EXPLORATORY PURCHASE AND PROFIT ANAYSIS

Online shopping is a form of electronic commerce which allows consumers to directly buy goods or services from a seller over the internet and now it has become one of the needs of the hour. Online stores give various choices to the customer in terms of product comparisons and varieties. Nowadays retail e-commerce sites deliver personalized shopping experience to the customers in their own home comfort.

This is a transnational data set that contains transactions between 1/1/2011 to 31/12/2014 for an unnamed retail store. The purchase categories are furniture, office supply, and other technological items like accessories, copiers, machines, and phones.

Through various analyses, we can extract deeper information, that helps the customers to have a personalized experience and increase the profit for the store. The analysis can predict the profits and losses. We can also analyze data to create customer profiles and learn his sore points and market their product accordingly to push the customer towards purchasing. Product analysis provides detailed insights into consumer needs or interests that increase sales and promotions of the product.

From the initial analysis, it is seen that the number of sales is increasing from 2011 to 2014. But at the same time, we can observe a decrease in profit. How can we increase the profit by the end of the year 2015 by reducing the cost variables and targeting the profitable customers?

Initial analysis :

Questions that needs answering

1. Customer analysis
   1. Profile the customers based on their frequency of purchase. Who is the most frequent customer?
   2. Do the frequent customer contribute more to the revenue
   3. How the customers are distributed in the world
   4. Which customer segment is the most profitable?
   5. Choose the best 5 customers
   6. Customer loyal over the years
   7. Clustering customers (loyal, new, at risk)
   8. What is the order frequency of the customer?
2. Product analysis
   1. Which is the product with top sales and in which year we had max sales?
   2. How the product pricing varies with sales. Is there an increase in sales with decrease in product cost
   3. Bestselling product – frequently brought item
   4. Predict the product price over the next month and give the customer a warning if the price is about to increase
   5. How the price affects the quantity purchased?
   6. Which is the product having highest discount rate and how does it affect the quantity purchased?
   7. Most demanding product in a country
   8. Which product has the highest shipping cost per unit and how to reduce that
   9. What product price contribute to the most of sales?
   10. What product price contribute to the most of shipping price?
   11. Which item is the most recurring one or high in demand?
   12. What time of the year has the maximum sale?
   13. Which product category is the worst in sales
3. Profit analysis
   1. How much profit is gained for each product over a year
   2. Is there any relation between profit and the quantity purchased?
   3. Which is the most cost effective product?
   4. Which country gives best profitability
   5. Why products have negative profit? Does it need to be stopped
   6. What was the best month for sales? How much was earned that month?
4. Fastest growing region based on sales
5. Predict the total sales for product over next month
6. Predict the relation between the shipping cost and the country
7. Highest number of orders and money spent on purchases
8. Discover transactional patterns for each Country