



CUSTOMER ANALYSIS

MADT DADS SUPERMARKET

df_group.head()

	CUST_CODE	total_amount_dollar_sales	average_dollar_sales	total_qty	average_qty	sku_penetrat	number_tnx	number_visit	most_dept	most_division	most_basket
0	181	2.44	2.440000	1	1.000000	0.000203	1	1	22	2	
1	689	328.57	1.776054	334	1.805405	0.023501	16	16	52	3	
2	998	5.95	1.487500	6	1.500000	0.000810	3	3	52	3	
3	1163	39.74	1.589600	34	1.360000	0.004862	4	4	22	2	
4	1194	2493.83	2.081661	1705	1.423205	0.081645	103	96	11	2	



A	B	C	D	E	F	G	H	I	J
CUST_CODE	total_amount_dollar	average_dollar_sale	total_qty	average_qty	sku_penetrat	number_tnx	number_visit	most_dept	most_division
181	2.44	2.44	1	1	0.0002025931929	1	1	22	2
689	328.57	1.776054054	334	1.805405405	0.02350081037	16	16	52	3
998	5.95	1.4875	6	1.5	0.0008103727715	3	3	52	3
1163	39.74	1.5896	34	1.36	0.004862236629	4	4	22	2
1194	2493.83	2.081661102	1705	1.423205342	0.08164505673	103	96	11	2
2257	1.99	1.99	1	1	0.0002025931929	1	1	73	5
2605	1.8	0.3	6	1	0.0002025931929	6	6	55	3
2637	124.63	1.466235294	126	1.482352941	0.01073743922	15	15	19	2
2638	15.59	3.8975	6	1.5	0.0008103727715	1	1	27	2
2813	145.02	1.495051546	118	1.216494845	0.01478930308	12	12	11	2

MEMBER VS NON-MEMBER

Overview performance

MEMBER INSIGHT

Internet Department

CLUSTERING

Content Department

AGENDA

1 OVERVIEW

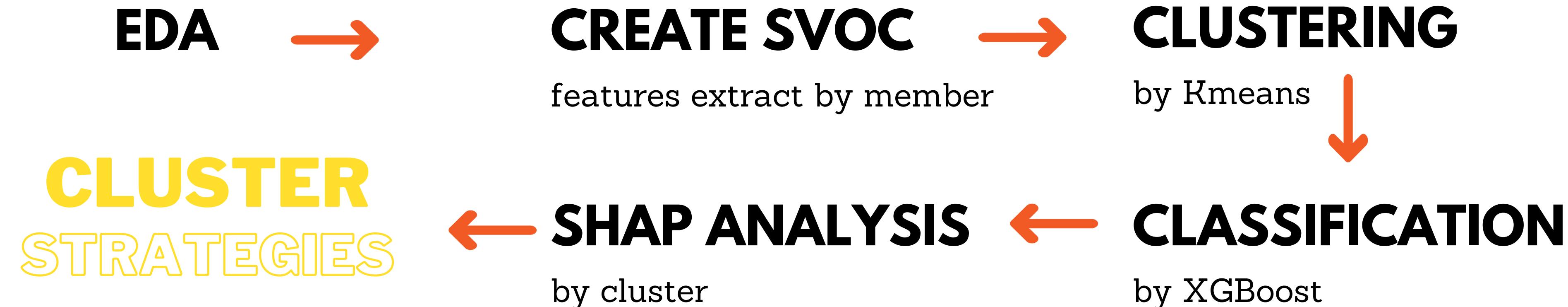
2 CUSTOMIZATION

3 STRATEGY IMPLEMENTATION



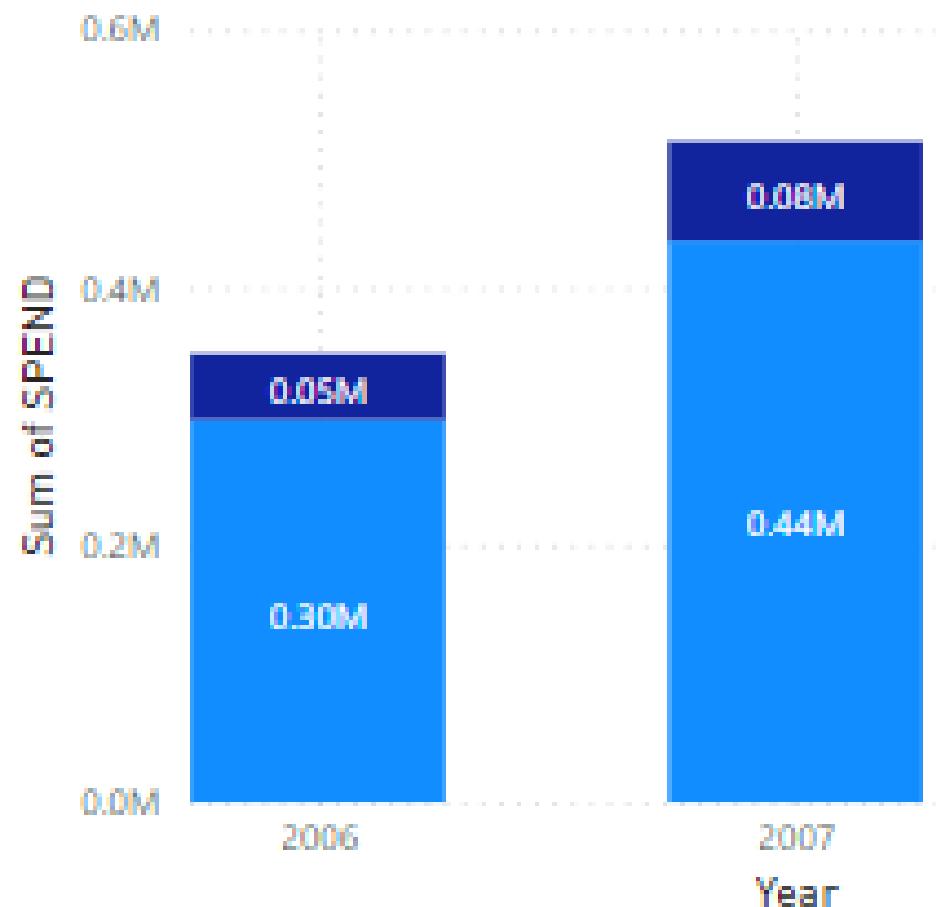
DATA PLANNING

step	process	implement
1	EXTRACT FEATURES BY MEMBER	create SVOC for clustering
2	CLUSTERING	group member who SVOC likely the same
3	CLASSIFICATION	create SHAP
4	SHAP	use SHAP for implementing persona for each cluster
5	SEGMENT STRATEGIES	strategies by persona



