# **U**nderstand your customer's **MAIN NEEDS** to enhance the profit

APPROACH:

CLUSTERING THE PRODUCTS ACCORDING TO STORES' LOCATION.

1) **Understand sales** data to improve product portfolio distribution across the stores.

2) **Analyze the demographic** location of the stores with ML to determine specific clusters of products to focus on for each store.

3) **Determine SUPER-CATEGORIES** by crossing sales and demographics clusters.

"**MAY BE you will find** what you need?"
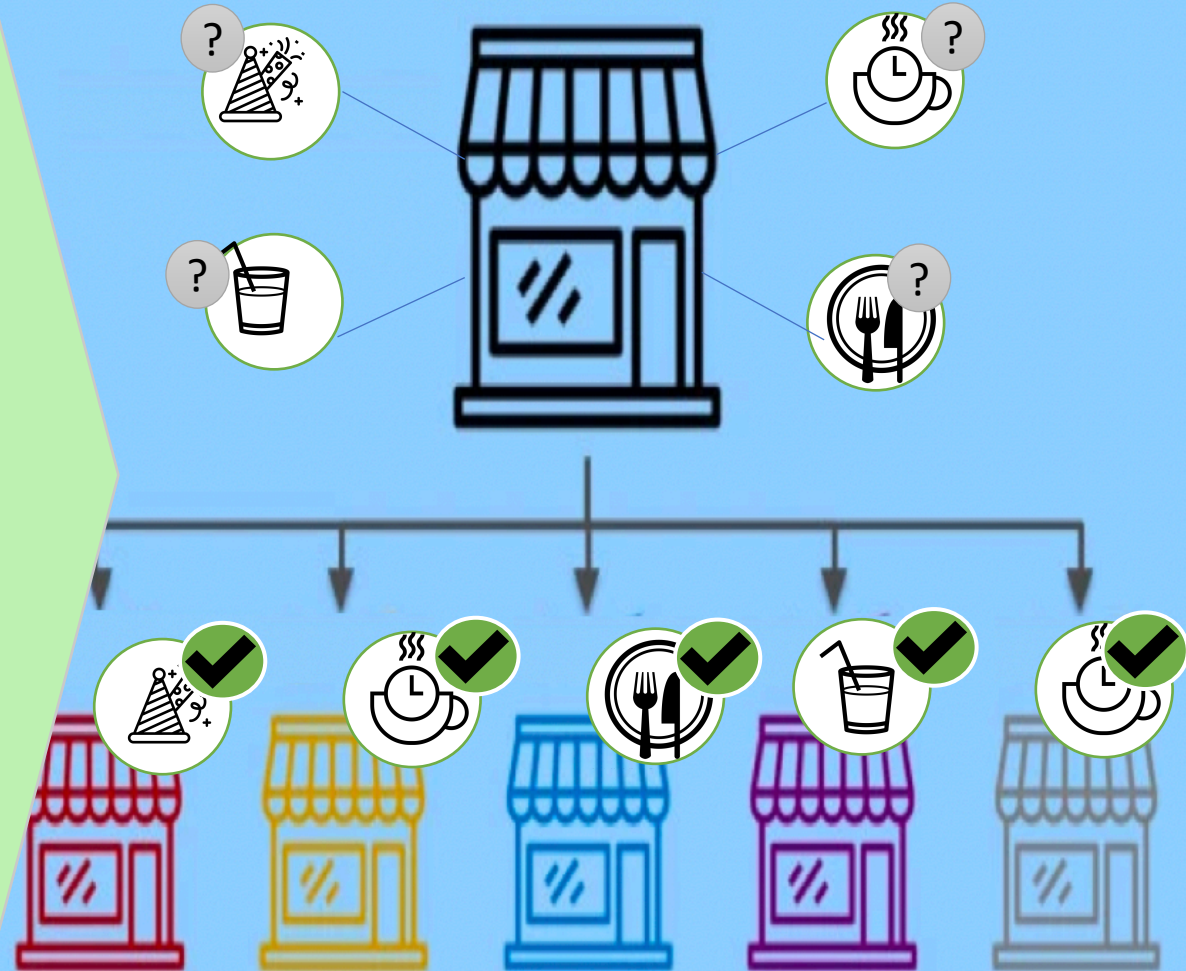
"**YES. YOU WILL FIND** WHAT YOU NEED!"

