Akademia WSB

PROJECT DOCUMENTATION

Fall 2019

Data visualization

Major: MA in Management(Data Scientist)

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Dabrowa Gornicza, 2019/2020

Contents

1 Goal

The Supertech limited is a real estate agency based in USA. They are launching a new marketing campaign to target a specific group of people.

We are a group of Data analyst team. The goal of this project is to analyze the historical data that we have of company sales and help the marketing team to target the particular consumer groups that are most likely to buy the product(Apartments/offices).

The management of the company thinks that with some short analysis of historical data, marketing results can be improved without the need of investing additional resources.

2 Project assumptions

2.1 Dataset

The dataset is a historical data of a Supertech limited. There are around 25 columns in this dataset. It is limited to only 6 years from 2004 - 2010 excluding 2009. It recorded more than 190 sales that happened during 2004 - 2010.

The name of customers in the dataset are anonymous as to maintain the privacy and confidentiality.

Some of the cells in the dataset are empty because of some reason.we filled those empty cell with some appropriate value so that those cells don't hamper our analysis result.

2.2 Visualization

The colors that we will use during visualization are Maroon and blue since these are our theme colours of this project.

We are using data studio for visualization. So, the assumption is to present the results using those limited charts. Since not all charts are available on data studio.

2.3 Methods, algorithms, tools and systems

In this project we are using Excel and data studio software. The Excel is a spreadsheet software produced my Microsoft and the data studio is an free online Dashboard and data visualization tool from google.

Initially the dataset was in xlsx (Excel format). We will change this format into comma separated value(CSV) file using Excel as it is easier to

work with later. Next we upload this data on data studio to create some interactive dashboard and visualization.

2.4   Expected results

From this project we are hoping to get some useful insights of our customers demography and sales trend that will help us in our newly launched marketing campaign.
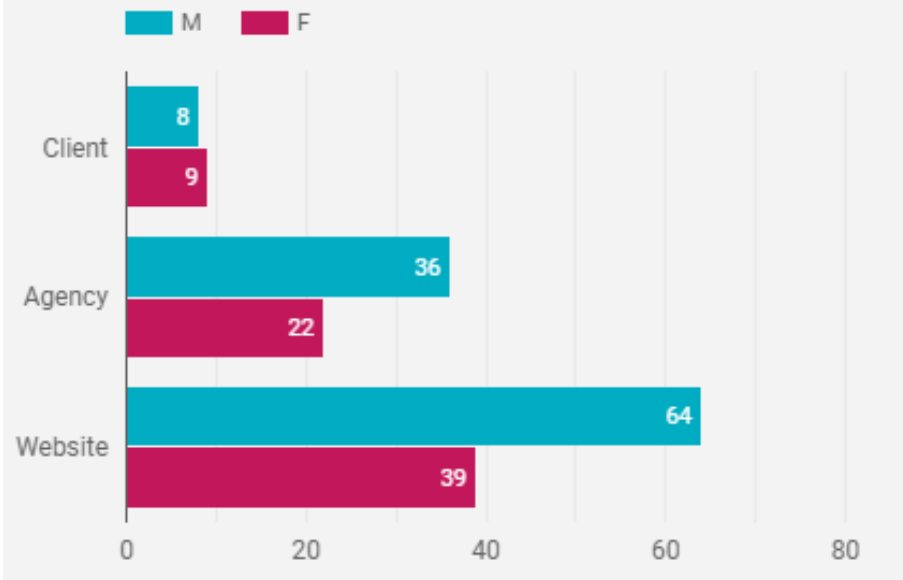
3   Project implementation

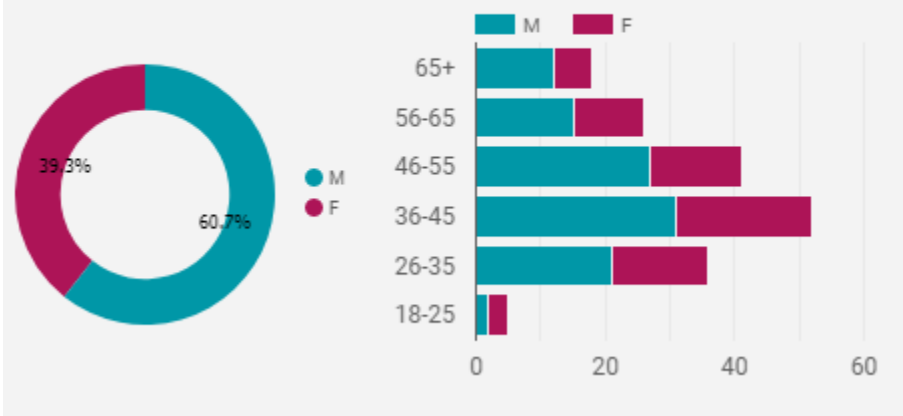**DATA ANALYSIS FOR REAL ESTATE AGENCY IN USA**

Total Sales	Total Sales Price	Total Sales Area(ft)	Avg Deal Satisfaction Score
195	$52,539,739.40	175,474.09	3.61