Sum of SPEND by Year and cust_type

cust_type ● member ● non-member



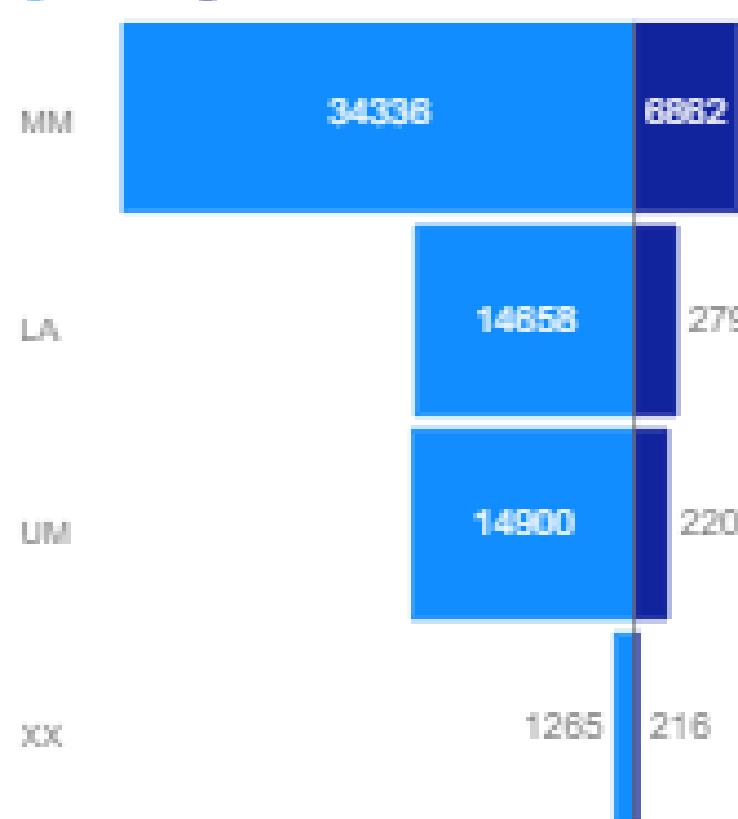
ATV by PROD_CODE_40 and cust_type

● member ● non-member



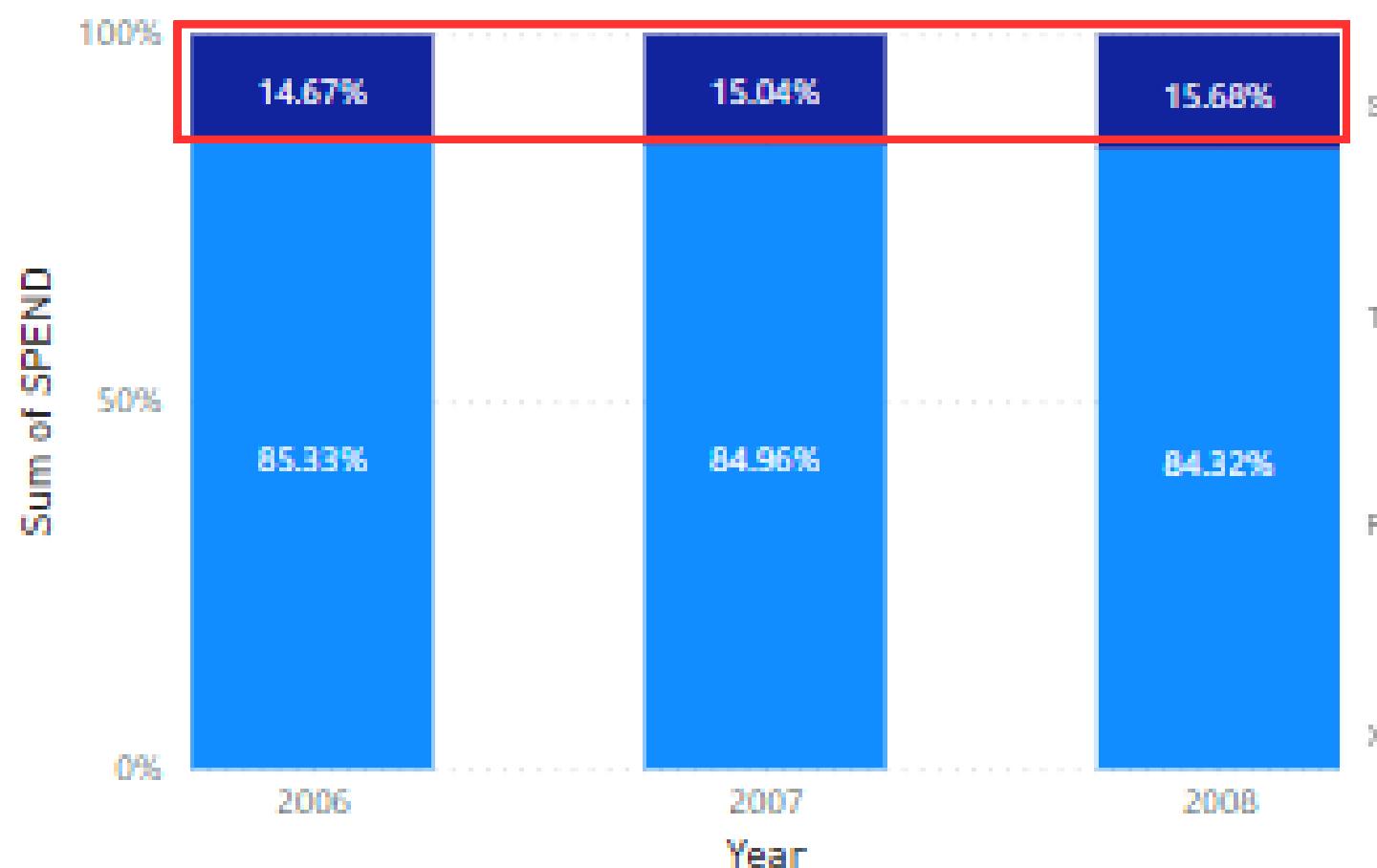
Count of BASKET_ID by BASKET_PRICE_SENSITIVITY and cust_type

