Analysis on Food Manufacturing Company Dataset

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Part I : Objectives

Food is part and parcel of life and people look for meals, food products, food businesses and restaurants over internet all the time. Competitors also seek information about each other in the food industry. This leads to investments in food technology as well. From the given dataset that we will work on emphasis on the Food sales of a particular company. This food database facilitates users in accessing information and an additional advantage of these databases is that the users can manage their health and make healthy eating decisions.

Fields include:

- Item_Identifier - Unique identifier for each product.
- Item_Weight – Product weight.
- Item_Fat_Content – Fat content of the product.
- Item_Type – Product category.
- Item_MRP – List price of the product.
- Outlet_Identifier - Unique identifier for each store.
- Yr_since_Inception - the beginning of an official activity
- Outlet_Size - The size of the store.
- Outlet_Location_Type - The type of city in which the store is located.
- Outlet_Type - Whether the store is a grocery store or a supermarket.
- Item_Outlet_Sales - Sales of the product in each store.

Products are spread across many Outlets which are located in different areas. One factor affecting a product sales in one area does not affect the product in another area. Customers also have different qualities that affect their purchasing activities.

I will divide the levels into different categories.

Store Level hypotheses

1. **City type**: Stores located in large cities are likely to have high sales levels because of the populations densities there as compared to stores in smaller cities.

2. **Location**: Stores located in popular market are areas sre likely to have high sales.

3. **Economic Growth**: Stores located in areas with higher economic growth are expected to realize higher sales.

4. **Store Size**: Size of the Outlet will also determine its sales record.

Product level Hypotheses

1. **Brand**: Branded products are likely to have higher sales volumes as compared to unbranded products.

2. **Utility**: Products used daily are highly likely to be purchased.

3. **Health Content:** Depends on the user's preference they like.

Other Misc. Objectives:

1. Find out the sales of each product at a particular location.
2. Understand the properties of products and stores which play a key role in increasing sales.
3. Find out the properties of any store.

Part II: Queries & Insights

- **Duplicates:**

Code : SELECT First(Food_Manufacturing_Company.[Item_Type]) AS [Item_Type Field],
First(Food_Manufacturing_Company.[Outlet_Size]) AS [Outlet_Size Field],
First(Food_Manufacturing_Company.[Outlet_Location_Type]) AS [Outlet_Location_Type Field],
First(Food_Manufacturing_Company.[Outlet_Type]) AS [Outlet_Type Field],
Count(Food_Manufacturing_Company.[Item_Type]) AS NumberOfDups

FROM Food_Manufacturing_Company

GROUP BY Food_Manufacturing_Company.[Item_Type],
Food_Manufacturing_Company.[Outlet_Size],
Food_Manufacturing_Company.[Outlet_Location_Type],
Food_Manufacturing_Company.[Outlet_Type]

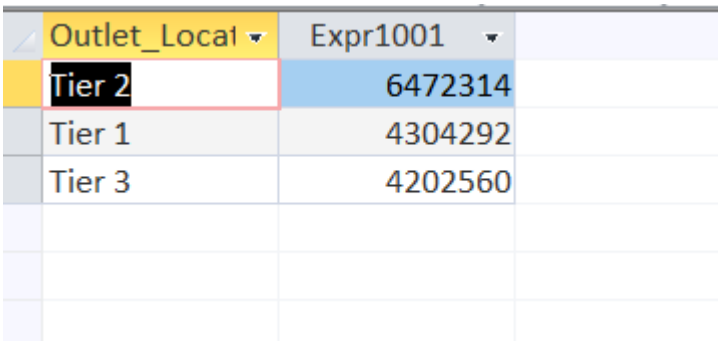
HAVING (((Count(Food_Manufacturing_Company.[Item_Type]))>1) AND
((Count(Food_Manufacturing_Company.[Outlet_Type]))>1));

There are 115 records of duplicate ID's from 7071 entries

Output: No of duplicates 115 records.
Possible Reason: Same Item_Type can exist in multiple stores.