Determine optimal sales strategy by crossing SALES and DEMOGRAPHICS data

The aim is to comprehend your super categories behaviour to determine the ideal categories for each store

Sales Cluster
1) Classify stores by their current sales.
2) Catalogue stores by sales categories.

Demographic Cluster
1) Analyze neighborhoods of the stores.
2) Determine the nature of store vicinity based on the neighborhood characteristics of the stores' location.
3) Improve decision assertiveness for the optimal **sales by the store's location** strategy

Sales Cluster

Sales Cluster	Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Outlayer	Average
Number of Clust	11	14	21	5	8	5	64
Carving	20,15%	19,97%	25,99%	15,67%	15,02%	22,81%	**21,24%**
Daily Stuff home	6,58%	6,04%	6,36%	7,40%	7,13%	3,22%	**6,26%**
Hunger	8,83%	10,61%	13,85%	8,85%	7,04%	28,73%	**12,20%**
Party	22,03%	15,10%	12,35%	29,94%	21,73%	7,48%	**16,78%**
Thirst	17,45%	17,05%	20,23%	14,37%	12,71%	21,25%	**17,74%**
Fun/Cigg	24,97%	31,24%	21,23%	23,78%	36,37%	16,51%	**25,78%**

RESULT: Opportunity to create sales strategies that fit better the demand of your different products

Identified clusters clearly POINT OUT different product categories that make major sales according to the stores' locations

C1. MEETING	C2. BREAK	C3. EATING	C4. PARTY	C5. CONVENIENCE
Average participation in most categories with an above sale in "Party" category. This cluster is frequented by people looking to buy stuff for a group meeting.	Close to average in Carving, Hunger and Thirst High Fun/Cigg purchases Low Daily Stuff and party purchases This cluster is for people in work zones and universities that visit the store to buy something during their breaks	High in Craving, Hunger and Thirst Categories Very low in party category This cluster encompasses stores dedicated to buy food related products	Top Party products consumption. Very low food product purchase As the name suggest the cluster to buy products for the party (probably excels at night purchases)	Excel at Daily stuff and Fun/cigg consumption Very low food related sales A cluster for stores designated to buy stuff on the go or while traveling

Clustering by demographics identified 4 areas of differentiation

The Office and Neighborhood Clusters focus on middle class level

CLUSTER #1 -> OFFICE AREA

Strong presence of Average-level income

Have a high presence of informal commerce/stores

High traffic places. More like offices and College areas

Most people in the area (around 50%) are between 30 and 50 years old

CLUSTER #2 -> COMMERCIAL NEIGHBORHOOD

Strong presence of Average-level income but without presence of Low-level income

Have high presence of stores selling house and daily basis products

Low presence of high traffic places such as banks, colleges and universities. Residential areas

Most people in the area (around 50%) are between 30 and 50 years old

	CLUSTER #1	CLUSTER #2	CLUSTER #3	CLUSTER #4
Average of WNSEBAJOPOBLACIÓN	15.86	0	0.06	1.77
Average of WNSEMEDIOPOBLACIÓN	56.46	72.19	5.16	98.23
Average of WNSEALTOPOBLACIÓN	27.67	27.81	94.78	0
Average of Total Competitors	0.91	1.19	0.93	1.41
Average of comida_rapida	1.28	0.91	0.73	1.19
Average of entretenimiento	1.3	1.1	0.54	1.41
Average of tienda_especializada	1.14	1.44	0.65	1.17
Average of droguerias	1.12	1.03	0.77	1.43
Average of perecederos	1.23	1.38	0.38	1.57
Average of super_ete	0.37	1.29	0.7	3.49
Average of kiosko	1.89	0.32	0.59	0.23
Average of especializada	1.31	0.91	0.35	1.88
Average of restaurante	1.56	0.85	0.65	0.55
Average of tienda_de_barrio	1.24	0.92	0.37	1.92
Average of sitio_de_afluencia	26.44	11.33	16.55	2.4
Average of WAge30orLess	11.9	11.74	9.09	12.47
Average of WAge3140	21.95	22.74	21.1	24.03
Average of WAge4150	26.63	27.59	27.5	28.22
Average of WAge5160	19.75	18.88	22.92	16.85
Average of WAge61orMore	19.74	19.05	19.39	18.44

Clustering by demographics identified 4 areas of differentiation

Commercial and Residential have a strong presence of competitors

CLUSTER #3 -> COMMERCIAL AREA - HIGH CLASS

Strong presence of High-level income (more than 90%)

Strong presence of medium and large retailers (direct competitors) in the area.