● member ● non-member



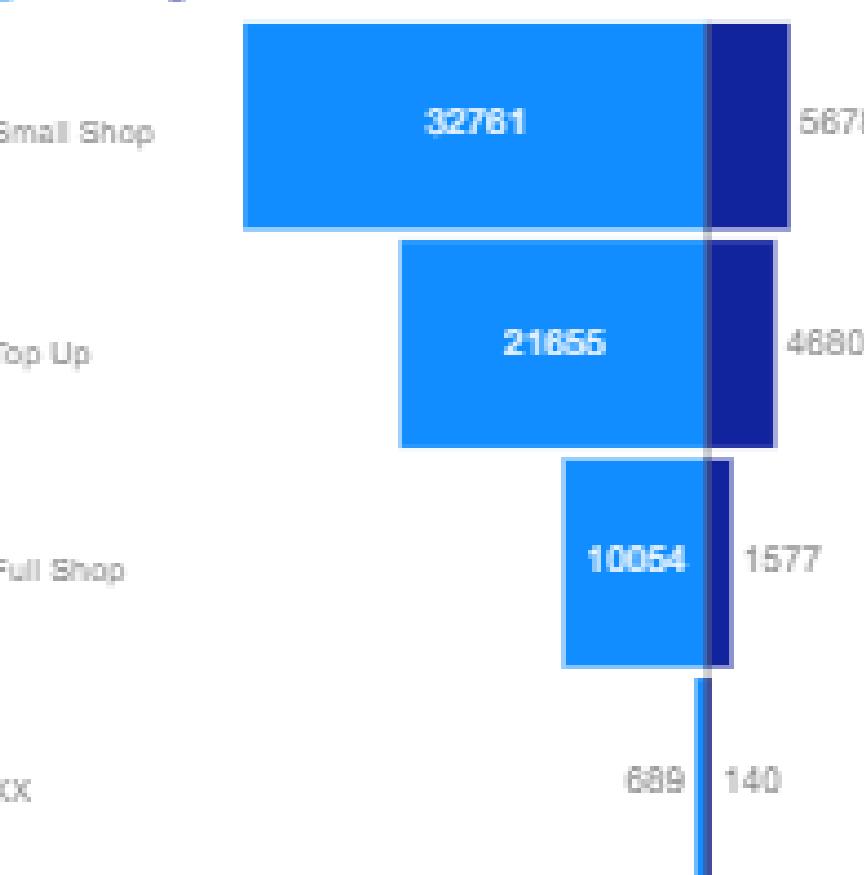
Sum of SPEND by Year and cust_type

cust_type ● member ● non-member



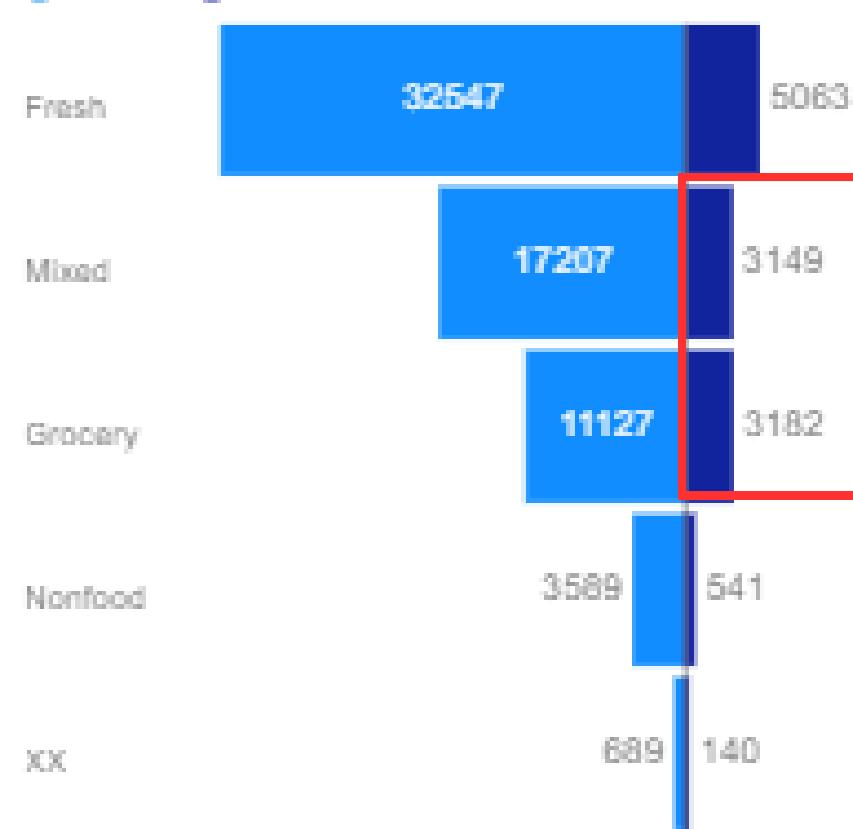
Count of BASKET_ID by BASKET_TYPE and cust_type

