Narendra Chatta ENT-2017: Artificial Intelligence and Data Analytics Tushar Ramesh Jaruhar Project 3

The sales data provided to us pertains to a sporting goods business that operates in six countries – United States, Canada, France, Germany, United Kingdom, and Australia. We are given the sales data of 293 various products which are categorized into 3 types, namely Clothing, Bikes, Accessories and components, during a period from 1st Jan 2015 to 6th Dec 2017. Based on this data, I have accumulated some insights from their business –

- 1. The Business has sold a total of 84K products, making a total revenue of 24.91 Million and a huge profit of 10.46 millions. In terms of products sold, the business has a huge market in United States (34.46 % of 84K products sold), followed by Australia (21.72 % of 84K products sold), followed by Canada (12.33 % of 84K products sold), followed by United Kingdom (11.9%), France (9.85%), and Germany (9.74%).
- 2. Most of the profit gained by the business is from bikes. Road Bikes generated a massive revenue of 11.29 million and a profit of 4.37 million. Moreover, Mountain bikes generated a revenue of 8.58M and a profit of 3.93 Million. Touring bikes generated a revenue of 3.77 million and a profit of 1.43 million.
- 3. In the year 2015, only bikes (2630 bikes) were sold. In the year 2016, among the 36K items sold, 69.88% consisted of accessories, 15.48% consisted of bikes, and clothing consisted of 14.64%. Moreover, in the year 2017, among the 45K items sold, 71.71% consisted of accessories, 15.74% consisted of clothing, and bikes consisted of 12.55%. Note that the Components sector doesn't make any sales throughout the three years period.
- 4. The most profitable item for the business were road bikes, and mountain bikes. They generated the highest amount of revenue during the span of 3 years, and significantly contributed to the overall profit of the business.

- 5. The most gross items in the business were Tires and Tubes, bottles and cages, helmets. Even though they were the highest grossing products in the business, their contribution to the revenue and profit of the business was really minute.
- 6. Let's now talk about the customers. Around 3072 (16.93%) customers among all customers had an income of \$60000. 2688 customers (14.81%) had an income of \$40000, and 2313 (12.75%) customers had an income of \$70000. However, customers above an income of \$80000 and below the income range of \$20000 were less. This means that people in an average income range are more likely to spend money on things related to bikes, etc.
- 7. Our analysis reveals that professionals account for the highest percentage of orders, followed by Skilled Manual, Management, Clerical and Manual workers. Additionally, we found that married customers are more likely to order than bachelors.
- 8. Moreover, we can observe that customers who are homeowners represent the majority of the business' orders. Therefore, we can say that the target customer of the business would be a married professional who is also a homeowner.
- 9. Australia is the country in which the business generated the most amount of revenue with a total of 18K items sold. In Australia, the business had a profit of 3.08 million. Moreover, the business in the United States also had a good profit. These were the only countries with the highest profit generation. Other countries only generated a profit of nearly or less than 1 million dollars.
- 10. There were many items that the business tried to sell but didn't get many customers to buy those items. Some items such as socks, cleaners, caps, vests, bike stands, etc. got sold in numbers below 100 (< 100). So, one conclusion through this analysis could be that the business should focus more on selling bikes, tires, helmets and stop selling socks, cleaners, caps, and vests. The business has a more active customer base for bikes, tires and helmets.