Maths CBA 2

Statistical Question

WHAT'S THE MOST COMMON CAR ON THE STREETS OF [redacted]

Poses a question that anticipates variability

My first idea (Plan A)

In my CBA, I worked with three of my classmates. We came up with a question which was "What is Ireland's economic average between 2019 and 2020?". We would research our data on secondary sources like websites. We would have gathered the data for population, employment, unemployment, income, GDP, tax, inflation and productivity. I have not started to gather data as I was unsure how to begin. But we ran into a problem at the beginning. Our problem was that our data wouldn't be primary data and the question wasn't a statistical question because we would just get one number for each year. We solved this problem by leaving the question and move on to PLAN B.

My Second Idea (Plan B)

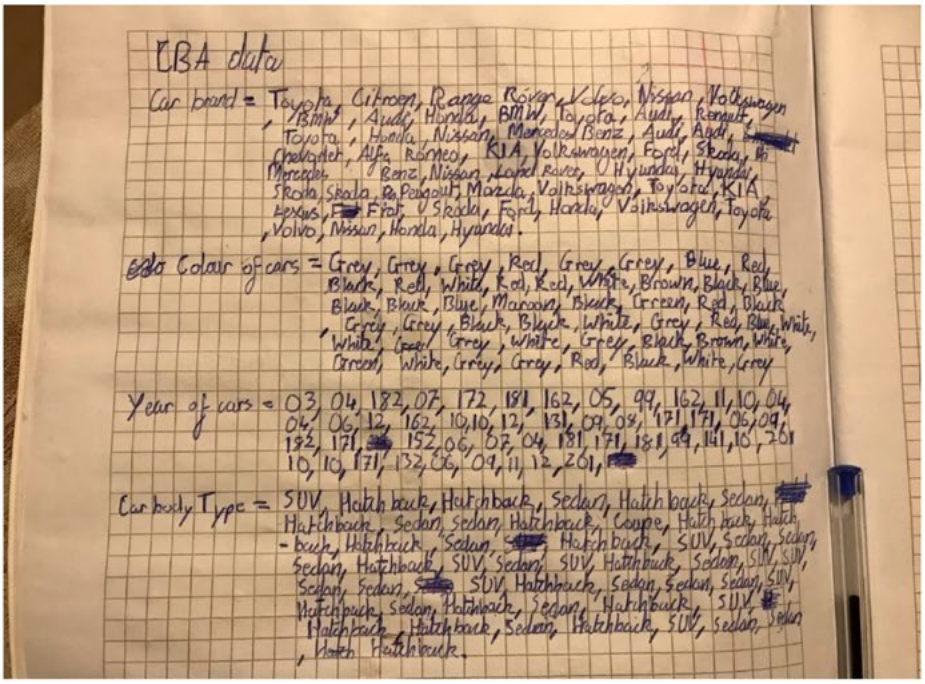
My second idea was "What is the most common car type, colour, year and style on the streets of [redacted]. I collected data in categories. The categories are car brands, colour of cars, year of the cars and car body styles. This research is an observational study. My data is categorical data. The purpose of this question is to determine" What car characteristics are common on [redacted] roads?". It is to also see if my data is the same in secondary source data like the CSO website.

Poses a question that anticipates variability

Plans to collect data appropriate for the question posed

CBA2 Statistical Investigation: Common Cars

My Raw Data written out



Gathers data

My Raw Data in a table

Car Brands

Toyota	/////
Honda	////
Citroën	/
Hyundai	///
Land Rover	/
Range Rover	/
Alfa Romeo	/
Audi	///
BMW	//
Volkswagen	////
Nissan	///
Skoda	////
Volvo	//
Lexus	/
Mercedes Benz	/
KIA	/
Ford	//
Fiat	/
Chevrolet	/

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Colour of Cars

Grey	///// ///// ///
Red	///// //
Blue	////
Maroon	/
Black	///// ///// /
Green	//
White	///// /////
Brown	//