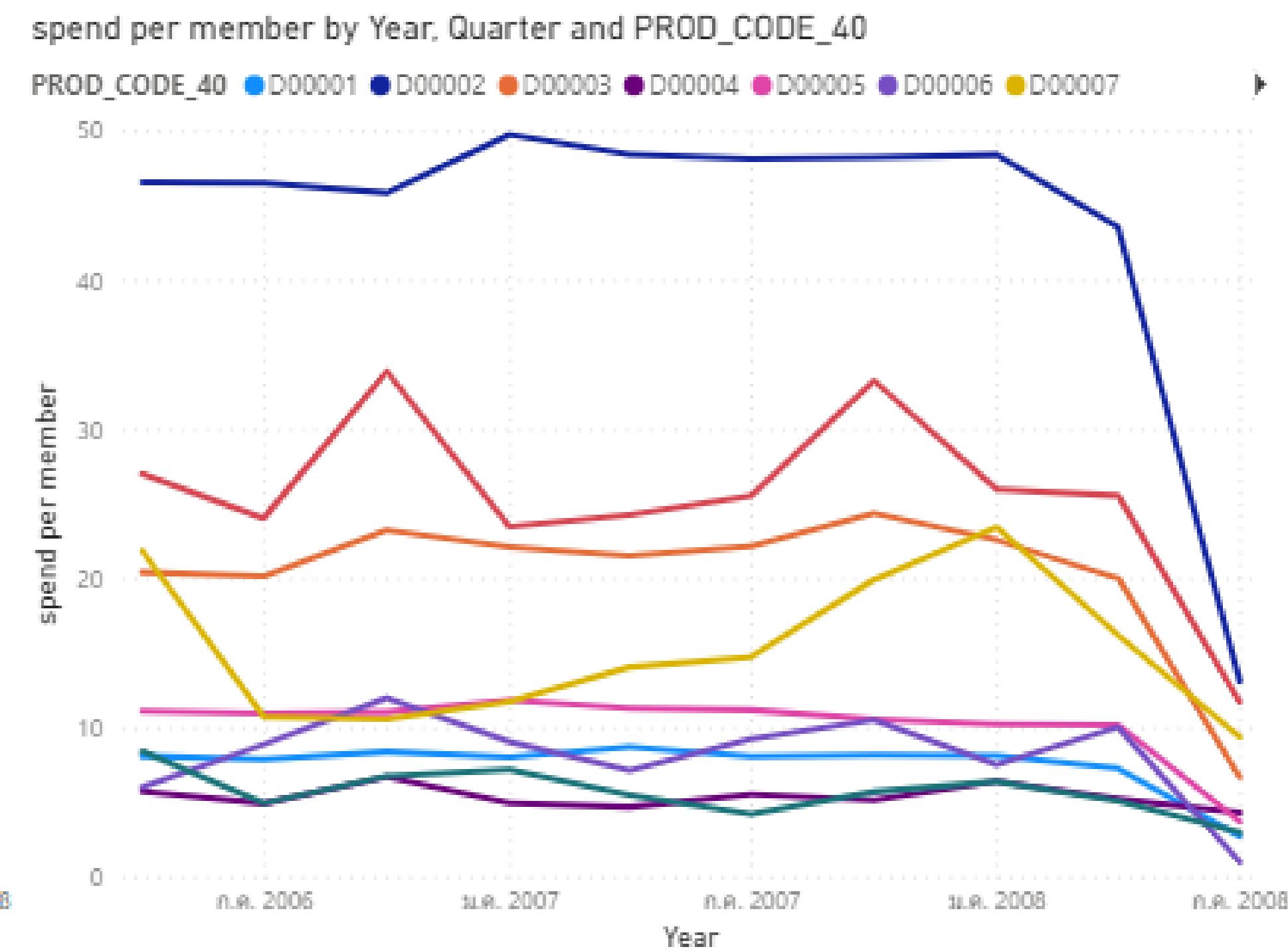
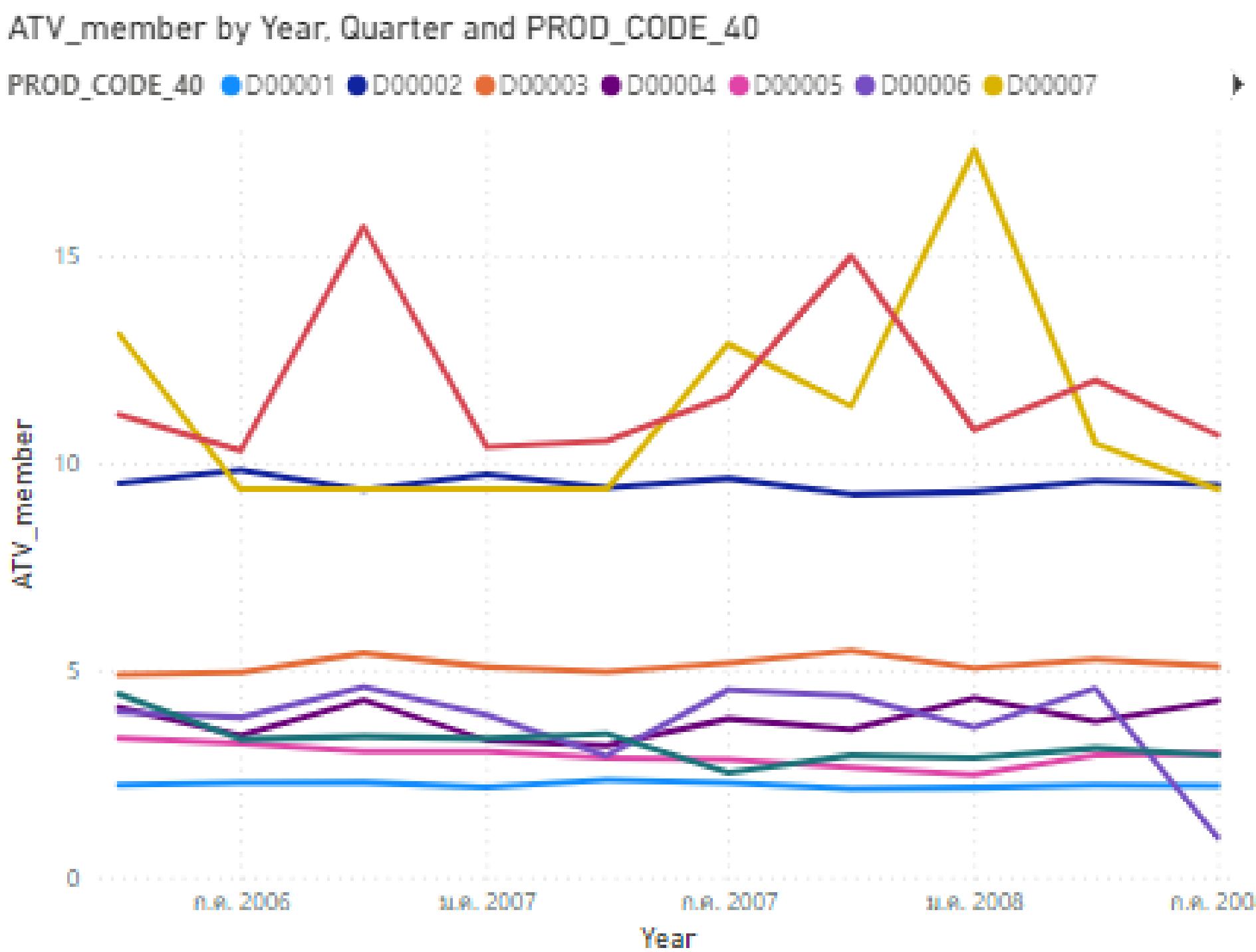
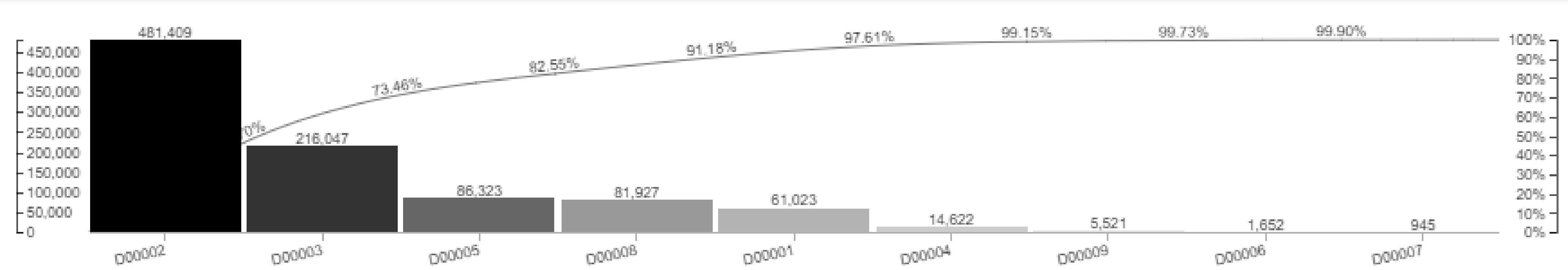
● member ● non-member

