|  |
| --- |
| Western Governors University |
| M.S. Data Analytics |

|  |
| --- |
| C744 | By: Jeevan G Joseph |

****

|  |
| --- |
| Title Report |
| Subtitle Heading 1 One of the most critical factors in customer relationship management that directly impacts a company’s long-term profitability is customer attrition. When a company can better predict if a customer is likely to cut ties, it can take a more targeted approach to mitigate customer turnover.  In this task, you will use Python, SAS, or R to analyze data for a telecommunications company (see “Customer Data” web link) and create a data mining report in a word processor (e.g., Microsoft Word). You will create visual representations throughout the submission to show each step of your work and to visually represent the findings of your data analysis.  You are an analyst for a telecommunications company that is concerned about the number of customers leaving their landline business for cable competitors. The company needs to know which customers are leaving and attempt to mitigate continued customer loss. You have been asked to analyze customer data to identify why customers are leaving and potential indicators to explain why those customers are leaving so the company can make an informed plan to mitigate further loss.  Tool Selection Execute data extraction from the “Customer Data” web link using data mining software (Python, R, or SAS). Provide a screen shot of the code you have written and its successful application with a copy of all the extracted data.   1. Describe the benefits of using the tool you have chosen (Python, R, or SAS) for extracting data in this scenario. 2. Define the objectives or goals of the data analysis. Ensure that your objectives or goals are reasonable within the scope of the scenario and are represented in the available data. 3. Select a descriptive method *and* a nondescriptive method (i.e., predictive, classification, or probabilistic techniques) you will use to analyze the data, and explain how the methods you have selected are appropriate for the objectives or goals you have defined.   Data Exploration and Preparation Clean the data you have extracted and save as .xls or .xlsx format for submission. Be sure to address all necessary formatting, converting, and missing data.   1. Describe the target variable in the data and indicate the specific type of data the target variable is using, including examples that support your claims. 2. Describe an independent predictor variable in the data and indicate the specific type of data being described. Use examples from the data set that support your claims. 3. Propose the goal in manipulation of the data and define your data preparation aims. 4. Define the statistical identity of the data, including the essential criteria and phenomenon to be predicted. 5. Explain the steps used to clean the data and how you addressed any anomalies or missing data.   Data Analysis For each of the following steps, be sure to clearly indicate each step within your data sheet with a screen shot and annotations in your final submission. All algorithms used need to be clearly identified in the screen shot and submission.   1. Identify the distribution of variables using univariate statistics from your cleaned and prepared data. Represent your findings visually as part of your submission. 2. Identify the distribution of variables using bivariate statistics from your cleaned and prepared data. Represent your findings visually as part of your submission. 3. Apply an analytic method and an evaluative method. Annotate the data showing both methods and your findings. 4. Justify the methods you have chosen to analyze your data. Be sure to include details about how the methods you have chosen better represents your findings than other methods. 5. Justify the methods you have chosen to visually present your data. Be sure to include details about how the presentation methods you chose better represents your findings than other presentation methods.   Data Summary Summarize the findings of your data evaluation. Provide the final findings dataset, including evaluation measures.   1. Explain how your data shows that it was discriminating or not and whether the phenomenon you wanted to detect was present in your findings. Provide specific examples from the data to support your claims. 2. Describe the methods you used for detecting interactions and for selecting the most important predictor variables. Include the specific interactions you detected and the most important predictor variables that you found. 3. Acknowledge sources, using in-text citations and references, for content that is quoted, paraphrased, or summarized.  Heading 2 You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.  To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template. Heading 3 On the Insert tab, the galleries include items that are designed to coordinate with the overall look of your document. You can use these galleries to insert tables, headers, footers, lists, cover pages, and other document building blocks. When you create pictures, charts, or diagrams, they also coordinate with your current document look.  You can easily change the formatting of selected text in the document text by choosing a look for the selected text from the Quick Styles gallery on the Home tab. You can also format text directly by using the other controls on the Home tab. Most controls offer a choice of using the look from the current theme or using a format that you specify directly.  To change the overall look of your document, choose new Theme elements on the Page Layout tab. To change the looks available in the Quick Style gallery, use the Change Current Quick Style Set command. Both the Themes gallery and the Quick Styles gallery provide reset commands so that you can always restore the look of your document to the original contained in your current template. |
|  |