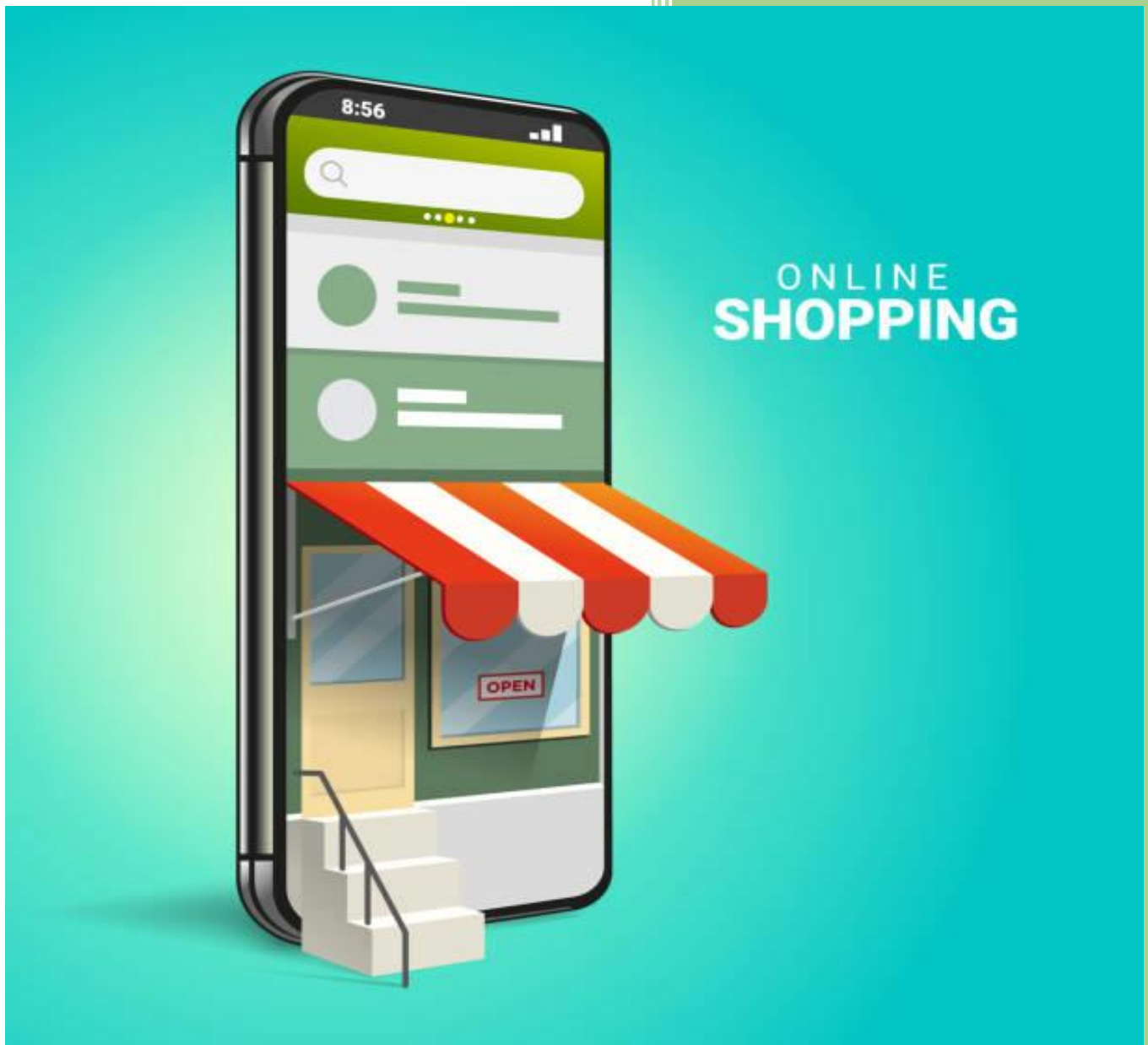PREPARED BY:
TANISHA YADAV

ANALYZING THE EXISTING MARKET POTENTIAL AND GROWTH AREAS OF REVENUE

ONLINE
SHOPPING

TABLE OF CONTENTS

INTRODUCTION

- Wholesale is the act of selling your products in bulk to a third party, so they can sell those products at a mark-up to their customer base.
- When someone places a wholesale order with you, you're offering your products below retail price so the receiving party can make a profit.

BUSINESS OBJECTIVE

- To be able to identify demands across channels and regions so as to customize marketing strategies for each item.
- To identify spending habits of customers for better marketing strategy.