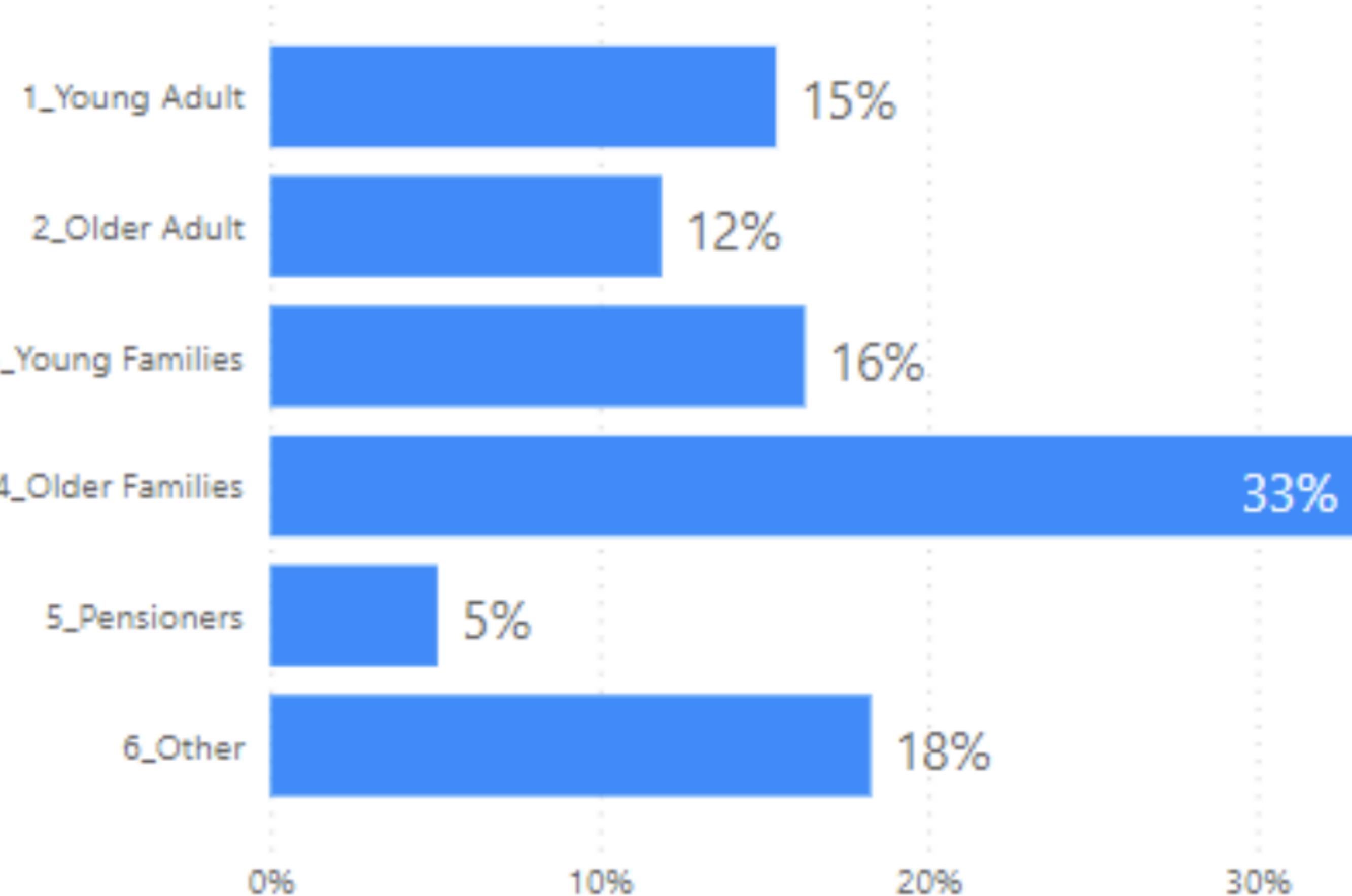


Count of BASKET_ID by BASKET_DOMINANT_MISSION and cust_type

● member ● non-member

