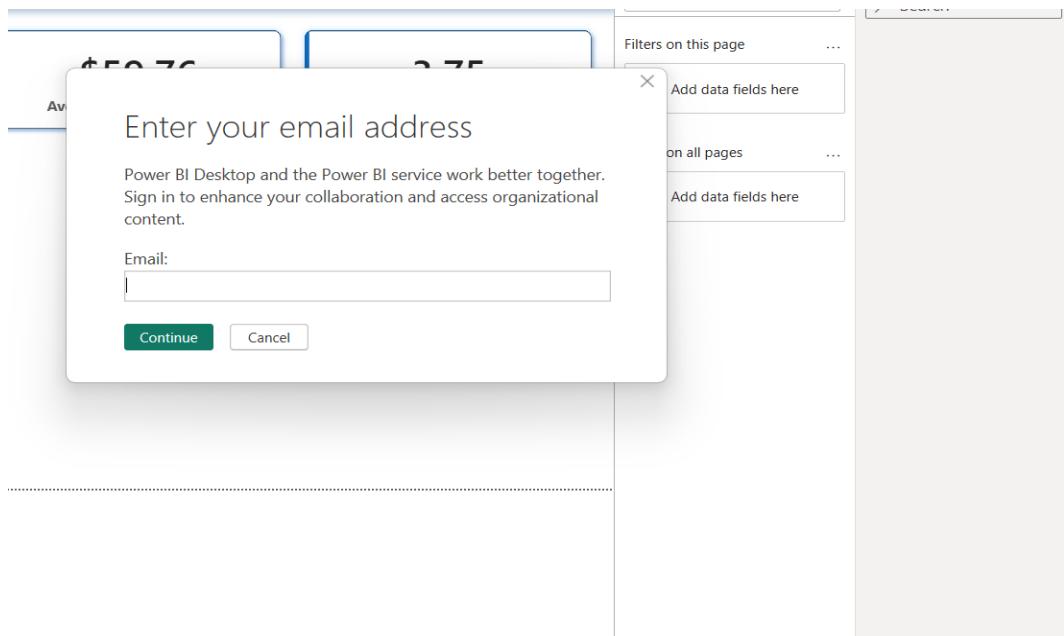
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**C9295238-6D4B-4D22-9F6D-929Dff77C9F**



**Ec386733-D7Be-4E34-9B44-0B9Febcef17B**

```
# create a column age_group
labels = c('Young Adult', 'Adult', 'Middle-aged', 'Senior')
df[["age_group"]] = pd.qcut(df[["age"]], q=4, labels = labels)
```

The image shows a screenshot of the RStudio IDE. A code editor window is open, displaying R code. The code defines a vector of labels for age groups ('Young Adult', 'Adult', 'Middle-aged', 'Senior') and then uses the `pd.qcut` function from the `pydata/pandas` package to create a new column named 'age\_group' based on the 'age' column, dividing it into four quantiles.

**F3Faad46-8A71-4F77-A7F8-5C465D859147**

- Q1. What is the total revenue generated by male vs. female customers?
- Q2. Which customers used a discount but still spent more than the average purchase amount?
- Q3. Which are the top 5 products with the highest average review rating?
- Q4. Compare the average Purchase Amounts between Standard and Express Shipping.
- Q5. Do subscribed customers spend more? Compare average spend and total revenue between subscribers and non-subscribers.
- Q6. Which 5 products have the highest percentage of purchases with discounts applied?
- Q7. Segment customers into New, Returning, and Loyal based on their total number of previous purchases, and show the count of each segment.
- Q8. What are the top 3 most purchased products within each category?
- Q9. Are customers who are repeat buyers (more than 5 previous purchases) also likely to subscribe?
- Q10. What is the revenue contribution of each age group? |