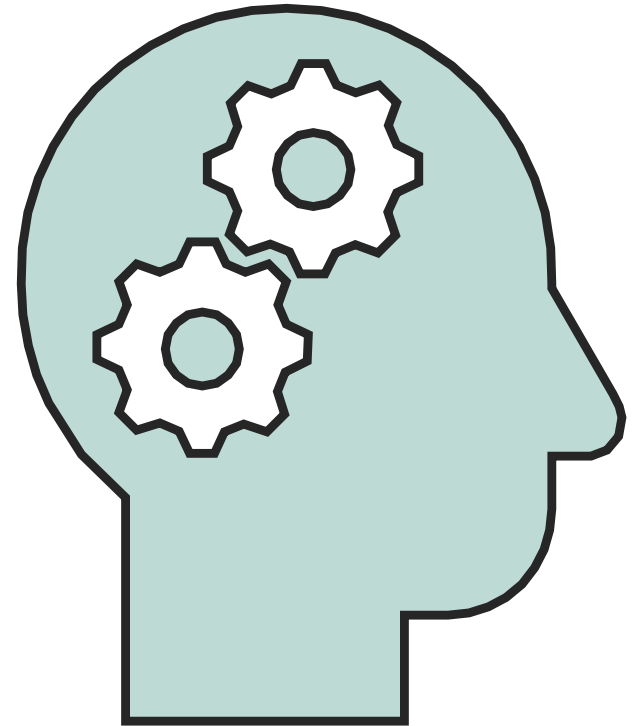


Business Intelligence Systems Presentation



Project Introduction



This project was carried out to design a multi dimensional model using a business analytics solution to provide the company CRIMSON WORKS CYCLES with visualizations about their sales and customer performance and provide them insight based on these visualizations.



Firstly in the assignment itself, the history of BIS was discussed along with the benefits of implementing a BI Solution as well as CRISP-DM Methodology. There was discussion on Business Analytics tools such as Tableau, Power BI, Microsoft Visual Studios, SQL Server Management Studio..



Lastly, the use of data source, cube structure, dimensions in Microsoft Visual Studios was also discussed and described; with the use of actual solution and this was used to create visualizations for CWC based on their customer and sales performance.

CRIMSON WORKS CYCLES



Sporting equipment producer located in USA with bicycles as their focal point



An OEM – providing other companies with products, who then sell to their own customers.



300 employees, 29 sales representatives



Products sold by resellers in Australia, Canada, France, Germany, UK, USA as well e-website.



They contain a lot of data in their database, needs to be managed to extract hidden and useful information



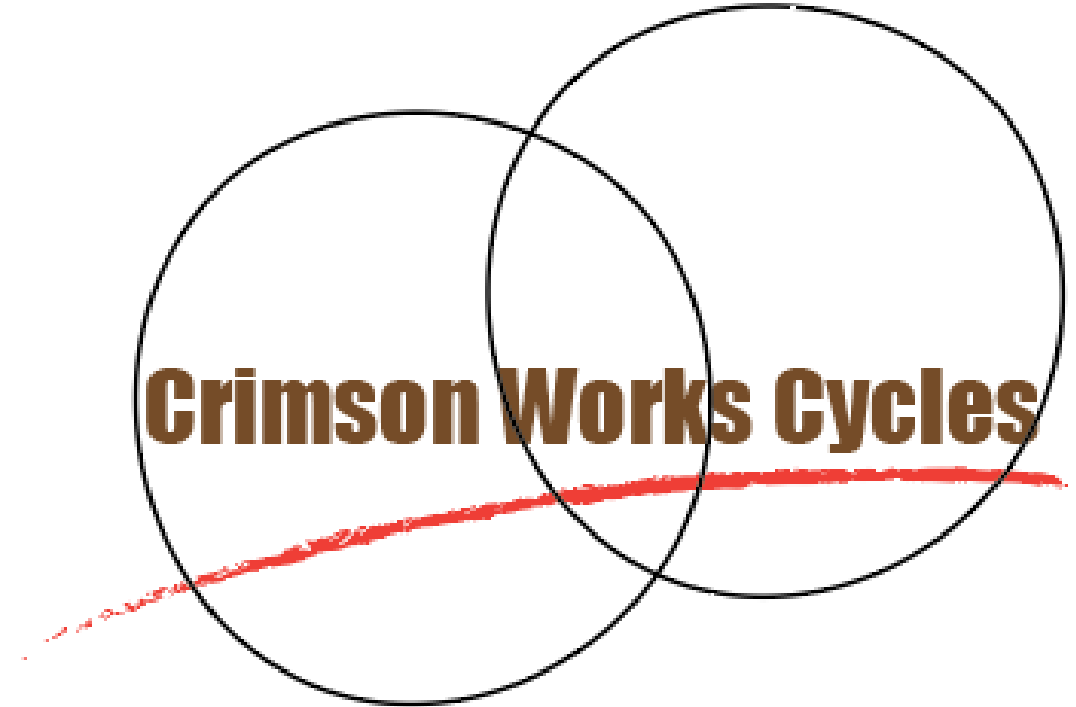
Has seen drops in their sales in 2019 and 2020