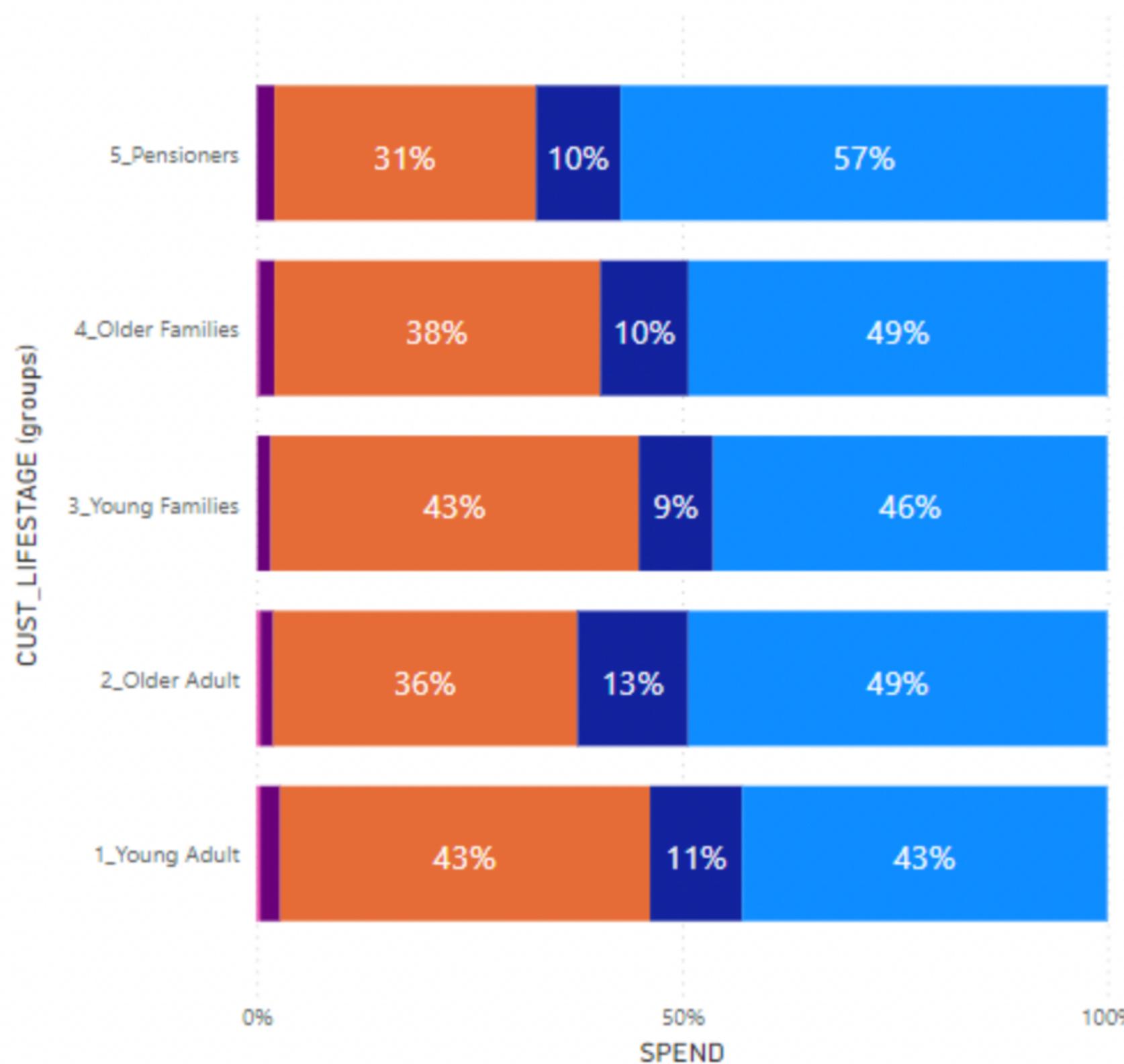






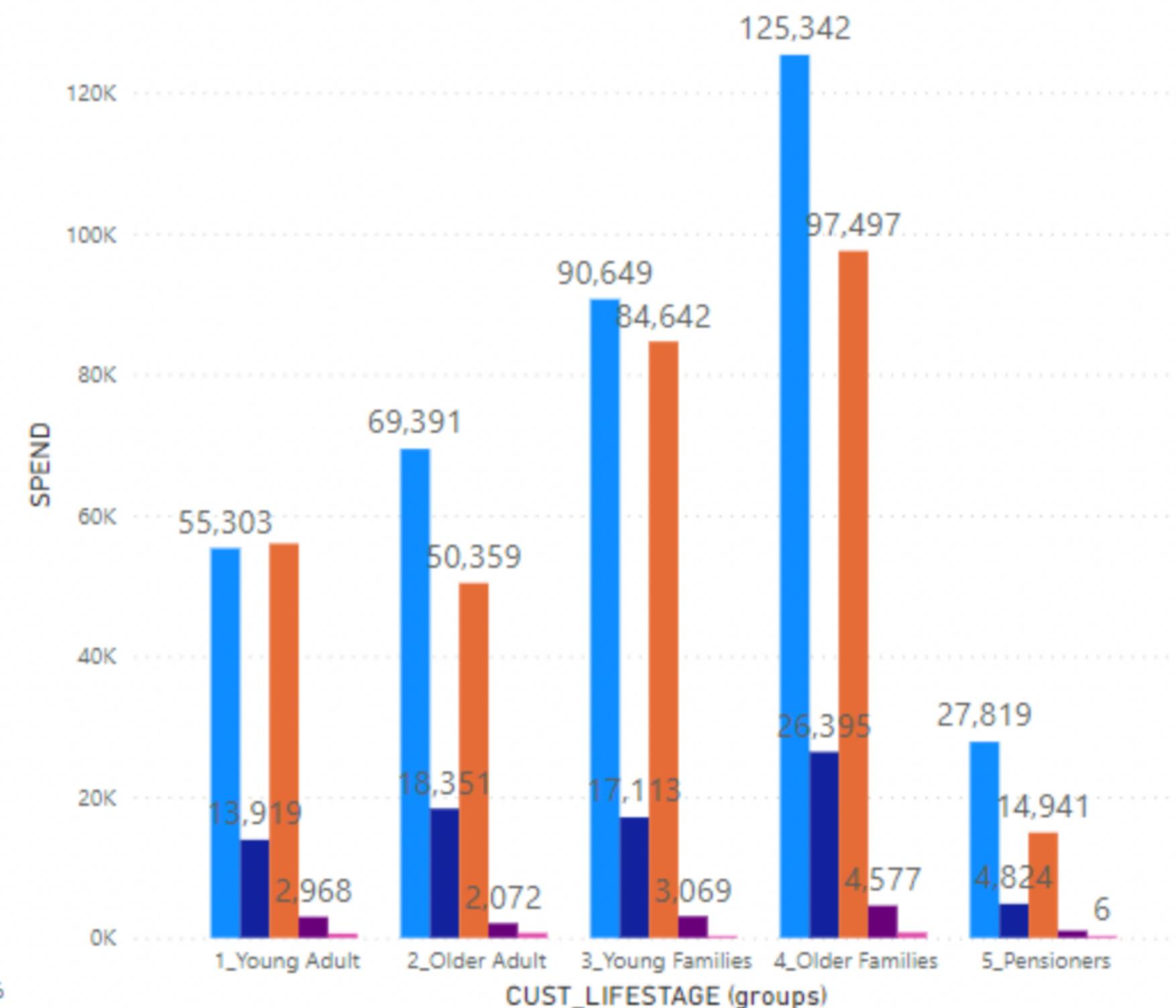
SPEND by CUST_LIFESTAGE (groups) and BASKET_DOMINANT_MISSION

