**Problem Statement**

1. The Management team at Walmart Inc. wants to analyze the customer purchase behavior (specifically, purchase amount) against the customer’s gender and the various other factors to help the business make better decisions

2. They want to understand if the spending habits differ between male and female customers.

**Insights:**

1. Very High Population of the customers are Males. Males constitute almost 75% of total customers
2. Most numbers of the customers are in the age group 26- 35 , Second highest customers belong to the 35-45 category.
3. There is high population of customers from 0-7 years of occupation. This could be due to age as well. Young customers often come out to buy stuff rather than Old customers.
4. Most numbers of the customers are in the City Category "B". This could be because of the number of stores and income capacity of the people in the respective City.
5. Highest count of Walmart Customers are staying in the city for 1 year . This could be due to purchase of products which are required in setting up houses and offices.
6. Almost 60 percent of the customers are single.
7. The purchase values mostly lie between 5823-12054.
8. Male contribute large percentage of the total revenue.
9. People from the age group "26-35" are the highest contributor to the revenue for Walmart
10. Occupations 4, 0, 7 are the top three highest revenue contributors whereas 18,9,8 being the lowest.
11. Within city category, people from B have the highest purchase sum and C has the highest average of Purchase.
12. Single people tend to spend more in Walmart, even though the average purchase is almost the same.
13. There is a negative correlation between product category and Purchase Amount. There is low amount of revenue generated for the high end goods. This could be due to Price of the product and Income capacities of the customer.
14. The highest purchase amount range is from the following Product Categories :

* Product Category 10
* Product Category 7
* Product Category 6
* Product Category 9

**Recommendations:**

* Walmart needs to exercise more marketing strategies for female customers for customer acquisition. This could include more products in the female category
* For age groups other than 26-35 and 35-45 , discounts and offers should be presented so that there is more customer acquisition from different age groups
* Walmart should introduce free delivery marketing technique for high aged customers.
* Walmart can bring in more stores in A and C. Walmart prices should be according to the city category
* Walmart should bring in more categories of goods which are specifically for married couples, which would attract married couples
* Niche products should be on discounts and offer every couple of months to attract the buyer.

**CLT Analysis:**

1. Confidence Intervals with respect to Gender

* For men , 99 percent chances that the mean lies between the range (9389.12804338755, 9485.745483543142)
* For women , 99 percent chances that the mean lies between the range (8687.067639328146, 8783.685079483737)
* Men are spending more on purchasing stuff.  
  This could be due to income and spending capacity of men.
* Also , it could be to due the gender product orientation of the goods in walmart
* There is a huge difference in spending habits between men and women.

1. Confidence Interval with respect to Marital Status

* There is a certain overlap between the mean ranges of Purchase Amount for Single and Married People
* For single 99 percent chances are mean lies between (9233.600472651131, 9301.049422002336)
* For married, 99 percent chances are mean lies between (9227.205343885304, 9294.514085322618)

1. 3. Confidence Intervals with respect to Age

* There is overlapping between all age groups except 0-17 and 51- 55
* The lowest mean for Purchase Amount is from the 0-17 Age Category
* The Highest mean for Purchase Amount is from the 51-55 Age Category
* This depicts that Purchasing trends are similar in all age groups except the extreme categories