SIGNIFICANCE OF STUDY

- Selling your product wholesale to other retailers can help you build your bottom line without investing more in marketing.
- Additionally, your business can expand to new markets with a partner.
- Selling wholesale helps move inventory and creates more cash flow for the small business as well.

SOURCE OF DATA

- The data for this study was collected by the survey team of XYZ pvt. Ltd. The data consists of both categorical as well as numerical data.

METHOD

- Data loading
- Data cleaning
- Exploratory Data Analysis
- Descriptive Statistics
- Building Charts
- Conclusion and Recommendations

QUESTIONS TO BE ANSWERED

1. Use methods of descriptive statistics to summarize data.

1.1 Which Region and which Channel seems to spend more?

### 1.2 Which Region and which Channel seems to spend less?

	A	B	C	D	E	F	G	H	I	J	K	L
1	Buyer/Spender	Channel	Region	Fresh	Milk	Grocery	Frozen	Detergents_Paper	Delicatessen	Total Sales		
2	1	Retail	Other	12669	9656	7561	214	2674	1338	34112		
3	2	Retail	Other	7057	9810	9568	1762	3293	1776	33266		
4	3	Retail	Other	6353	8808	7684	2405	3516	7844	36610		
5	4	Hotel	Other	13265	1196	4221	6404	507	1788	27381		
6	5	Retail	Other	22615	5410	7198	3915	1777	5185	46100		
7	6	Retail	Other	9413	8259	5126	666	1795	1451	26710		
8	7	Retail	Other	12126	3199	6975	480	3140	545	26465		
9	8	Retail	Other	7579	4956	9426	1669	3321	2566	29517		
10	9	Hotel	Other	5963	3648	6192	425	1716	750	18694		

Through the in-built tool of Microsoft Excel for data analysis we prepared a summary table of the discriptive statistics of the given numerical data.

	Fresh	Milk	Grocery	Frozen	Detergent_Paper	Delecatessen
Mean	12000.29773	5796.265909	7951.28	3071.932	2881.493182	1524.870455
Standard Error	602.9377463	351.8456765	453.046	231.4375	227.2985424	134.4432754
Median	8504	3627	4755.5	1526	816.5	965.5
Mode	3366	1196	2062	425	918	834
Standard Deviation	12647.32887	7380.377175	9503.16	4854.673	4767.854448	2820.105937
Sample Variance	159954927.4	54469967.24	9E+07	2356785 3	22732436.04	7952997.498
Kurtosis	11.53640849	24.66939775	20.9147	54.68928	19.00946434	170.6949393
Skewness	2.561322752	4.053754849	3.58743	5.907986	3.631850631	11.15158648
Range	112148	73443	92777	60844	40824	47940
Minimum	3	55	3	25	3	3
Maximum	112151	73498	92780	60869	40827	47943
Sum	5280131	2550357	3498562	1351650	1267857	670943
Count	440	440	440	440	440	440

- Fresh item (440 records), has a mean of 12000.3, standard deviation of 12647.3, with min value of 3 and max value of 112151.]. range = max-min =112,148

- Milk item (440 records), has a mean of 5796.27, standard deviation of 7380.38, with min value of 55 and max value of 73498. range = max-min =73443.

- Grocery item (440 records), has a mean of 7951.28, standard deviation of 9503.16, with min value of 3 and max value of 92780. range = max-min =92777.

- Frozen (440 records),has a mean of 3071.93, standard deviation of 4854.67, with min value of 25 and max value of 60869. range = max-min =60844.

- Detergents Paper (440 records),has a mean of 2881.49, standard deviation of 4767.85, with min value of 3 and max value of 40827. range = max-min =40824.