Have taken measures to improve but no significant change shown



Need BIS approach to get back on track



AIM AND OBJECTIVES

- I. Make better and smart business decisions
 - II. Stay ahead of their competitors
 - III. Create visualizations about their business process
 - IV. BI uses real time data analysis, so quick action can be taken in case of any problem.
-

- ☐ Help CWC understand customer and sales performance
- ☐ Clean data and observe it
- ☐ Extract data and find hidden patterns
- ☐ Improve decision making
- ☐ Provide visualizations
- ☐ Use visual studios to extract table and create the cube

VISUALIZATIONS





Sales Performance Visualization

Outcome and Analysis

- Road Bikes are most popular and have highest product cost - used for longer distances
- Resellers have more experience with customers and ads
- Accessories and Clothing least popular
- Internet Sales have higher profit compared to Reseller
- Warehouse providing most sales by reseller

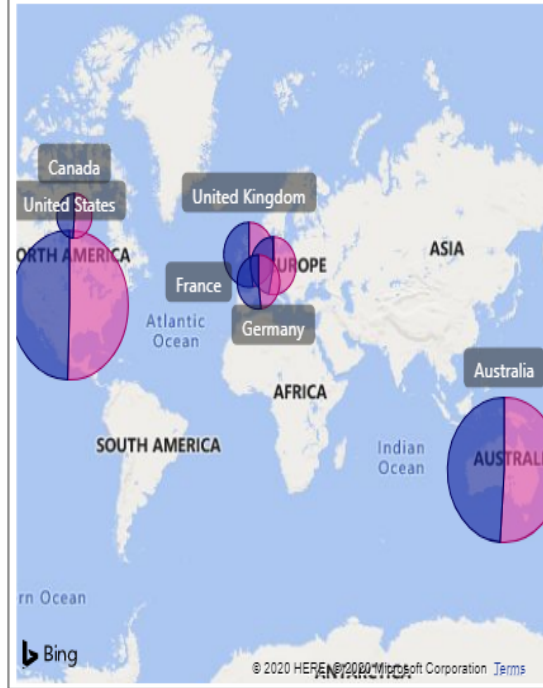


Outcome and Analysis

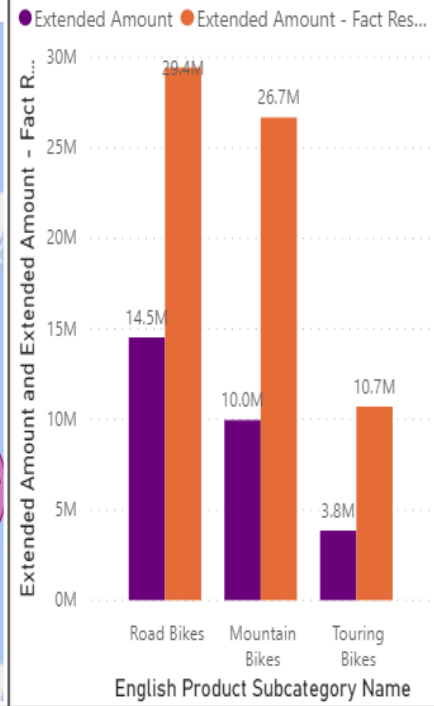
- Canada has low sales because cycling is still relatively new there
- CWC can take initiative to promote their products
- US most popular
- Jersey has high freight - lowest in demand
- Higher the freight, higher the cost of transport
- High extended amount for three types of bikes; can be used to prevent loss
- High order quantities for 3 countries, most popular showed, accessories and clothing not in demand

Sales Amount by Sales Territory Country and Gender

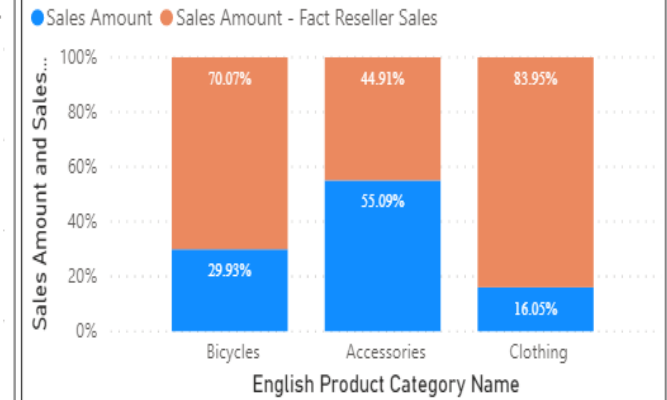
Gender ● F ● M



Extended Amount and Extended Amount - Fact Reseller Sales by English Product Subcategory Name



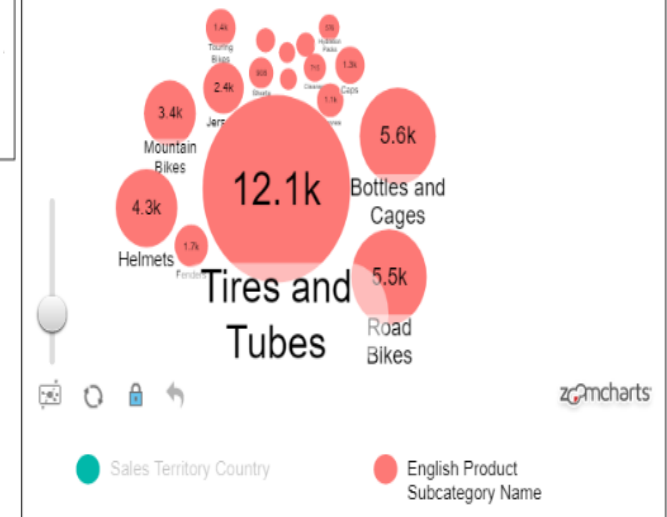
Sales Amount and Sales Amount - Fact Reseller Sales by English Product Category Name

