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| health insurance claim |
| analySING the report |
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Cause and Effect Analysis on Historic-Data of Insurance Claims.

1.Perform the Exploratory Data

Analysis on the Data.

1. Identify the categorical and continuous variables?

From the given data, Age and children are discreate variables.

Discreate variables is described that the probability of occurrence

Of a random variable with the certain number of values. A number

Should not in a Decimal values. Sex, smokers, and region are categorial

With the data represented by some dependence with characters.

While BMI, charges ($) are continuous variable continuous variable

Are with any numerical values which has decimal values and also with fractional values.

1. Make Histograms and box plots (univariate analysis) for continuous variables and do a correlation analysis (multivariate analysis).

Univariate analysis is the simplest form of analyzing data.

continuous variables are with any numerical value which has decimal values and also with fractional

so we consider that BMI &Charges ($) are continuous variables.

we want to make histogram chart and also box .

Multivariate analysis method is used to determine the effects of qualification variables. correlation coefficient is used to determine the relations between two properties related to that. Age, BMI, Children, charges ($) are the numerical values. so we can take the correlation for all the numerical variable.

1. Make relevant Pivot tables and charts for: i

Male/Female ratio and share information on which gender has more smokers ii). Charges vs Age iii). Charges vs BMI

1)Male/ Female ratio of smokers

Relevant pivot table and charts,

Make Pivot for Sex, Smokers, Sex is for Differentiating the Male and Female with Numerical values and also for Smokers. In pivot, sex-rows; smokers -column ,count of smokers -values to make and get the values. There are more numbers of Male Smokers with 159. For Finding the Ratio of Male/Female dividing the values of Male with Female.

2) Age &charges ($)

Make a pivot table for Age &Charges ($),In pivot Table drag the BMI into the Row box, Charges($)into the value box with the changes of Average value. we obtain the pivot table with numerical values. put the line chart for the values representation.

3)BMI & Charges ($)

Make pivot table for BMI & Charges ($)In pivot Table Drag the Age into the Rows box, charges($) into the value box with the changes of Average Value. we obtain the pivot tables with Numerical values. put the radar chart because the values and the crest and trough are visible with good representation.

4) Charges ($) of smoker vs non smokers

Make a pivot table for Charger ($)smokers vs Nonsmokers, In pivot table drag the smokers into the rows box ,charges($)into the value box with the changes of average . we obtain the pivot tables with numerical Value . put the bar chart for Charges ($) of smoker vs Non-smoker.

1. Region-wise smokers vs Non-smokers analysis with one or more pivot table and charts.

From the given source of the data we wanted to analysis the smoker vs non smoker in the region using pivot table .select the insert from the menu list and click pivot table option using the select the relevant option for the pivot and drag it into the box we got the pivot table. By using that chart of smokers in the region.

1. Region-wise charges for smoker vs non-smoker?

Using pivot Table- we can analysis the smokers vs non -smoker wise charges ($) with region and we conclude with the average of the charges ($) values.

1. Has charges got something to do with the number of Dependents?

From the given source the children are dependent with the family members. So we can calculate the correlation to find the accurate numerical value. by using the formula of CORREL condition we can find

Since it has a positive Correlation- can say that it is dependent.

1. Do a similar dependent-charges analysis, Region-wise?

From the given source similar dependent of children and charges ($) with relevant region. Using pivot -Table we can find the numerical in average with respective region.

1. Do at least one more pivot table and chart of your own choice on the remaining variables?

From the given data we wanted to find the pivot table analysis for our own choice. So the calculation is for sex, smoker and charges ($). After the pivot table we can click the recommended chart click the bar chart.

1. Give your understanding from the patterns observed in point(b)

Statement: Univariate analysis and continuous variable values are

Separated Histogram plot is for BMI& charges ($) because the values are In decimal. For correlation take the values of ages , BMI, children and also charges($) which is numerical . using the data in menu list with data analysis, select the correlation process with the x and y range and also with output range.

1. Give your interpretation for observations made in point ( c)

From the data of insurance we drill list the relevant data and for the male & female ration using the pivot table with the

formula of male value /female value for the ratio would be obtain. and insert the chart by using the pivot values. These are the method to find age & charges ($) with line graph presentation. and also for BMI& Charges ($), charges ($) with line graph presentation . and Also- for BMI& Charges ($) of smokers vs Nonsmoker with Radar and Bar graph.

2) Edit the data as following, to obtain dummy variables

1. sex: replace all the “Males” with “1” and the “Female” with “0”,

creating numerical entries for gender this way will help you do analysis further. You can use the “Replace with match entire cell content” option. Do a replace all to save time.

ANS: From the given data replace all the “Males” in to “1”, ”Female” in to “0”. Using if condition as=IF (A2= ”male”,1,0).

The entire gender will change.

1. Smoker: Replace all the “Smokers” with “1” and “Non-smokers” with “0”.

From the given source replaces the values of “smokers” with “1”.”Non- smokers” with “0”,By using IF condition we will change into it .

1. Region: We always create one less category column for the dummy data w.r.t the categories available for that original variable. So for Region, we will create three dummy columns, assuming “Northeast” as zero and omit the column for it. Now create three columns for “northwest”, “Southeast”, “Southwest”. Whichever row has “northwest” region as an entry will take “1” as an entry otherwise “0” in “northwest” column. Similarly -in the “Southeast” column, whichever row had “southeast” as an entry will take “1” as the new entry and “0” for the rest of the column (Southeast). Do a similar operation on the

“Southwest” column. Please refer to the below image for your understanding?

From the given data of category column. Southwest, northwest,

Southeast are replaced with “1” in individual manner. Other regions are represented by “0”.

3. Do a descriptive summary analysis for the edited data. Perform a Multiple Linear Regression analysis to identify which variables decide the insurance charges/billed insurance claim. Give your interpretation for the above analysis, do another set of regression analysis by dropping insignificant variables, if needed.

(i) from the given data source we went to change all the character into numerical values by using IF condition . after that we went to find the Descriptive statistics by using Data analysis Source. so that we can enable the functional of the descriptive process.

(ii) By descriptive summary output regression for insurance charges ($). With the same IF () condition. after that we want to find the descriptive statistics by using the data analysis, regression process have been made with the x range as Age ,sex, BMI, children, smokers, southwest, northwest ,southeast, with charges

as Y range coefficient , P value , significant so on with Absolute value.

(iii) in this regression process the x range will be Age, sex, BMI, Children, smokers, southwest, southeast and the y range will be charges ($). By using analysis and click the regression process we will obtain the values.

THANK YOU .

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| A person standing in front of a brick wall with notes |
| Figure 1 |

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| Bar graph with upward trend BUSINESS  PRIORITIES   * Increase customer satisfaction by 2% * Maintain growth  List ADDED  PRIORITIES   * Improve social media presence * Ensure the cost of development stays below budget  Group brainstorm EMPLOYEE OPPORTUNITIES   * Interns begin * Indoor rec leagues * Chess tournaments |  | Goals for Q2 |
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