Heavenly Chocolates Website Transactions

Heavenly Chocolates manufactures and sells quality chocolate products at its plant and retail store located in Saratoga Springs, New York. Two years ago, the company developed a website and began selling its products over the Internet. Website sales have exceeded the company's expectations, and management is now considering strategies to increase sales even further. To learn more about the website customers, a sample of 50 Heavenly Chocolates transactions was selected from the previous month's sales. Data showing the day of the week each transaction was made, the type of browser the customer used, the time spent on the website, the number of website pages viewed, and the amount spent by each of the 50 customers are contained in the accompanying file BAN_602_Case_1.csv.

Heavenly Chocolates would like to use the sample data to determine if online shoppers who view more pages also spend more money during their visit to the website. They are also interested in knowing the distribution of the time spent by the shoppers on the website. The company would also like to investigate the effect that the day of the week and the type of browser have on sales.

Please prepare a managerial report that addresses the following:

1. Include a summary (mean, median, standard deviation, variance, range, minimum and maximum) for each of the quantitative variables in the dataset. Use a table to display the summary measures of all the quantitative variables in one place. Shown all your results up to two decimal points. What insights do these descriptive statistics provide concerning Heavenly Chocolates? (6 + 4 = 10 points)
2. Does the number of website pages viewed appear to be related to the amount spent? Justify using a visual and two numerical measures. What insights do you get from this? (4 + 4 + 2 = 10 points)
3. How are the time spent on the website distributed? Plot a histogram to display the distribution. What can you say from the skewness of the distribution? (4 + 2 = 6 points)
4. Tabularize the joint frequencies of the two categorical variables in the dataset using crosstabulation. Then display the frequencies as percentages of row total and percentages of column total using two separate tables. What insights do you get from these? (4 + 4 + 4 = 12 points)
5. Draw a boxplot for each of the three browser types to graphically summarize the amount spent by the customers by browser type. Identify the first, second and third quartiles of amount spent for each of the three browsers. Are there any outliers? What insights do you get from these observations? (3 + 3 + 3 + 3 = 12 points)

Format of the deliverables:

1. The typed managerial report must be in Microsoft Word or PDF format and uploaded on Blackboard by the due date. Each group must upload only one report.
2. The typed managerial report must **not** contain any R code.
3. Please do not copy the questions from the case to your report. You should just answer the questions without typing the questions in your report. The report must answer all the questions separately.
4. You must include graphs and/or tables as asked in the question, followed by a written analysis and interpretation.
5. All computations must be done in R and the executable R script file must be uploaded on Blackboard as well.
6. All computations must be carried out and displayed up to three decimal places unless specifically stated otherwise in a question.
7. You must mention your group number on the first page of your report.
8. The report must be in Times New Roman font with font size 12 and single-line space.
9. The number of pages in the report must not exceed five (5) excluding any cover page.