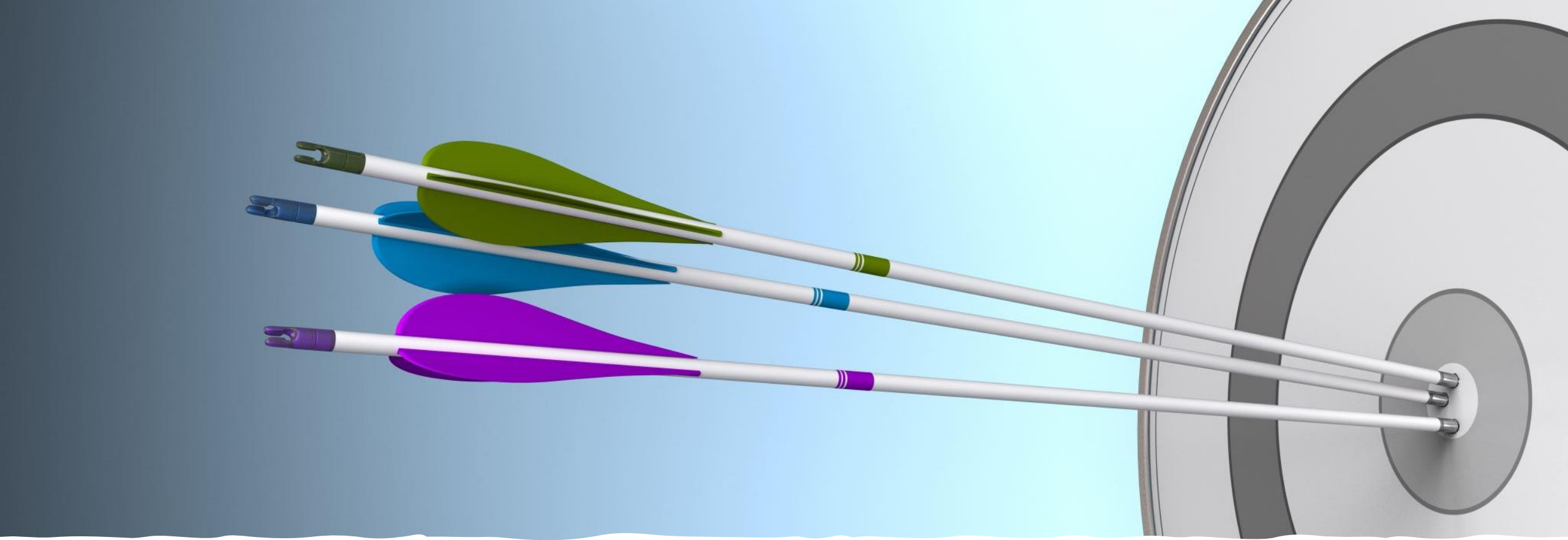


Top Products with Highest Freight

English Product Subcategory Name	Freight	Freight - Fact Reseller Sales
Helmets	5,633.71	6,467.86
Jerseys	4,323.93	14,482.76
Mountain Bikes	248,819.21	662,317.26
Road Bikes	363,014.96	733,955.43
Tires and Tubes	6,138.99	23.13
Touring Bikes	96,120.13	261,287.36
Total	724,050.94	1,678,533.80