- Delicatessen (440 records), has a mean of 1524.87, standard deviation of 2820.11, with min value of 3 and max value of 47943. range =47943-3=47940.
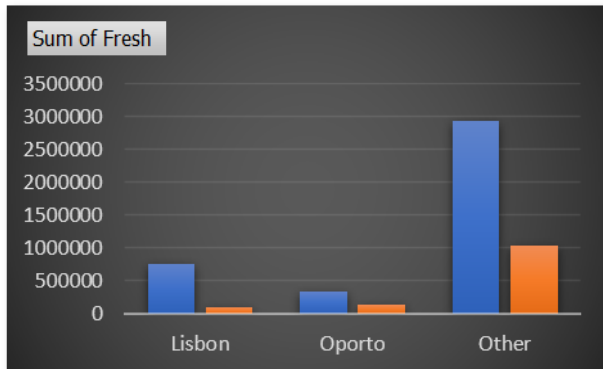
CLUSTERED COLUMN CHART
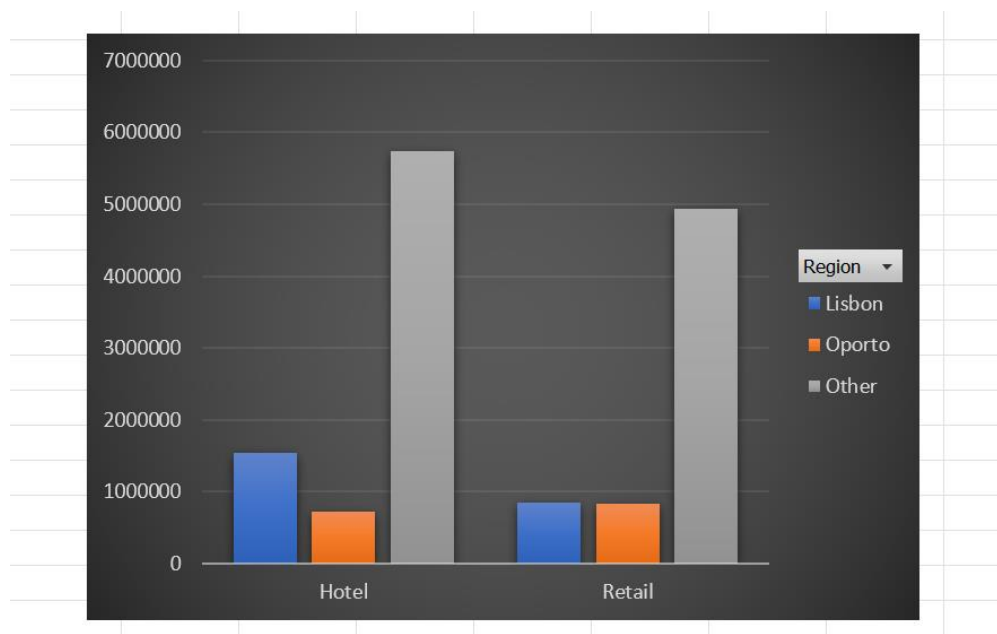
Highest spending in the Region is from Others and the highest spending in the channel is from Hotel.

Lowest spending in the region is from Oporto the lowest spending in the Channel is from Retail.
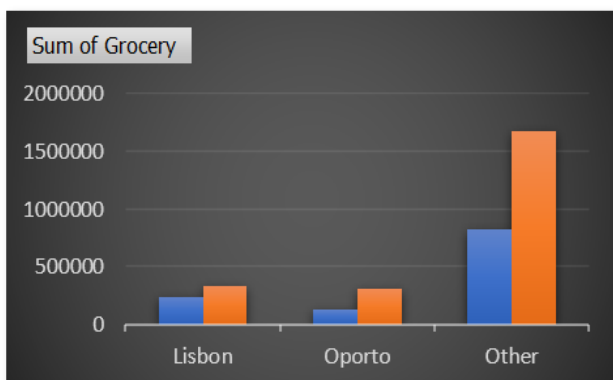
2. There are 6 different varieties of items are considered. Do all varieties show similar behaviour across Region and Channel?
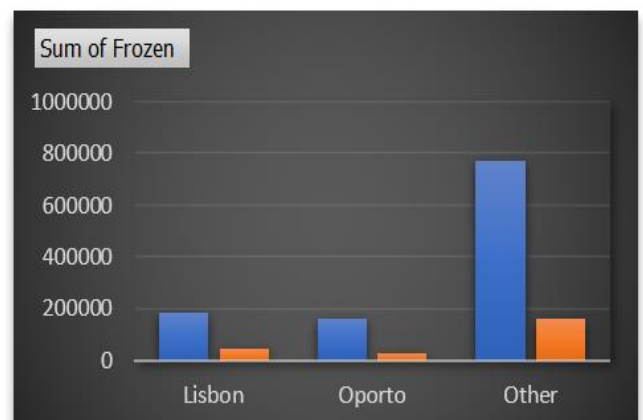

