The_BookBinders_Book_Club__Basic_Customer_Analysis

1. What percent of BookBinders customers are female?

Customers Distribution by Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
	Female	33302	66.6	66.6	66.6
Valid	Male	16698	33.4	33.4	100.0
	Total	50000	100.0	100.0	

Female customers contribute 66.6% of all customers.

2. Which three states account for the largest percentage of BookBinders's customers?

Top 3 States by the Number of Customers

		Frequency	Percent	Valid Percent	Cumulative Percent
	New York	16530	33.1	33.1	81.2
	New Jersey	11068	22.1	22.1	48.1
	Pennsylvania	8718	17.4	17.4	98.6
	Massachusetts	4252	8.5	8.5	15.6
	Maryland	4172	8.3	8.3	24.0
	Connecticut	2512	5.0	5.0	5.0
	Delaware	711	1.4	1.4	7.1
Valid	New Hampshire	665	1.3	1.3	26.0
	Rhode Island	402	.8	.8	99.4
	Maine	343	.7	.7	24.7
	District of Columbia	339	.7	.7	5.7
	Vermont	211	.4	.4	100.0
	Virgin Islands	45	.1	.1	99.6
	Virginia	27	.1	.1	99.5
	APO (Military)	5	.0	.0	.0

Among all states, the states with the highest number of clients are New York, New Jersey and Pennsylvania.

3. What is the average Total $ spent, the average Total # of purchases, and the average number of months since last purchase?

Summaries of the Averages

	Mean	
Total $ spent	Total # purchases	Months since last purchase
208.3183	3.890	12.36

Based on the customers' purchasing history dataset, we can find that for a particular customer, the average spending in BBB is about $208.32 and the average time of purchases is 3.89 typically. Months since last purchase is more than one year on average.

4. Which book categories have sold the most books? Which have sold the least?

Total Purchases by Book Category

Statistics:	Sum
Cookbooks	46830
Children's books	42723
Geography books	27348
Do-it-yourself books	23153
Youth books	19549
Art books	19296
Reference books	15612

From the chart we can see, the most popular book category is cookbooks, more than 46 thousand purchases in total in history. The least one is reference book, with 15612 purchases, which is only one third of that of cookbooks.

5. Create a bar chart showing the average of Total Dollars Spent on Books for males and females.

Simple Bar Mean of Total $ spent on books by Gender
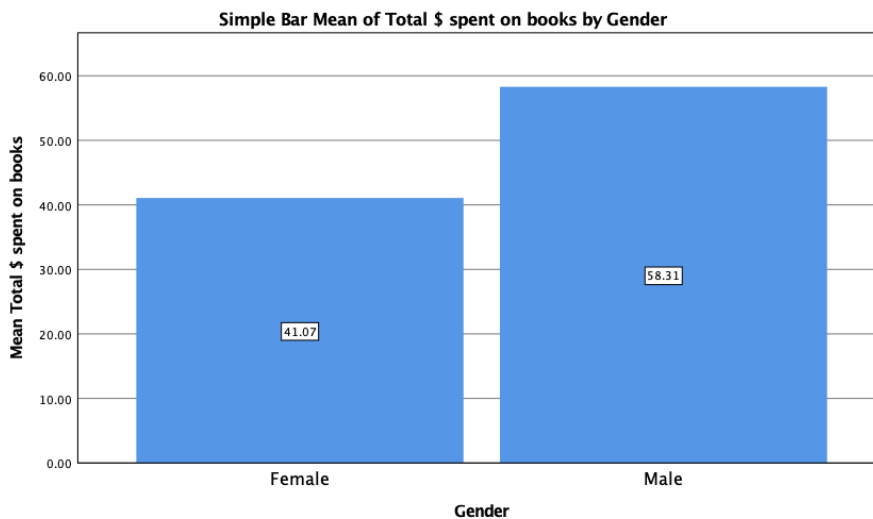
Compared with females spending $41.07 on books, male totally spent $58.31 on average.

6. For both males and females, find the total number and also the percent who bought "The Art History of Florence."

Crosstabulation of Customer Bought "Art History of Florence" by Gender

			Gender Female	Gender Male	Total
Bought "Art History of Florence?"	No	Count	30913	14565	45478
		% within Gender	92.8%	87.2%	91.0%
	Yes	Count	2389	2133	4522
		% within Gender	7.2%	12.8%	9.0%
Total		Count	33302	16698	50000
		% within Gender	100.0%	100.0%	100.0%

For all female customers, 7.2% of them (2389 females), bought the "Art History of Florence". And male customers who bought this book account for 12.8%, that is 2133, in terms of all males.

7. For both males and females, determine the total number of purchases, the average number of purchases, and the percent of total purchases by males vs. females.

Summaries of Total # Purchases by Gender

Total # purchases

Gender	Total Purchase	Avg. of Purchase	% of Total Purchase
Female	33302	3.362	66.6%
Male	16698	4.943	33.4%
Total	50000	3.890	100.0%

Female customers bought books 33302 times, which accounts for 66.6% total purchase. On average they have 3.363 times of purchase. Male customers purchased 16698 times with an average of 3.89 purchases. Their purchases make up 33.4% of total purchase.

