DATA 2205 Assignment 1: Visualization

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INTRODUCTION

In this assignment we are helping Officer Ricard to analysis the data of different provinces and crime rates . we have selected robbery and we are comparing different robbery crime rates in different provinces for the last 10 years. We downloaded the data and filtered the data considering various statistical elements. We are comparing the last 10 year data of robbery in the provinces like Manitoba, Alberta, Ontario . We downloaded the dataset from the website and used power query to load and transform the data with power BI . We have created various report to give the RCMP.
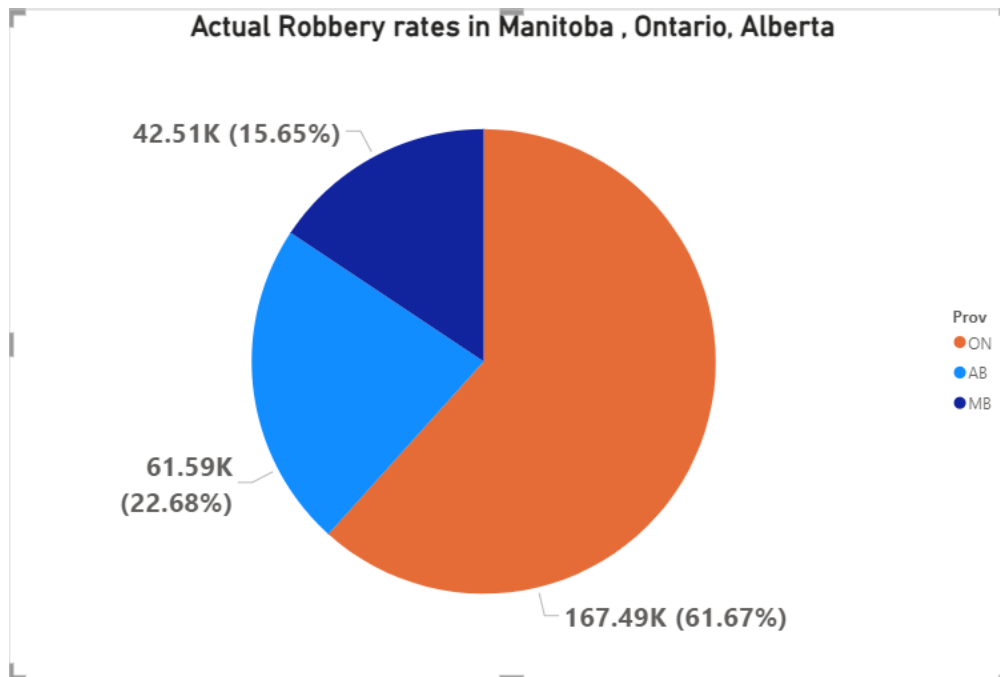

Justification for the Visualization tool

Power Bi helps in a rapid start With a simple setup, no formal training needed, and built-in dashboards for services like Salesforce, Google Analytics, and Microsoft Dynamics, you can gain insights immediately. Power bi query helps in analysing large data and helps in creating visualizations and transforming data , filtering data. Power bi helps in understanding large dataset make interpretations. Power bi is an excellent tool for transforming , visualization, and filtering data

Explanation of data analysis / visualization approach

We have created different power query to filter the dataset and transform the data. We have combined 3 different dataset for analysing . Power Bi has helped us in creating different calculation felids which helped us in analysing the dataset and comparing different statistical elements in the dataset. Power bi provides various visualization that helps in make simplified reports . Power BI helps us in understanding large set of data and filtering it with various functions. We have combined the three dataset and used various statistical elements to understand the dataset. Power Bi helps us in creating some calculated fields which helps us comparing particular fields in big datasets. Power helps in creating reports with various elements in it.

Report findings

Actual Robbery rates in Manitoba , Ontario, Alberta

42.51K (15.65%)

61.59K
(22.68%)

167.49K (61.67%)

Prov
● ON
● AB
● MB

The above pie chart represents different robbery crime rates in 3 different provinces. Ontario province has the highest level of robbery 167.49k , followed by Alberta with 61.59 k and Manitoba has the least robbery case compared to other three provinces . In the last 10 year Ontario has reported the highest number of robbery and Manitoba has the least within these three provinces.