Based on the plot, Fresh item are sold more in the Hotel channel
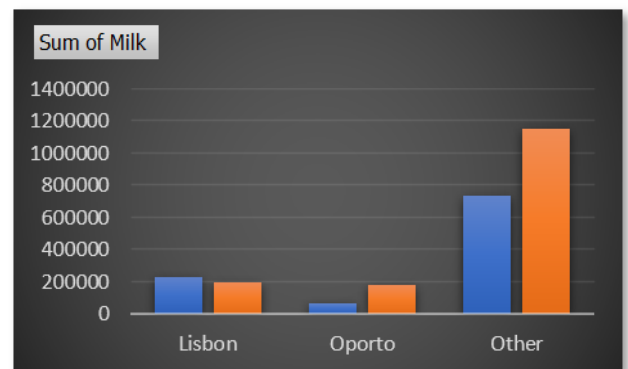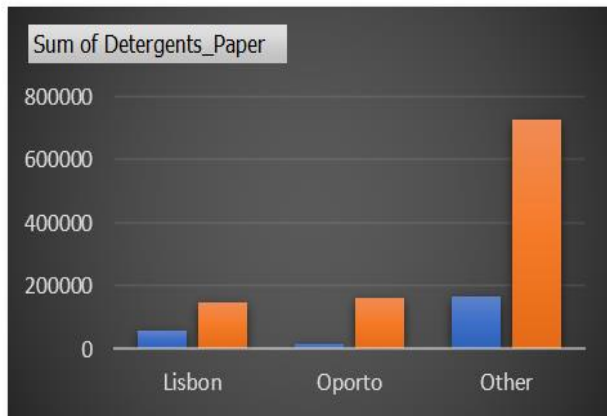

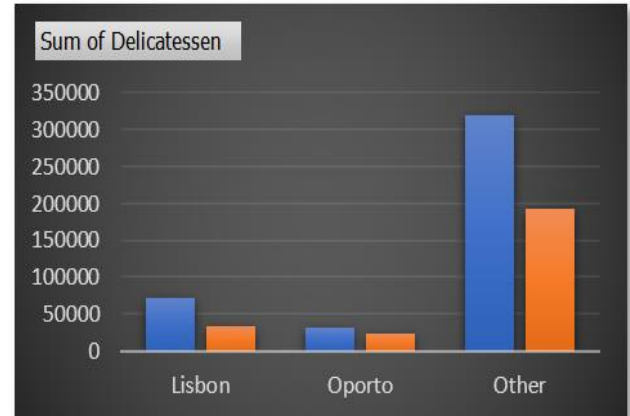Based on the plot, Fresh item are sold more in the Retail channel

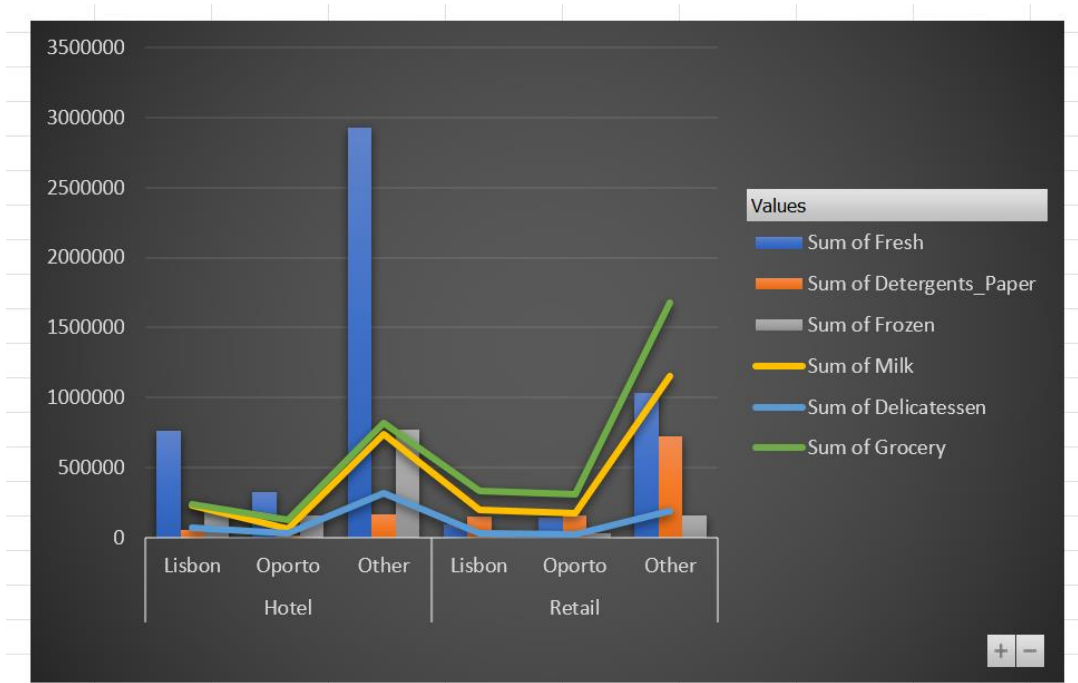Based on the plot, Grocery item are sold more in the Retail channel

Based on the plot, Frozen item are sold more in the Hotel channel

Based on the plot, Detergent paper is sold more in the Retail channel

Based on the plot, Delicatessen is sold more in the Hotel channel

We also observed that the highest sales are mostly in the other region across both Hotel as well as retail channel.

