ALY6070 : Module 4 - Midterm Qlik Paper

Week 4

Submitted by: **Group 4**

Abhinav Jain

Chaitang Shah

Kelvina Pethani

Siddhartha MandaUma Sravanti Kala

05/06/2022

Introduction

Background:

We will visualize the property dataset including information about properties in the United States in this paper. The survey provides us with an update on the property's previous assessed value and its current assessed value from the year 2016 to 2022. It specifies the various types of apartments in the building, as well as the sales price in relation to the property type's structure. Depending on the state of the data for the financial years 2016 to 2022, including residential, condo, commercial, and exempt data. The data provides information about a property and contains 204k rows and 63 columns.

Qlik is the data visualization platform that we used, and it will provide in-depth research and insights about the assessed property in the United States. The Qlik is an online platform for visualizing data and implementing superior cloud-based solutions. We discovered that the Qlik app is superior to other visualization tools because it is easily accessible online and uses cloud-based services. One of the features we enjoy best about this application is that once you upload data, it is immediately available for use online; but, if connectivity is unavailable, it will be difficult to access the platform and continue working.

Qlik is a data visualization tool for business analytics that was created in Sweden in 1993. However, data is growing at a breakneck speed, making it challenging to give immediate data insights to investors, the general public, and organizations. In the current fast-paced market, we require data analysis on a case-by-case basis, which this software will provide. The most significant feature is that you can use this app from anywhere at any time. That is why we applied Qlik to the Cambridge Property Dataset analysis.

This project is designed to demonstrate the ability to analyze data and graphically present it with explanatory analysis. Based on the information supplied, an executive summary is prepared. The assignment for module 1 is used to write and run R.

The underlying knowledge and abilities required to pursue data analytics as a profession with respect to statistics and arithmetic are demonstrated. Advanced Analytics and Analytics Systems Technology exhibit the understanding of modern data analytics tools. Business analytics agility is the ability to apply analytics ideas, tools, and procedures to a large-scale real-world problem or project including data analysis for tactical and strategic decision-making. To uncover data-driven insights for informed business process management, business process management integrates the primary ideas, techniques, and methodologies in data analytics. Deliver presentations, reports, and recommendations that successfully interpret technical results/data solutions and are coherent and convincing to various audiences by communicating with data designers is successfully interpretted.

Data Analysis

What we are going to use in this Qlik app (Analytical tool):

First, we'll look at the dataset, which contains a variety of interesting fields such as property prices, class of property, location of property, price assessed on the basis of price, and how much property owners pay in property taxes in relation to the district. Additionally, these insights will allow you to see which property classes charge higher taxes in relation to the district.

We have prepared 2 dashboards in the visualization report dashboard 1 contains the overall grades with respect to the condition of the property on the top-left graph, if we check the bottom left, we form a table with sales price data with respect to the date of the sale and if we see on the top right graph which provide the year of assessment with respect to the assessed value in a particular year.

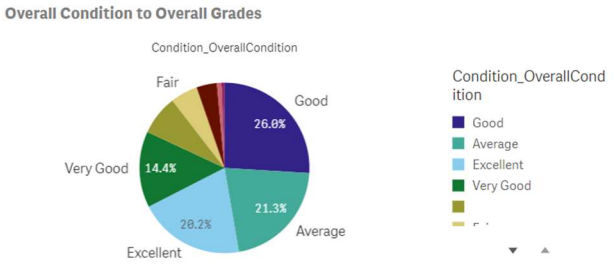
Dashboard 2 shows the sales price of the property in the gauge chart on the top left of the dashboard, the class of the property with respect to the tax amount paid per district on the bottom left graph, and the amount of property tax paid in comparison to the district on the top right corner, and the year of assessment of the property with the class on the bottom right shows.