Order Quantity for Australia, USA and Canada

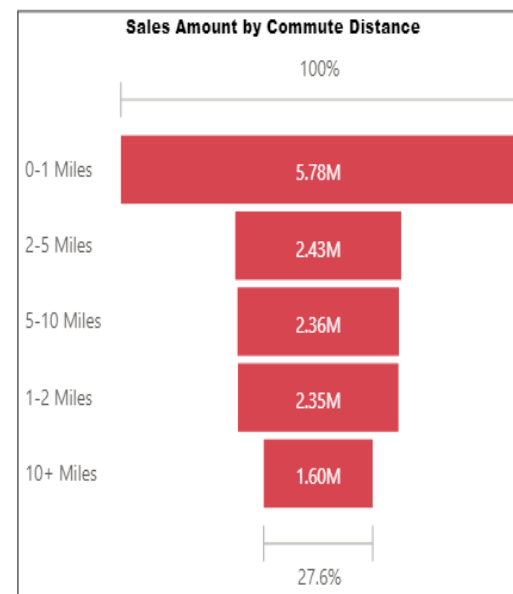
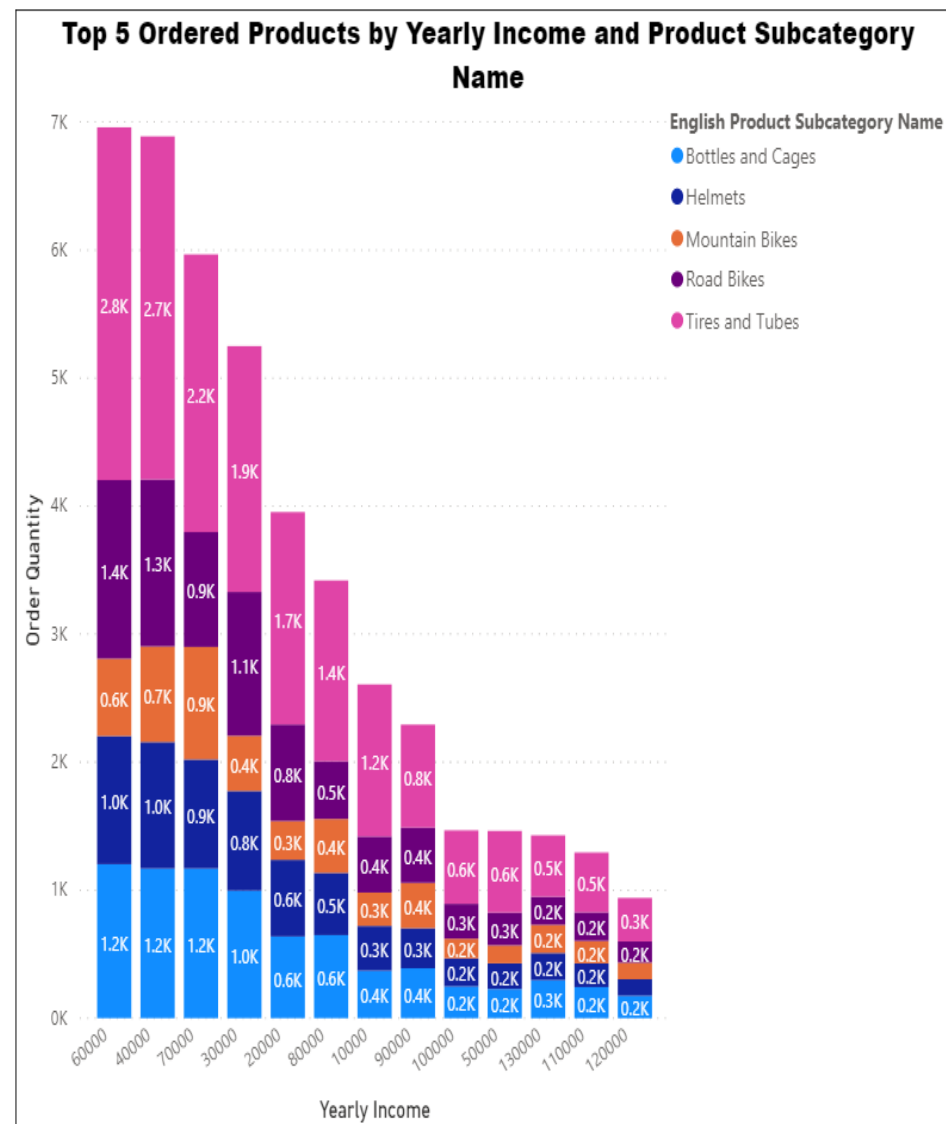




Customer Performance Visualization

Outcome and Analysis

- Low incomes purchased more than higher incomes, possibly due to ease
- Top 10 customers, may include resellers or corporate customers
- Lower commute = more sale ; may be due to more focus on mental health and due to closer distance so cycling seems to be a more money saving option



Outcome and Analysis

- High school students can afford to buy since they might still be underage
- Married people have higher sales since 2 people can contribute more than 1 person, – greater net worth
- Manual workers have low sales due to low wages as compared to professionals
- More children = less sales
- Bicycles most popular in US, then AUS, least popular in Canada, CWC should make Canada a target market to boost performance

Sales Amount and Order Quantity by Education

Bachelors	
18144	9,900,142.76
Order Quantity	Sales Amount
Graduate Degree	
10603	5,460,560.25
Order Quantity	Sales Amount
High School	
10320	4,638,026.07
Order Quantity	Sales Amount