BASKET_DOMINANT_M... ● XX ● Nonfood ● Mixed ● Grocery ● Fresh



SPEND by CUST_LIFESTAGE (groups) and BASKET_DOMINANT_MISSION

BASKET_DOMINANT_MI... ● Fresh ● Grocery ● Mixed ● Nonfood ● XX



PROD_CODE_40	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
SHOP_WEEKDAY (groups)	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
D00001	3.90%	3.47%	4.77%	6.86%	8.79%	10.07%	9.28%	9.17%	9.07%	7.84%	7.10%	5.54%	4.72%	9.42%	100.00%
D00002	3.67%	3.42%	5.00%	7.13%	9.04%	10.32%	9.83%	9.11%	8.56%	7.56%	6.76%	5.93%	4.65%	9.02%	100.00%
D00003	3.86%	3.32%	5.07%	6.67%	9.06%	10.39%	9.47%	9.01%	8.40%	7.23%	7.00%	5.75%	4.64%	10.13%	100.00%
D00004	3.50%	3.91%	4.96%	6.87%	8.57%	8.58%	8.94%	9.54%	8.00%	8.80%	7.67%	5.94%	5.24%	9.48%	100.00%
D00005	4.23%	3.72%	5.33%	6.94%	8.51%	10.25%	9.54%	9.04%	8.39%	7.38%	6.44%	6.07%	4.79%	9.36%	100.00%
D00006	8.01%	2.58%	2.67%	5.21%	9.22%	11.01%	9.00%	11.85%	9.17%	7.05%	5.50%	5.21%	5.53%	7.99%	100.00%
D00007	5.26%	1.75%	3.51%	8.77%	7.02%	3.51%	8.77%	5.26%	7.02%	5.26%	17.54%	15.79%		10.53%	100.00%
D00008	4.86%	3.64%	5.35%	6.00%	7.50%	9.30%	9.67%	9.66%	9.54%	7.57%	7.44%	6.14%	4.72%	8.61%	100.00%
D00009	14.11%	13.42%	13.85%	16.83%	15.06%	11.82%	6.34%	4.04%	2.09%	1.82%	0.43%	0.15%	0.04%	0.00%	100.00%
Total	3.96%	3.52%	5.11%	6.95%	8.88%	10.21%	9.63%	9.11%	8.58%	7.46%	6.84%	5.86%	4.65%	9.24%	100.00%
Weekday	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
1_Young Adult	3.48%	3.05%	4.68%	5.20%	7.67%	9.52%	8.53%	10.30%	9.53%	7.92%	7.75%	6.57%	5.34%	10.48%	100.00%
2_Older Adult	4.35%	3.20%	5.64%	8.18%	9.43%	9.91%	9.97%	9.04%	8.96%	6.88%	6.63%	6.18%	4.30%	7.33%	100.00%
3_Young Families	3.24%	3.17%	4.01%	5.84%	8.85%	10.79%	9.79%	9.64%	8.77%	7.57%	6.17%	6.47%	5.34%	10.35%	100.00%
4_Older Families	4.41%	3.89%	5.07%	6.63%	8.71%	9.31%	9.21%	8.05%	8.63%	7.60%	7.10%	5.85%	4.66%	10.88%	100.00%
5_Pensioners	3.38%	3.96%	6.39%	9.54%	12.20%	14.67%	13.65%	9.97%	7.84%	6.26%	5.69%	2.69%	1.67%	2.09%	100.00%
Weekend Sat, Sun	8	9	10	11	12	13	14	15	16	17	18	19	20	21	Total
1_Young Adult	4.00%	3.34%	4.72%	6.29%	7.07%	10.48%	8.32%	9.15%	9.50%	6.92%	8.09%	6.80%	6.13%	9.19%	100.00%
2_Older Adult	4.42%	4.03%	6.80%	8.52%	10.32%	10.65%	9.62%	9.69%	7.75%	7.24%	6.55%	4.21%	3.64%	6.55%	100.00%
3_Young Families	3.62%	3.28%	4.61%	6.98%	8.39%	10.00%	9.97%	8.95%	8.31%	7.97%	7.11%	6.64%	3.94%	10.24%	100.00%
4_Older Families	4.21%	3.65%	6.04%	8.03%	8.44%	9.45%	9.56%	8.34%	7.13%	7.99%	6.86%	5.51%	5.14%	9.64%	100.00%
5_Pensioners	5.56%	5.63%	5.72%	9.97%	12.06%	14.29%	10.94%	10.93%	7.33%	6.16%	5.07%	1.91%	2.39%	2.04%	100.00%
Total	3.96%	3.52%	5.11%	6.95%	8.88%	10.21%	9.63%	9.11%	8.58%	7.46%	6.84%	5.86%	4.65%	9.24%	100.00%

SINGLE VIEW OF CUSTOMER (SVOC)

member	CUST_CODE
svoc	total_amount_dollar_sales
	average_dollar_sales
	total_qty
	average_qty
	sku_penetrate
	number_tnx
	number_visit
	most_dept
	most_division
	most_basket_size
	most_basket_sens
	most_basket_type
	most_basket_dominant
	atv
	spend_per_visit