Car Years

202	
201	//
192	
191	
182	//
181	//
172	//
171	/////
162	///
161	
152	/
151	

142	
141	/
132	/
131	/
12	///
11	//
10	///// ///
09	///
08	/
07	//
06	////
05	/
04	////
03	/
02	
01	
99	/

Body Type of Cars

SUV	///// /////
Hatchback	///// ///// ///// ////
Sedan	///// ///// ///// /////
Coupe	/

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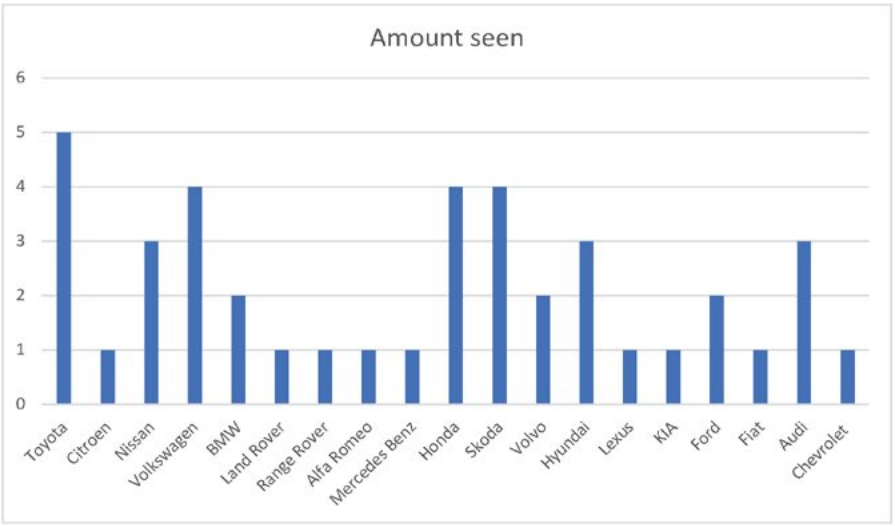
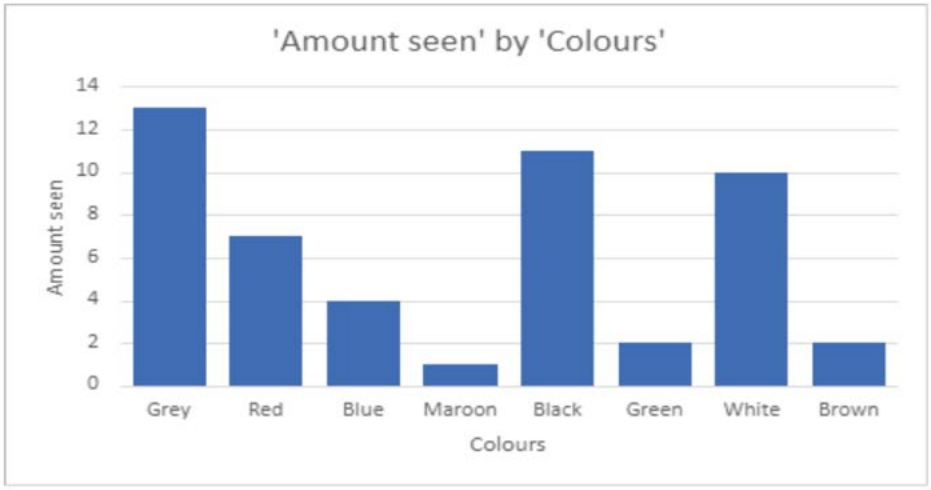
My Data in Graphs