3. On the basis of the descriptive measure of variability, which item shows the most inconsistent behaviour? Which items shows the least inconsistent behaviour?

DESCRIPTIVE MEASURE		
	Variance	Standard Deviation
Fresh	159954927.4	12647.33
Milk	54469967.24	7380.38
Grocery	90310103.75	9503.16
frozen	23567853.17	4854.67
Detergent_Paper	22732436.04	4767.85
Delicatessen	7952997.498	2820.11

Fresh items have the highest Standard deviation So they show the most inconsistent behaviour.
Delicatessen items have smallest Standard deviation So they show the most inconsistent behaviour.

4. Which columns in the dataset are of type Categorical and which are of type Numerical?
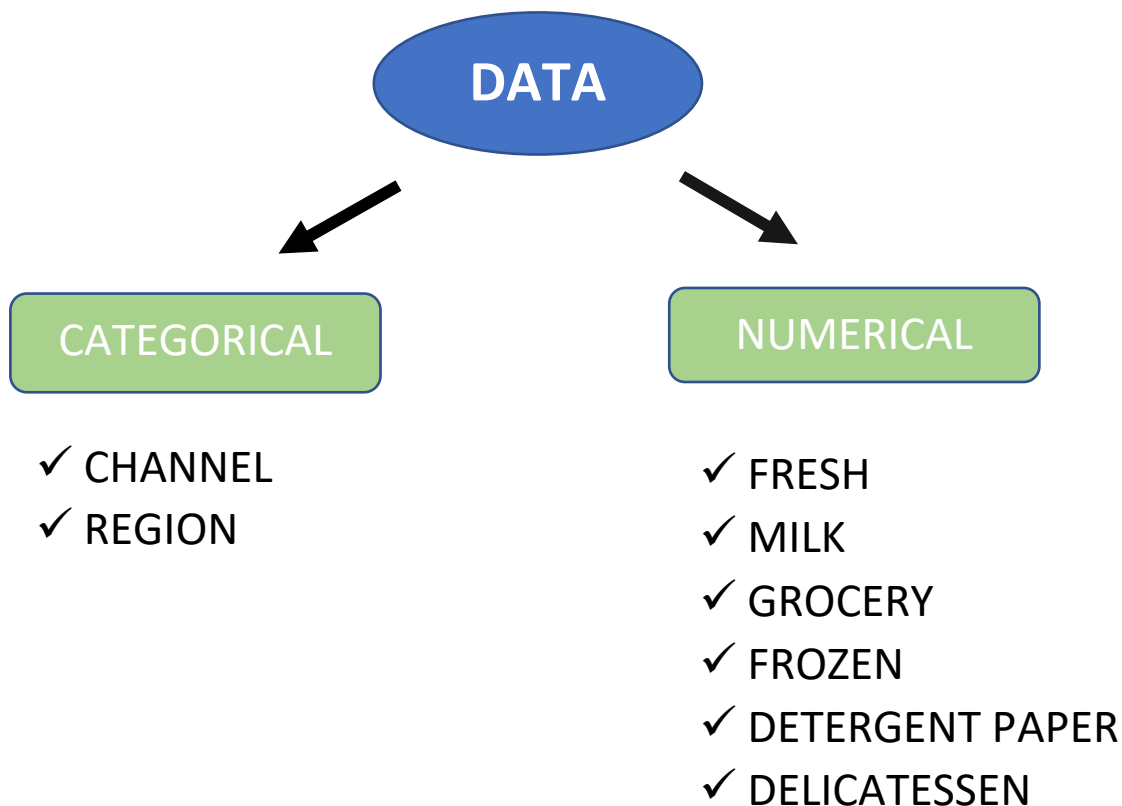
5. On the basis of this report, as a strategist what are the recommendations you can provide for expanding the application product line?

- o Since demand for fresh items are comparitevely higher in all the regions, the adequete supply of these items should be ensured.
- o Lisbon consists of more high spending customers than Oporto. Therefore, wholesaler should focus on distribution of products which are preferred by the hotels of Lisbon.
- o Spending on milk is comparitevely low so quality of milk products could be improved to encourage customers to purchase more milk products.
- o More research and survey can be done on more preffered frozen items to increase frozen item sales.