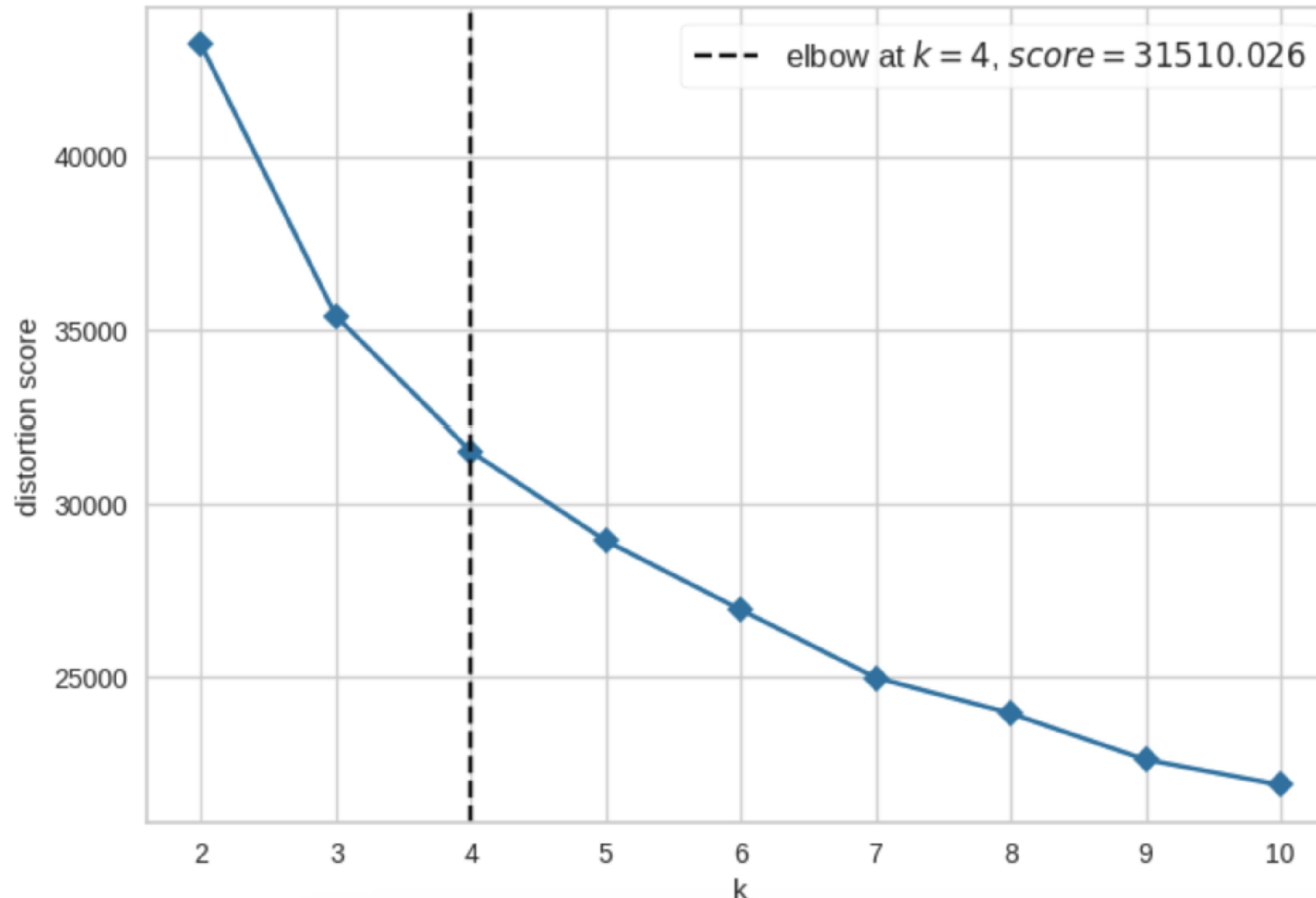
CLUSTERING
by kmeans

A	B	C	D	E	F	G	H	I	J
CUST_CODE	total_amount_dollar	average_dollar_sale	total_qty	average_qty	sku_penetrate	number_txn	number_visit	most_dept	most_division
181	2.44	2.44	1	1	0.0002025931929	1	1	22	2
689	328.57	1.776054054	334	1.805405405	0.02350081037	16	16	52	3
998	5.95	1.4875	6	1.5	0.0008103727715	3	3	52	3
1163	39.74	1.5896	34	1.36	0.004862236629	4	4	22	2
1194	2493.83	2.081661102	1705	1.423205342	0.08164505673	103	96	11	2
2257	1.99	1.99	1	1	0.0002025931929	1	1	73	5
2605	1.8	0.3	6	1	0.0002025931929	6	6	55	3
2637	124.63	1.466235294	126	1.482352941	0.01073743922	15	15	19	2
2638	15.59	3.8975	6	1.5	0.0008103727715	1	1	27	2
2813	145.02	1.495051546	118	1.216494845	0.01478930308	12	12	11	2

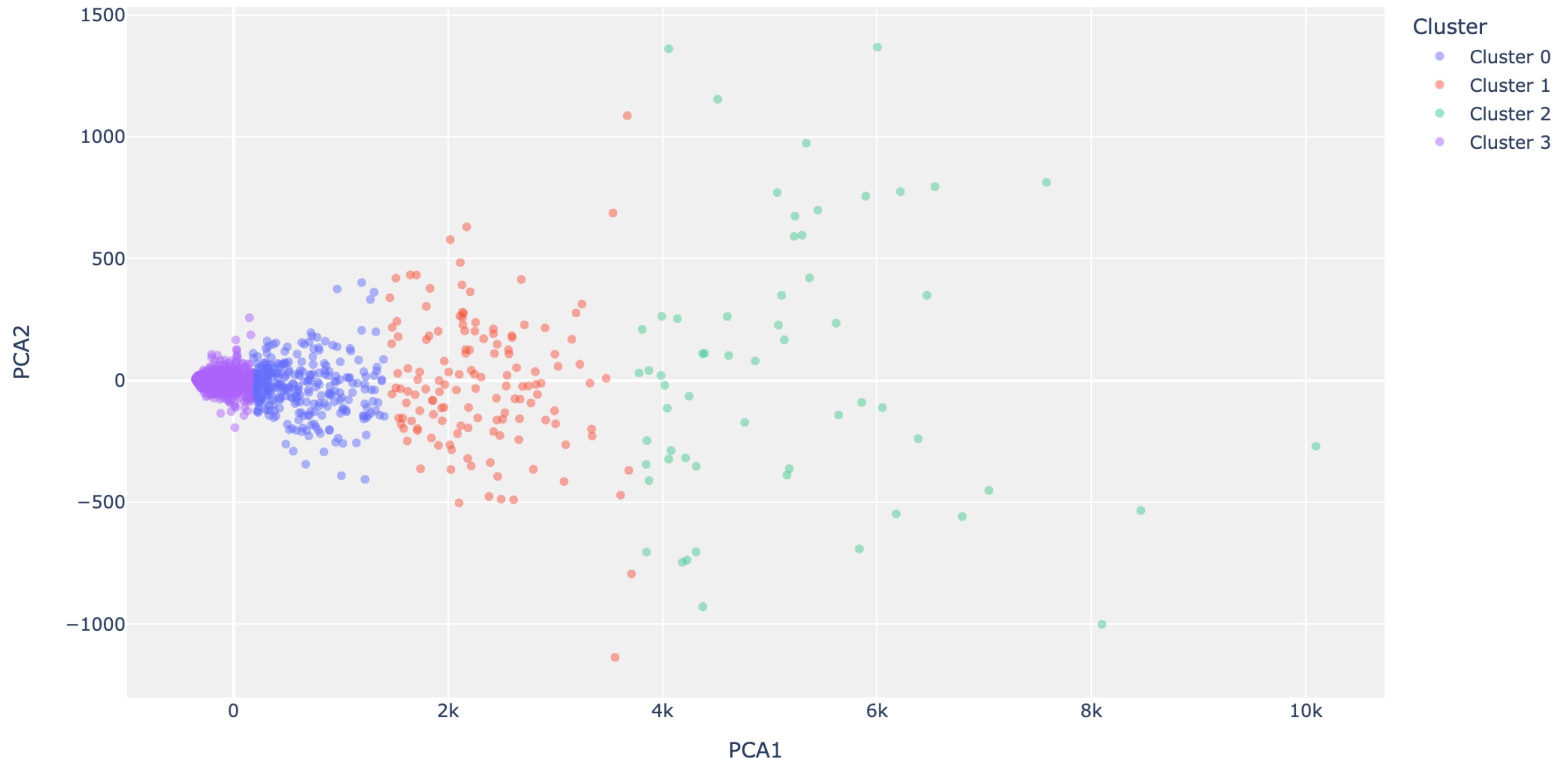
KNOW MOST DEPT > BASKET ANALYSIS(CROSS DEPT)

E.g. Drive most dept to another dept to increase sales by Basket analysis technique

Distortion Score Elbow for KMeans Clustering



2D Cluster PCA Plot



CUSTOMER CLUSTER

cust_code(unique)	total_sales	total_sales_last_3months	total_sales_last_6months	total_sales_last_12months	sku_penetrat
CUST0000000181	2.44	2.440000	1	1.000000	0.000203
CUST0000000689	328.57	1.776054	334	1.805405	0.023501
CUST0000000998	5.95	1.487500	6	1.500000	0.000810
CUST0000001163	39.74	1.589600	34	1.360000	0.004862
CUST0000001194	2493.83	2.081661	1705	1.423205	0.081645

mode_PROD_CODE10	mode_PROD_CODE20	mode_PROD_CODE30	mode_PROD_CODE40	avg. basket_size(ATV)	mode_basket_size(Category)	extra_col
1	1	22	2	0	0	0
16	16	52	3	2	1	1
3	3	52	3	0	0	0
4	4	22	2	2	0	0
103	96	11	2	2	0	0

mode_shop_day(weekend_weekday)	mode_shop_time	mode_basket_size_sen	extra_column
	0	0	2.440000 2.440000
	1	1	20.535625 20.535625
	0	2	1.983333 1.983333
	2	0	9.935000 9.935000
	1	0	24.211942 25.977396

CLUSTER STRATEGY