Car Brands



Displays data in a way that allows patterns to be identified

Colours



Displays data in a way that allows patterns to be identified

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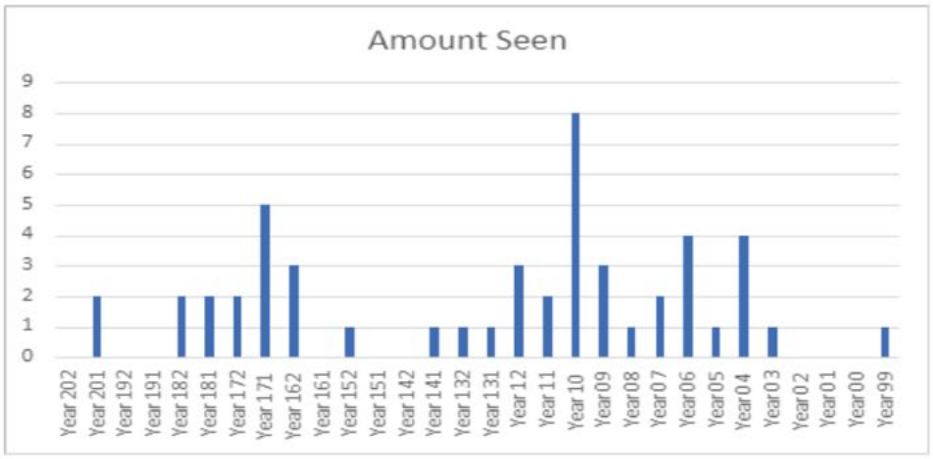
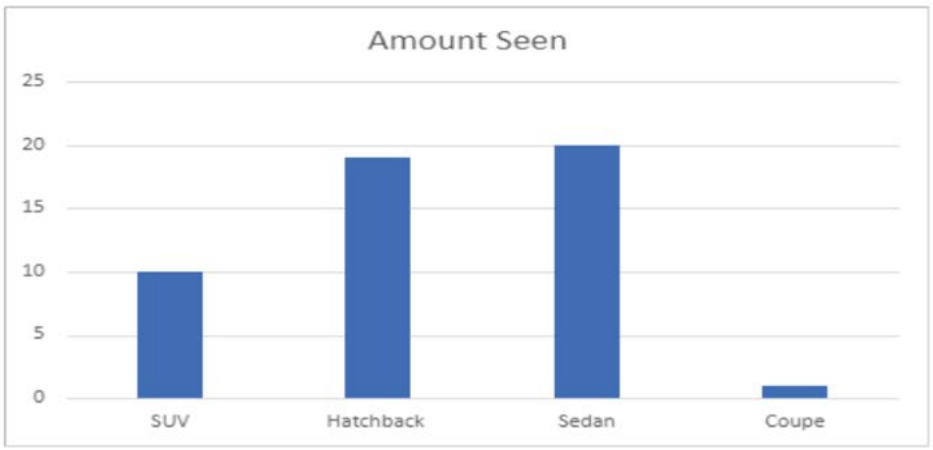
Car Years



Displays data in a way that allows patterns to be identified

Car Body Types



Displays data in a way that allows patterns to be identified

My Maths Calculations

Mode for my Car Brand data:

Toyota (Appears 5 times)

Citroën (Appears time)

Nissan (Appears 3 times)

Volkswagen (Appears 4 times)

BMW (Appears 2 times)

Land Rover (Appears 1 time)

Range Rover (Appears 1 time)

Alfa Romeo (Appears 1 time)

Mercedes Benz (Appears 1 time)

Honda (Appears 4 times)

Skoda (Appears 4 times)

Volvo (Appears 2 times)

Hyundai (Appears 3 times)

Describes data in terms of the mode (measure of centre)

Lexus (Appears 1 time)

KIA (Appears 1 time)

Ford (Appears 2 times)

Fiat (Appears 1 time)

Audi (Appears 3 times)

Chevrolet (Appears 1 time)

The most common car type on the streets of [redacted] is Toyota.

Mode for Year of Cars:

03, 04, 182, 07, 172, 181, 162, 05, 99, 162, 11, 10, 04, 04, 06, 12, 162, 10, 10, 12, 131, 09, 08, 171, 171, 06, 09, 182, 171, 152, 06, 07, 04, 181, 171, 181, 99, 141, 10, 201, 10, 10, 171, 132, 06, 09, 11, 12, 201,132

2010 cars are the most common on the streets of [redacted] .