Have a normal presence (not low, not high) of high traffic places. It is a mixed between residential and high traffic areas.

Low presence of young population (under 30) and more presence of people over 50

CLUSTER #4 -> RESIDENTIAL AREA - MIDDLE CLASS

Strong presence of Average-level income but without presence of High-level income

Have the strongest presence of minimarkets and traditional stores. This clusters captures the stores with more direct competitors.

The cluster with the lowest presence of traffic areas.

Low presence of people over 50 and more presence of people under 30

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SALES / m²	COMMERCIAL AREA	COMMERCIAL NEIGHBORHOOD	OFFICE AREA	RESIDENTIAL AREA	Total general
Break Cluster	$12.951	$15.098	$10.503	$19.009	$13.136
Convenience cluster	$22.964	$13.008	$12.266	$9.839	$13.487
Eating cluster	$15.912		$11.419	$438	$12.392
Meeting Cluster	$17.471		$16.045		$16.823
Party Cluster		$13.874	$19.767		$17.410
Total general	$16.308	$14.269	$13.439	$7.913	$14.060

Conclusions by demographic cluster analysis

The actual retail model has a very accepted value proposition in commercial areas with moderate traffic of people, mainly in areas where there is a "captive" shopper who spends most of his time in a company, university or schools.

It is important to see that the more residential areas have a different behavior, your retail value proposal still needs to be adapted so that the shoppers of these clusters achieve greater acceptance towards your stores.

Residential areas with low traffic and with a greater presence of low socio-economic levels, affect retail performance. The exception of the "Break Cluster" that we see with a high sales value belongs to only 1 Store that matches that category and therefore should be considered an outlier (further analysis should be made to understand better the success of this store in the residential area).

Crossing the resulting clusters illustrate the presence of the sales clusters on the different areas

TOTAL AVERAGE SALES	COMMERCIAL AREA	COMMERCIAL NEIGHBORHOOD	OFFICE AREA	RESIDENTIAL AREA	Total general
Break Cluster	$ 1,086,509	$ 1,214,616	$ 1,296,867	$ 962,788	$ 1,197,317
Convenience cluster	$ 1,628,159	$ 1,011,581	$ 1,616,433	$ 1,014,404	$ 1,216,094
Eating cluster	$ 1,376,340		$ 1,380,455	$ 45,091	$ 1,237,941
Meeting Cluster	$ 1,660,896		$ 1,522,999		$ 1,598,215
Party Cluster		$ 1,517,846	$ 1,825,002		$ 1,702,139
Total general	$ 1,433,690	$ 1,239,665	$ 1,465,200	$ 616,356	$ 1,342,104

Conclusions by sales cluster analysis

The most successful stores are the ones in the Meeting and Party cluster, since their average sales/m2 are correspondingly 19% and 23% above the total average of the stores.

Party-type stores excel in Office Zones, having the greatest performance out of all the combinations

Break-type stores do not achieve acceptance in all areas, which leads us to think that they are the stores with the lowest tickets since they have a high dependence on the category of cigarettes, but they show interesting results in Commercial neighborhood zones.

SCHOOL OF HUMAN SCIENCES & TECHNOLOGY

DAILY STUFF HOME: the category is the one with the lowest weight in the client sales, so there is no area than stand over others. However we see that its average sales are higher in Party stores, where probably considering the physical features of the store can be designed to give greater prominence to this category (eg, a larger store, more space in the store for this type of category, furniture or special displays for this category – bulk).

CRAVING:

the category is going to have a better performance in high traffic areas and in Eating stores, where possibly are store with more space and therefore a wider assortment of this category.

HUNGRY:

the category has a better performance in areas of high traffic and Eating stores whose focus on sales is fast food and where surely is an adequate physical equipment for the operation (ovens, coffee machines, consumption area).

FUN/CIGG:

The category has a good rotation in general, but it is noteworthy mainly in convenience stores, which are characterized as stores that are over indexed in sales of Party that is a complementary category

THIRST:

It is characterized by having a shopper that travels around the area occasionally. This category is also complementary to categories of "meals" which shows a direct correlation in the sales performance of both categories.

PARTY:

It has a good performance in areas of high traffic where offices, universities and social sites are present. You already have stores with a portfolio focused on this category. Can be the perfect scenario to leverage other categories or to consider more variety of the products in this category