Top Three City in Each Province By Crime Rate

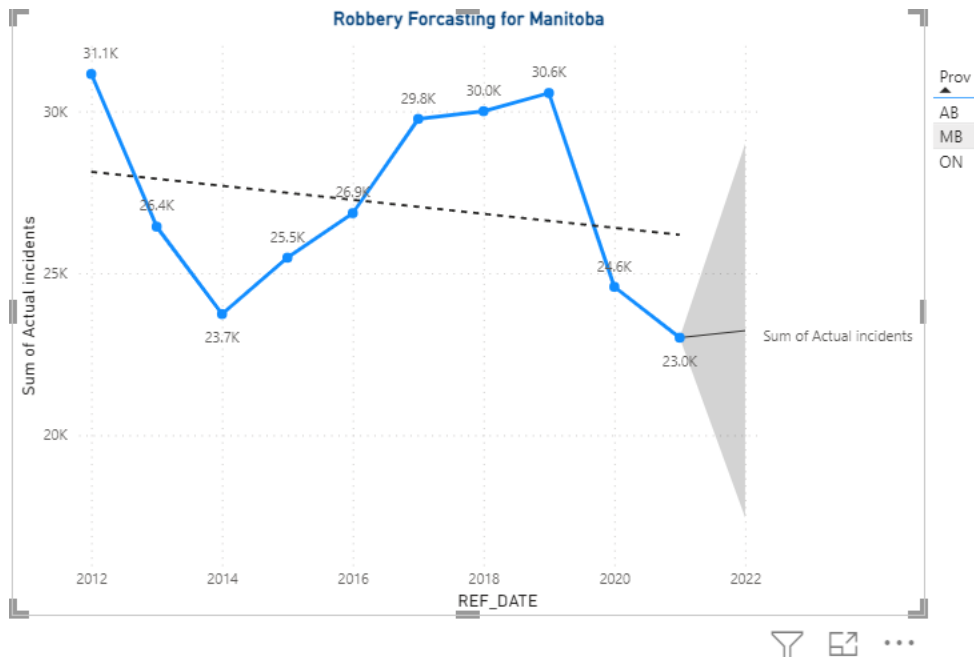| Prov	GEO	Sum of Actual incidents
AB	Calgary, Alberta, municipal [48014]	10,803.00
AB	Edmonton, Alberta, municipal [48033]	12,537.00
AB	Red Deer, Alberta, Royal Canadian Mounted Police, municipal [48882]	1,278.00
MB	Brandon, Manitoba, municipal [46005]	445.00
MB	Thompson, Manitoba, Royal Canadian Mounted Police, municipal [46774]	396.00
MB	Winnipeg, Manitoba, municipal [46064]	18,540.00
ON	Ottawa, Ontario, municipal [35010]	5,997.00
ON	Peel Region (Mississauga/Brampton), Ontario, municipal [35041]	9,819.00
ON	Toronto, Ontario, municipal [35304]	35,164.00
Total		**94,979.00**

The above tables represents the robbery crime rate for the top three cities in Ontario, Manitoba, Alberta provinces. In Alberta Calgary city has reported robbery crime of 10,803 and Red Deer city has the lowest robbery incidents reported of 1278. Edmonton in Alberta has reported 12,537 crimes. In Manitoba the city of Brandon has reported a robbery crimes of 445 , the city of Thompson has reported crimes of 396 which make it the lowest compared to other city. Winnipeg has reported with the highest robbery crime of 18,540 in Manitoba province. In Ontario province Toronto has reported the highest level of robbery crimes of 35,164 and Ottawa has the reported 5,997 robbery cases. Peel region has reported a robbery crime of 9,819.
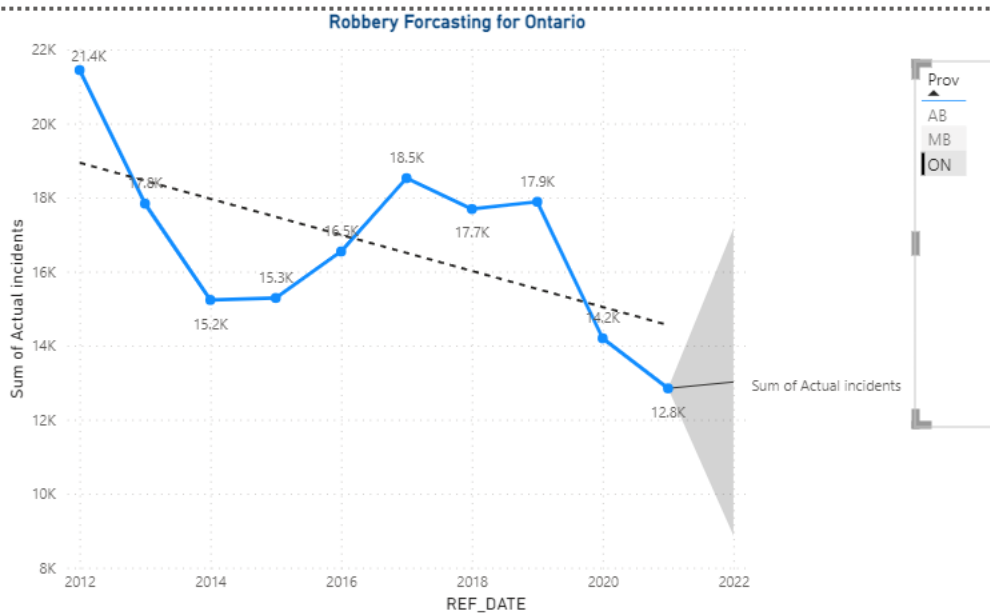
Correlation