CBA2 Statistical Investigation: Common Cars

Mode for Car colour:

Grey (Appears 13 times)

Red (Appears 7 times)

Blue (Appears 4 times)

Maroon (Appears 1 time)

Black (Appears 11 times)

Green (Appears 2 times)

White (Appears 10 times)

Brown (Appears 2 times)

The most common car colour on the streets of [redacted] is Grey.

The mode for my Car Body Types data:

SUV, Hatchback, Hatchback, Sedan, Hatchback, Sedan, Hatchback, Sedan, Sedan, Hatchback, Coupe, Hatchback, Hatchback, Hatchback, Sedan, Hatchback, SUV, Sedan, Sedan, Sedan, Hatchback, SUV, Sedan, SUV, Hatchback, Sedan, SUV, SUV,

Sedan, Sedan, SUV, Hatchback, Sedan, Sedan, Sedan, SUV, Hatchback, Sedan, Hatchback, Sedan, Hatchback, SUV, Hatchback, Hatchback, Sedan, Hatchback, SUV, Sedan, Sedan, Hatchback.

The most common car body type on the streets of [redacted] is Sedan (Mode 20) . It is closely followed by Hatchback (Mode 19)

I'm surprised SUV is least common with a mode of 10.

My Results

After analysing my data, the highest of each category:

Car Brand: **Toyota - 5**

Colour of Cars: **Grey - 13**

Year of Cars: **2010 - 8**

Types of Cars: **Sedan – 20**

Comparison

On the CSO website, the most popular car in October was a Volkswagen. My data of the car brand was different. My highest was car brand was Toyota followed by Honda, Volkswagen and Skoda.

I searched up" What the most common car colour in Ireland?". The result I got was the colour Grey. This means my car colour data is the same. My highest was Grey.

I searched up "what was the most common car body style?". The result was a sedan. This meant my data matches the secondary source.

Where I got this secondary source data

https://www.cso.ie/en/interactivezone/visualisationtools/irelandstopmotors/

And Google.

Conclusion

In conclusion, my most common car is a Grey, Sedan, Toyota in the year of 2010.

Makes a conclusion that relates back to original question

My Variables in my CBA 2

My independent variable in my CBA were my categories. My categories that changed were Car Brands, Car Colours, Car Years and the Car Body Types. My dependent variable was what I measured the data I got for each one. There would be different cars on the road, and I would collect some of my data on different days which changed.

What I thought about my CBA 2

I thought the CBA was tough, but as the CBA progressed it became simpler. I would discuss with my partners about how to analyse our data and how to use our data. I found collecting my

data easy. It was interesting the different data for car brands, car colours, year of cars and car body types.

Problems I found throughout my CBA 2

I faced a few problems throughout the CBA. One of the problems I faced in the CBA was how to compare the data of the year of cars. I tried searching up the question, but nothing would come up to answer the question. Another problem I faced was how to describe my data. I was confused about the mode but it made sense when I thought about which is most common.

I also found that I could not use the mean median and the range because of my data is categorical data. Apparently, the range and the median would not make sense with categorical data.

How could I improve my CBA 2 if I was do it again?

If I was to do my CBA again, I would improve on spreading my data collection through three days straight. This would see if the results change throughout each day.

How did I get my data?

I got my data from Main Street. After school, I would take note of each car that is parked and that passed by. To prevent any repeated collection of data, I would collect as much as I can in one day and finish collecting the data when I have spare time. During the mid-term break holiday, I added data to complete my data collection.

Shows some awareness of how variability can affect data although strategy to reduce the affect is confused.

Develops a measuring strategy for measuring the dependant and independent variables

How did I record my data?

I recorded my data on my phone. I would type down every data for each category until there is

fifty. After I collect all the data I need, I would write them down in my copy. I would allocate all my data on to a table like the tables above, on my phone.

What I learnt from this CBA 2

I learnt the different types of data you can collect. I learnt how to observe my data and put it in graphs and tables.

Overall judgement: In line with expectations