1. How are real estate sales trending?

2. Which source is driving real estate sales?

M   F

Source	M	F
Client	8	9
Agency	36	22
Website	64	39

3. Sales by Gender & Age

M: 60.7%
F: 39.3%

Age	M	F
65+		
56-65		
46-55		
36-45		
26-35		
18-25		

4. Sales of property in different states
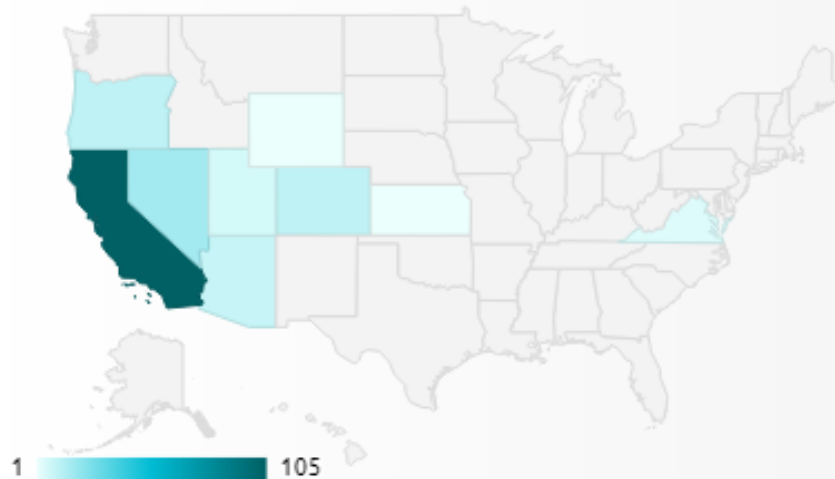
	State	Area (ft.) ▾	Price
1.	California	99,561.74	$29,744,330.93|
2.	Nevada	15,335.22	$4,660,127.84|
3.	Colorado	8,547.12	$2,570,287.09|
4.	Oregon	8,436.5	$2,602,526.55|
5.	Arizona	7,636.8	$2,385,712.95|
6.	Utah	4,724.73	$1,386,852.4|
7.	Virginia	2,922.85	$860,576.75|
8.	Kansas	923.21	$252,185.99|
9.	Wyoming	701.66	$204,286.67|

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5. Sales by Purpose

- Home — 61%
- Investment — 39%
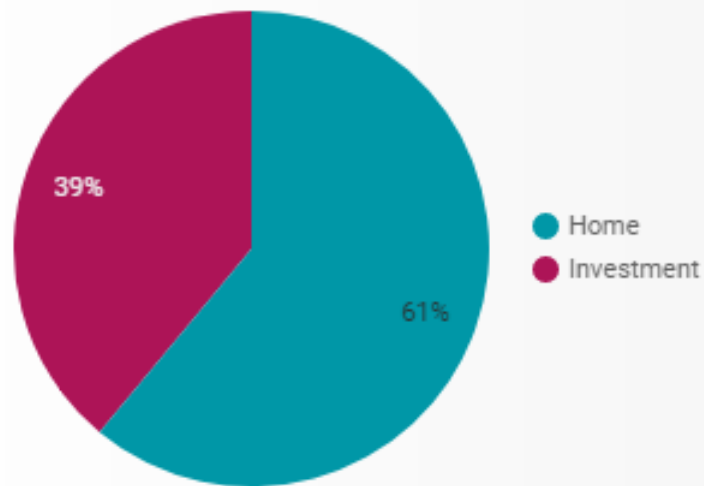
6. Sales Distribution by Months

