ASSIGNMENT 4: NORWAY CAR SALES (2007 - 2016)			
SARAH WARDINA BINTI RAFIDIN (Documentation)	A21EC0128	WAN AMIRUL HAFIQ BIN WAN HUZAINI (Data Analyst)	A21EC0141
MUHAMMAD IZZUDDIN BIN SHABRIN (Data Extractor)	A21EC0083	MUHAMMAD NAQUIB BIN ZAKARIA (Data Interpreter)	A20BE0161

Introduction

Our target is to visualize the dataset that has been chosen, that is car sales in Norway from the year 2007 to 2016 by using Microsoft Power BI. Based on the dataset, we are able to come up with two questions:

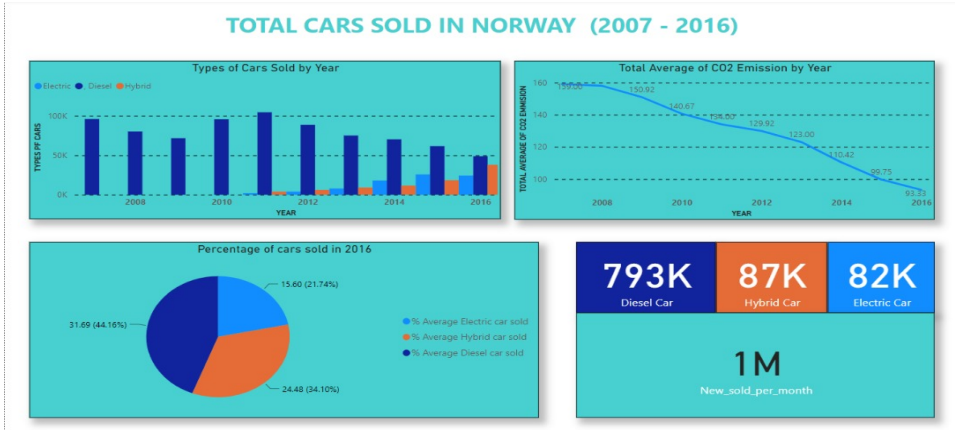
1. What is the trend for car sales in Norway (2007 - 2016)?
2. Does the trend of car sales affects the CO_2 emission in Norway over the years?

Trends of Data Analytics in Different Sectors and Industrial Talk 7: Data Visualization

Data analytics is a technique for extracting valuable data from different sources. Data analytics are divided into three categories including data analysis, data analytics and data science. Data analysis is focusing on processes and functions. While data analytics are dealing with information, dashboards and reporting. For data science, it is just the same as data analysis but has elements of data cleaning and preparation. There are four data analytics types including descriptive analytics, predictive analytics, diagnostic analytics and prescriptive analytics. Dr Isma Redha, the presenter of 7th TIS Industry Lecture Series gave a lecture about Introduction to Data Visualization by Microsoft Power BI. He explained about the Data Relationship which consists of nominal comparison, time series, correlation, ranking, deviation, distribution, and part-to-whole relationship. Other than that, he also shows the various types of charts including bar chart, pie chart, line chart, scatter plot chart, bubble chart and heat map variations. And lastly, he showed and explained about Microsoft Power BI, a software that is capable of visualizing data from any resources like Microsoft Excel, SQL and many other resources.

Reflection

There are tons of benefits we can get from applying data analytic techniques such as improved decision-making, effective marketing and efficient operations. Overall, Power BI eases the techniques to assist a company in a variety of ways, from personalising a sales pitch for a specific client to recognising and managing business threats.



Discussion

The diagram above depicts the total cars sold in Norway between 2007 until 2016 which includes types of cars, quantity sold, and total average CO_2 emission by year. From the data above we can conclude that diesel cars sold the most between (2007-2016) while in 2011 we can see the emergence of electric and hybrid cars which surges exponentially till 2016. The total average of CO_2 emission is decreasing significantly due to lesser diesel cars sold and the increase in electric and hybrid cars sales which totalled up to 169 thousand cars. About 1 million overall cars were sold in Norway between 2007 and 2016 regardless of types.

Conclusion

To sum up, data analytics is a method of finding, interpreting and communicating important patterns in data which also implies using data trends to make effective decisions. Analyzing data trends with data visualization helps to represent information systematically through graphical images. Microsoft Power BI provides services that use statistical graphics, plots, information graphics and other tools to convey information clearly and effectively. From the dataset of Norway Car Sales, we maximize the usage of Power BI to convert raw data into graphical structure to answer our questions. As a result, our observations for the car sales trend and CO_2 emissions have increased and decreased respectively.