8. Determine the minimum, the maximum, and the average number of months between customers' first purchase and their most recent purchase.

Month Summary

MonthPeriod

Minimum	.0
Maximum	72.0
Mean	13.3

Usually, customers purchased for 13 months before they buy books again. The minimum interval is 0 month and the maximum one is 6 years.

9. What percent of repeat customers (those with two or more total purchases) bought "The Art History of Florence?"

Bought "Art History of Florence?" * Repeat Purchase Crosstabulation

			Repeat Purchase		
			Repeat	Not Repeat	Total
Bought "Art History of Florence?"	No	Count	14196	31282	45478
		% within Repeat Purchase	93.9%	89.7%	91.0%
	Yes	Count	924	3598	4522
		% within Repeat Purchase	6.1%	10.3%	9.0%
Total		Count	15120	34880	50000
		% within Repeat Purchase	100.0%	100.0%	100.0%

Within customers who purchased in BBB repeatedly, 6.1% of them bought "The Art History of Florence".

10. Assign customers to deciles based on total spending. How many are in each decile?

 # Customer by Deciles

Percentile Group of Totalspend	N Count
1	5008
2	4954
3	5017
4	5073
5	4983
6	4937
7	4972
8	4994
9	5090
10	4972
Total	50000

Divided by rank cases fuction in SPSS, all customers are assigned into 10 groups. The group with highest total spending is ranked first.

11. What is the average total spending in each decile?

Avg. by Declies

Percentile Group of Totalspend	Mean Totalspend
1	387.22
2	314.94
3	283.71
4	253.54
5	223.73
6	193.46
7	162.51
8	128.82
9	90.31
10	45.44
Total	208.32

In the table, the average total spending in top group is $387.22, so on so forth.

12. Create a bar chart showing average total spending by decile.

Avg. Total Spending by Deciles
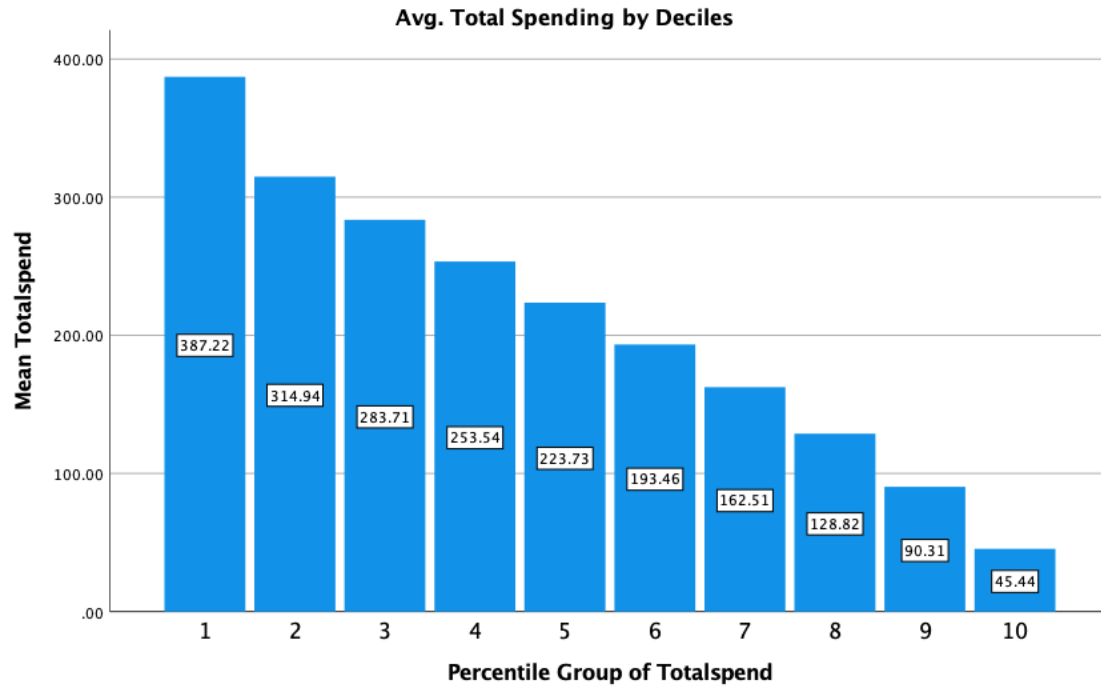
13. What % of the total spending does the top decile account for?

Percentage of Total Spent by Decile

% of Total Sum

Percentile Group of Totalspend	Totalspend
1	18.6%
2	15.0%
3	13.7%
4	12.3%
5	10.7%
6	9.2%
7	7.8%
8	6.2%
9	4.4%
10	2.2%
Total	100.0%

Customers in the first decile contribute 18.6% of total spend.