Frequency

Month	Frequency
January	8
October	19
November	27
December	20
February	8
March	24
April	13
May	11
June	15
July	17
August	18
September	15
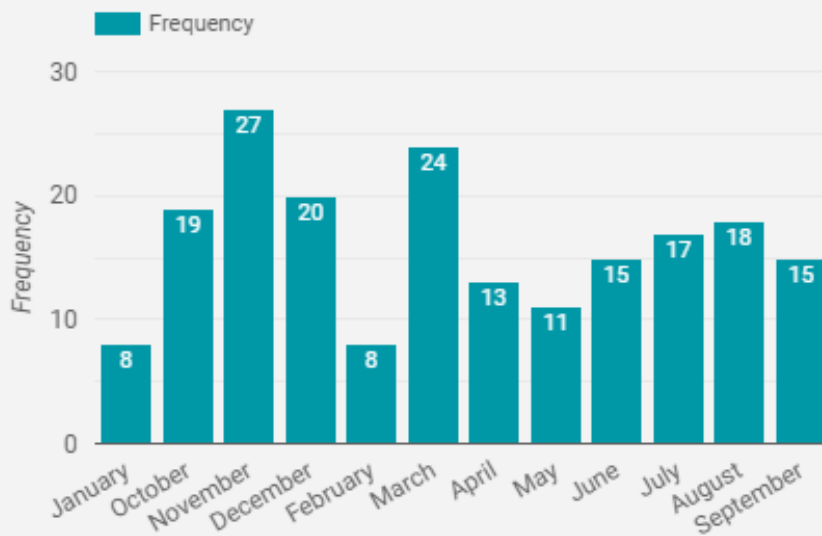
7. No. of apartments sold in different buildings
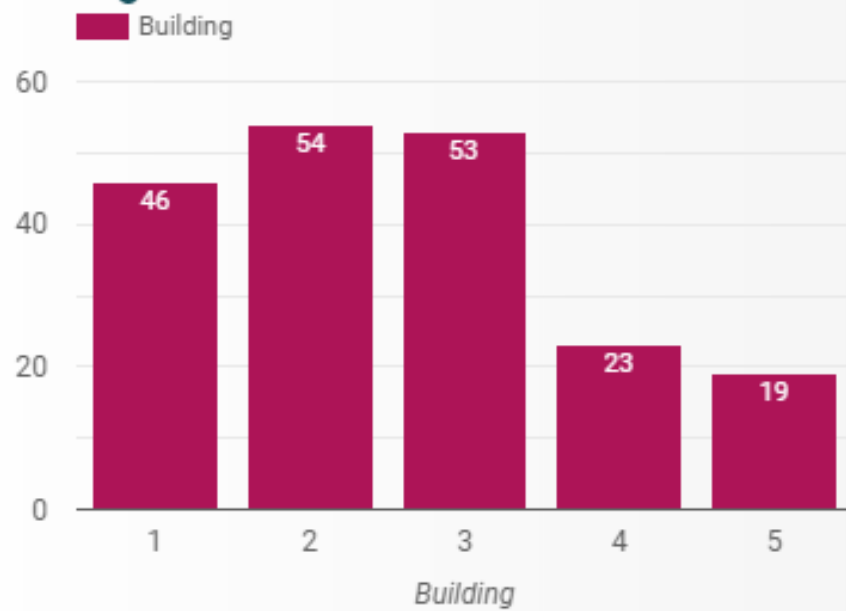
4 Conclusions

Conclusions

- *Observations*

  1. We have the highest sales number that is 102 in 2007. We will deep in to look at what we did differently instead of other years and we will check economic and political conditions in 2017 in the USA.

  2. We have the highest sales number in 3 states are California, Nevada, Colorado. Especially in California, we have 62 percent. We will look deep into understanding why.

  3. We get customers from the website we will look deep into channel-based such as organic, paid marketing or affiliate, etc.

  4. Our highest customer lifetime interval 36-45 and males. We will focus on this interval in our marketing activities.

  5. Customer purpose intensity is a home with a 61 percentage. We will focus on this purpose in our marketing activities.

  6. The sales in the November are the highest and the January and February are the worst month. We have to look deep into this to understand the customer purchasing pattern.

  7. Total no. of properties sold in building no. 5 and 4 are very less in comparison to other three buildings. We have to look deep into this and try to understand what factors are influencing customers.

- *Achievements*

  We successfully found the age interval of customer group(36-45) that have a high potential to purchase our real estate property and also from which source (Website) they are frequently contacting the company. The purpose of majority of customers are buying a home for his family rather then investment.

  These all information will help company to design marketing campaign and to optimize the marketing budget.

- *Improvement potential*

  Using advance visualization tools like Power BI and Tableau we can significantly improve our data visualization project. But all these software are payed one. They also have free version but the features are limited.

  In payed version these tools contains more feature and functions which can help us to dig more in data and extract more information through visualization in comparison to data studio which is freely available.