Prov	GEO	Sum of Actual incidents	correlation
AB	Calgary, Alberta, municipal [48014]	10,803.00	0.87
AB	Edmonton, Alberta, municipal [48033]	12,537.00	0.56
AB	Red Deer, Alberta, Royal Canadian Mounted Police, municipal [48882]	1,278.00	0.31
MB	Thompson, Manitoba, Royal Canadian Mounted Police, municipal [46774]	396.00	0.67
MB	Winnipeg, Manitoba, municipal [46064]	18,540.00	0.24
MB	Brandon, Manitoba, municipal [46005]	445.00	-0.80
ON	Toronto, Ontario, municipal [35304]	35,164.00	0.81
ON	Peel Region (Mississauga/Brampton), Ontario, municipal [35041]	9,819.00	0.62
ON	Ottawa, Ontario, municipal [35010]	5,997.00	0.55
Total		**94,979.00**	**0.88**

The above table represents the correlation between the youth crime and adult crime for each of the three high crime cities in each province. The table represents crime rate and the correlation between each three cities. Brandon Manitoba has a negative correlation compared with youth crime and adult crimes.
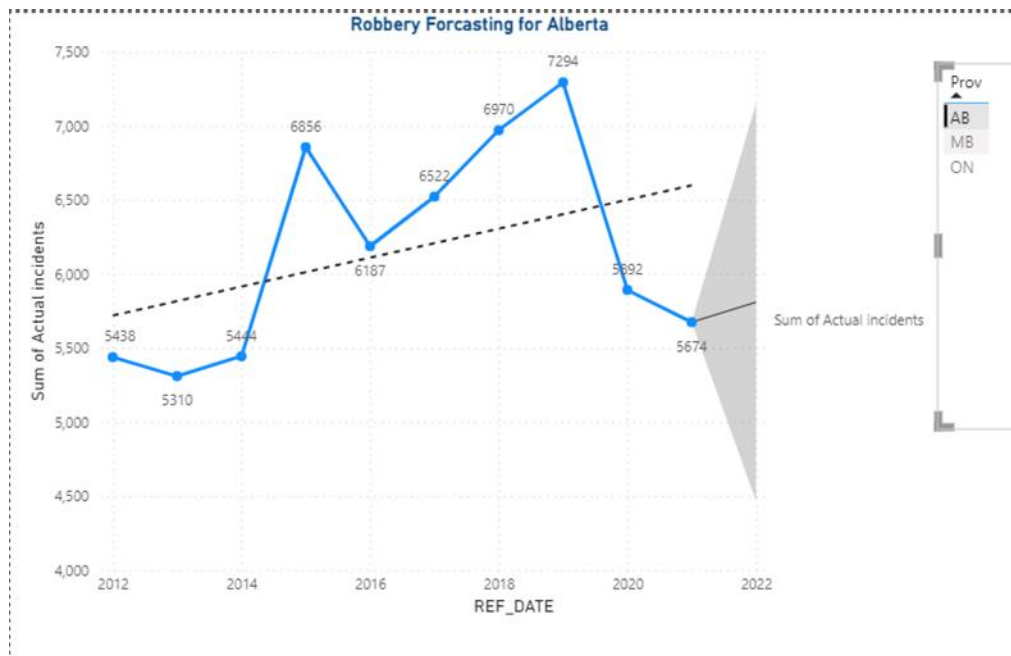
Crime Rate prediction

The above chart represents the robbery crime rate forecast for the province Manitoba . this province shows an upward trend that is a increasing robbery crimes in the future .

The above chart represents the robbery forecast for the province Ontario and we can see a downward trend in robbery crimes in Ontario. There is a small upward trend in the current but overall the data shows a downward trend.

The above graph show the robbery crime rate in Alberta , the graph represent an upward direction or an upward trend in the robbery .The overall average of robbery crimes trends to movie in the upward direction.

CONCLUSION

The above analysis compare different crime rates in 3 different provinces for officer Richard . we taken the crime robbery and compared with three different provinces. We can see there is an increase robbery in the province Alberta compared to Manitoba and Ontario.