While building the dashboard, we used several factors to help us mark the associations in the dataset, extract the visualization, and provide the appropriate result in the form of graphs and plots:

Address, Property Class, Land Area, Year of Assessment, Building Value, Sale Price, Sale Date,

Condition Overall Condition, Condition Overall Grade, Property Tax Amount, Assessed value

Dashboard 1- Visualization and Methods/Measures used:



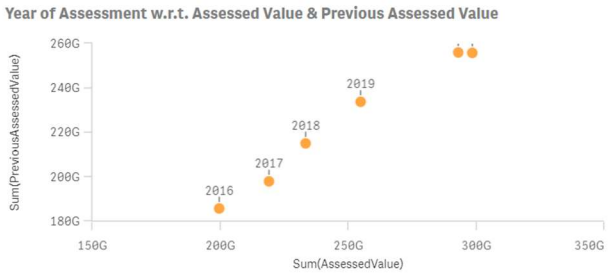
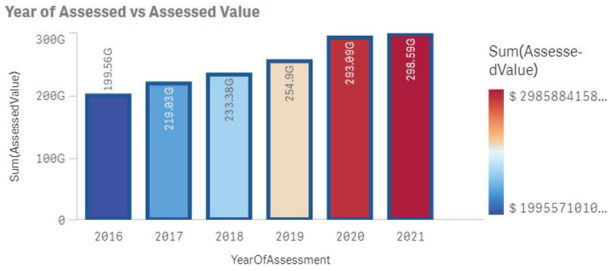


Table of Sale Price and Sale Date

SaleDate	Count(SalePrice)
Totals	**174504**
1/3/0001	136
6/26/1841	6
1/23/1856	1
8/12/1878	2
7/18/1888	24
5/26/1890	2
3/30/1893	2
9/7/1893	3



In Dashboard 1, we are primarily focusing on the assessment values, overall condition of the houses and the number of houses sold in the particular years. For this, we have used variety of measures like sum, count, average. The charts we have used for this dashboard are pie chart, scatterplot, bar plot and table.

The pie chart towards the top left of the dashboard compares the actual condition of the property with the grading given to the property's condition. It is about the condition of the property whether it is in good or bad state. From the graph, we can see that the houses with ‘Good’ condition record the highest percentage of 26% while the houses with “superior” condition are recorded with the lowest percentage of 0.4%.

The scatterplot towards the top right of the dashboard shows the current and the previous assessment values of the houses on yearly basis from the years 2016 to 2021. It is clear from the plot the current assessment values are greater than the previous assessment values. Also, it can be observed that in the year 2016, both the assessment values have been recorded the lowest while in the year of 2021 the assessment values show the highest. This implies that the assessment values are increasing on yearly basis.

The table towards the bottom left depicts the number of houses sold on a particular date. From this table, we can see that the highest number of houses sold are recorded on the date 1/1/1900 with the number of houses sold are 7,642. And the second highest are sold during the date 1/1/1998 which has a total sale count of 2,031.

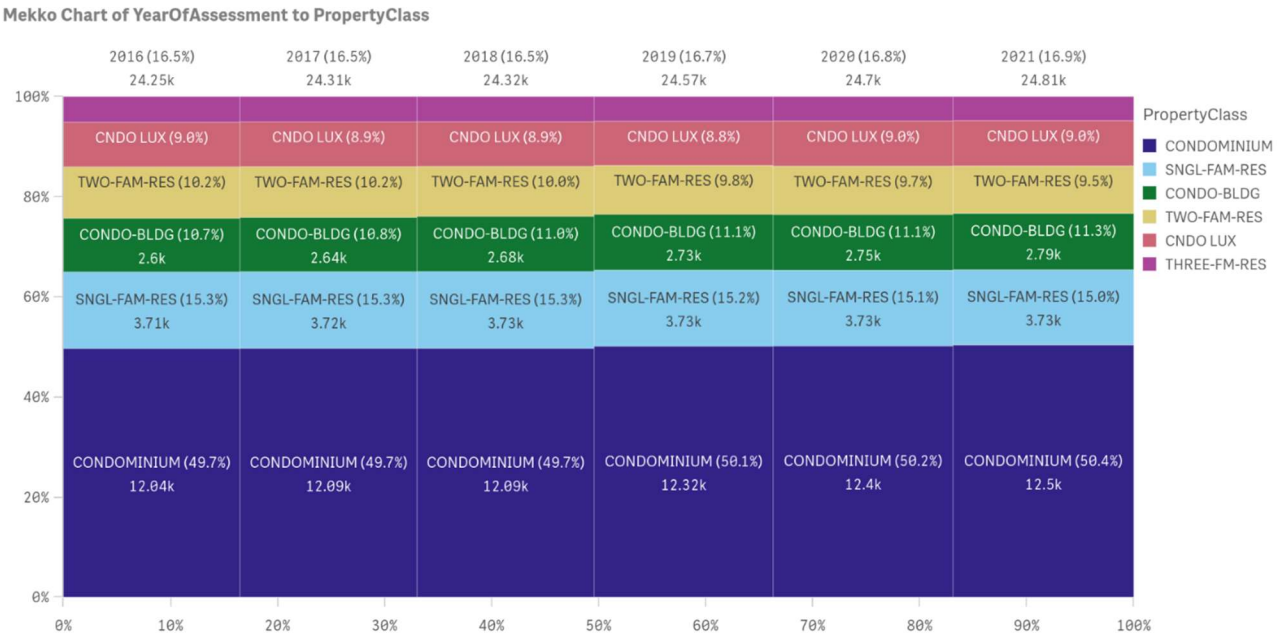
Dashboard 2 – Visualization and Methods/Measures used:

We used the "Z" arrangement to visualize the data in the dashboard in the above visualization. While looking at the dashboard, used the gauge indicator, which notifies us about the property's sales price. We used this chart from the quick chart's wizard, which is used to represent the single measurement value from the data. However, it appears that the property's effective sale price is 174.5k. On the gauge chart, we can see that it is in the orange zone, indicating that it is in the moderate zone; but, if the property's sales price is $1 million, it will be in the red zone, indicating that it is in danger; on the other hand, if the price is lower, it will be in the yellow zone. We didn't use the red to green zone since property prices will never be in a safe zone because they will continue to rise in line with inflation.

The horizontal bar chart depicts the contrast between property tax amount and tax district as we move from left to right. We attempted to include another illustration in this chart, but due to the large amount of data, it was compressed to this bar chart, which depicts the amount of tax paid in

various districts and shows that due to high selling prices and high taxes, fewer people are interested in purchasing the highest price.

Following that, the bar graph reveals that the class of in district is significantly higher in a condominium kind of property, which we have shown on a scatter plot to reflect the amount of tax paid with a color bar, where red denotes the highest and blue indicates the lowest tax property in the dataset. This scatterplot aids in identifying outliers and spotting them in data analytics.



Final graph the Mekko chart, which provides information about the property assessment with respect to the year the property was sold, was used to represent the different property kinds below. We used a comparison of the assessment year with the property class in this chart, which clearly shows that the selling price and property tax for condominiums, single family residences, condo buildings, two family residences, condo luxury, and other property classes change with the value of percentage every year. However, by comparing the prior and current prices, the price of each class will alter. The dimension axis, on the other hand, depicts the property class, while the measure axis depicts the assessment year.

Summary

Overall, using the Qlik Cloud was an enlightening experience. Qlik helped us create some valuable charts, and we were able to use Mekko charts to compare variables and the Lasso option to sort or filter the data according to our needs. Qlik was simple to use and an intriguing tool for visualizing enormous amounts of data. TO make the chart more visulaize, color combination make it easy to observe the data in proper format. For the daily user like in capital market investors need a quick response of the price. Qlik will help to choose the build the dashboard for the investor. like wise we have use the property data which will help owener to switch from one property to another property by analysing the assessed price of the property.

Bibliography

- *The first sheet: Dashboard*. The first sheet: Dashboard – Qlik Sense Enterprise on Kubernetes. (n.d.). Retrieved May 6, 2022, from https://help.qlik.com/en-US/sense-kubernetes/Subsystems/Hub/Content/Sense_Hub/Sheets/first-sheet-dashboard.htm
- *Qlik | Help*. (n.d.). Unknown. https://help.qlik.com/
- *Home | Qlik Community*. (n.d.). Unknown. https://community.qlik.com/
- *Blogs | Qlik Community*. (n.d.). Unknown. https://community.qlik.com/t5/Blogs/ct-p/qlik-community-blogs
- *Qlik*. (n.d.). YouTube. https://www.youtube.com/user/qlikview