Item_Type Fi	Outlet_Size F	Outlet_Locat	Outlet_Type	NumberOfDu
Baking Goods	High	Tier 3	Supermarket Ty	73
Baking Goods	Medium	Tier 1	Supermarket Ty	66
Baking Goods	Medium	Tier 2	Supermarket Ty	143
Baking Goods	Medium	Tier 3	Grocery Store	42
Baking Goods	Medium	Tier 3	Supermarket Ty	68
Baking Goods	Small	Tier 1	Supermarket Ty	76
Baking Goods	Small	Tier 2	Supermarket Ty	68
Breads	High	Tier 3	Supermarket Ty	25
Breads	Medium	Tier 1	Supermarket Ty	25
Breads	Medium	Tier 2	Supermarket Ty	55
Breads	Medium	Tier 3	Grocery Store	17
Breads	Medium	Tier 3	Supermarket Ty	27
Breads	Small	Tier 1	Supermarket Ty	26
Breads	Small	Tier 2	Supermarket Ty	29
Breakfast	High	Tier 3	Supermarket Ty	13
Breakfast	Medium	Tier 1	Supermarket Ty	13
Breakfast	Medium	Tier 2	Supermarket Ty	22
Breakfast	Medium	Tier 3	Grocery Store	9
Breakfast	Medium	Tier 3	Supermarket Ty	12
Breakfast	Small	Tier 1	Supermarket Ty	10
Breakfast	Small	Tier 2	Supermarket Ty	10
Canned	High	Tier 3	Supermarket Ty	65
Canned	Medium	Tier 1	Supermarket Ty	67
Canned	Medium	Tier 2	Supermarket Ty	143
Canned	Medium	Tier 3	Grocery Store	35
Canned	Medium	Tier 3	Supermarket Ty	78
Canned	Small	Tier 1	Supermarket Ty	72
Canned	Small	Tier 2	Supermarket Ty	79

- **Location Wise Sales:**

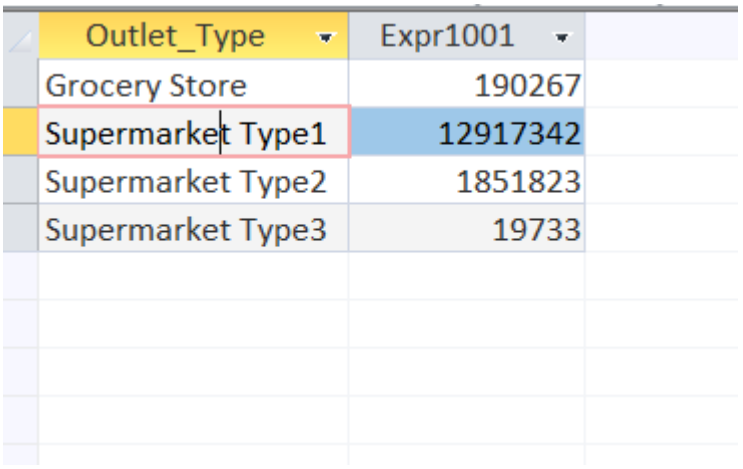


Outlet_Locat	Expr1001
Tier 2	6472314
Tier 1	4304292
Tier 3	4202560

Code : SELECT Outlet_Location_Type,Round(SUM(sales))
FROM Food_Manufacturing_Company
group by Outlet_Location_Type Order By 2 desc;

Insight: Since, Tier 2 contains mostly Supermarket stores hence the sales is highest in it while grocery stores are mostly found in Tier 3.

- **Outlet wise sales :**



Outlet_Type	Expr1001
Grocery Store	190267
Supermarket Type1	12917342
Supermarket Type2	1851823
Supermarket Type3	19733

Code : SELECT Outlet_Type,Round(SUM(sales))
FROM Food_Manufacturing_Company
group by Outlet_type;

Insight : As per the given table, these are the total sales of each super market.

- **Outlet Size wise sales :**

Outlet_Size	Expr1001
Medium	8448057
Small	4388445
High	2142664

Code : SELECT Outlet_Size,Round(SUM(sales))
FROM Food_Manufacturing_Company
group by Outlet_Size Order By 2 desc;

Insight : As per the table we can see the the supermarkets and low market types are spread vastly in medium wise location. Less no. of high outlet type is present

- **Item Type Sales :**

Item_Type	Expr1001
Baking Goods	1027220
Breads	437771
Breakfast	178104
Canned	1155262
Dairy	1244133
Frozen Foods	1494210
Fruits and Vege	2220918
Hard Drinks	377067
Health and Hygi	836825
Household	1663336
Meat	689281
Others	283238
Seafood	128722
Snack Foods	2194872
Soft Drinks	746335
Starchy Foods	301874

Code : SELECT Item_Type,Round(SUM(sales))

FROM Food_Manufacturing_Company

group by Item_Type;

Insight : From the given table, it seems that the item type does not have much affect on the location & outlet type.

Insights Summary:

- Sales of Tier 2> Sales of Tier 1 > Sales of Tier 3
- Item Type does not influence the item sales much.
- Tier 2 & Tier 3 cities have better sales than Tier 1 cities.
- Key factors: Outlet type and Item MRP are the key factors affecting the outlet sales.