|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **1** | What percentage of the bank’s customers (according to the data) have availed Personal Loans? | | | | | |
|  | 9.6 | percentage |  |  |  |  |
|  |  |  |  |  |  |  |
| **2** | Generate a table with min, max, median & average for all numeric variables (age, experience, | | | | | |
|  | income, family members, CCAvg, Mortgage). What are your observations? | | | | |  |
|  |  |  |  |  |  |  |
|  |  | **Column Labels** |  |  |  |  |
|  | **Values** | **Average** | **Max** | **Median** | **Min** | **Grand Total** |
|  | Sum of Age (in years) | 45.3384 | 67 | 45 | 23 | 180.3384 |
|  | Sum of Experience (in years) | 20.1348 | 43 | 20 | 0 | 83.1348 |
|  | Sum of Income (in K/year) | 73.7742 | 224 | 64 | 8 | 369.7742 |
|  | Sum of Family members | 2.397230028 | 4 | 2 | 1 | 9.397230028 |
|  | Sum of CCAvg | 1.937938 | 10 | 1.5 | 0 | 13.437938 |
|  | Sum of Mortgage | 56.4988 | 635 | 0 | 0 | 691.4988 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **3** | Create a new categorical variable for Experience using 4 categories – | | | | |  |
|  | a. 0 to 10 years |  |  |  |  |  |
|  | b. 11 to 20 years |  |  | | | |
|  | c. 21 to 30 years and |  |
|  | d. 30+ years. |  |
|  |  |  |
|  | **Experience** | **Sum of No of people** |
|  | 0-10 | 1289 |
|  | 11 to 20 | 1253 |
|  | 21 to 30 | 1301 |
|  | 30+ | 1157 |
|  | **Grand Total** | **5000** |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **4** | Create a scatter plot of the Age and the Experience variable. What do you observe? | | | | |  |
|  |  |  |  |  |  |  |
| |  | | --- | |  | |  |  |  |  |  |  |
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| **5** | What are the top 3 areas (ZIP Codes) where the bank’s customers are located? | | | | |  |
|  |  |  |  |  |  |  |
|  | **Row Labels** | **Sum of Family members** |  |  |  |  |
| Top 1 | 94720 | 400 |  |  |  |  |
| Top 2 | 94305 | 327 |  |  |  |  |
| Top 3 | 95616 | 309 |  |  |  |  |
| Rest of hidden data | |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **6** | How many customers have a combination of Fixed Deposits and Credit Cards but not Personal Loan? | | | | | |
|  |  |  |  |  |  |  |
|  | **147** |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **7** | What is the median income of the customers who have availed personal loans and compare | | | | | |
|  | it with the median income of those customers who have not availed personal loans? What do | | | | | |
|  | you infer? |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | Median income of the customers who have availed personal loans | | | | | 142.5 |
|  | median income of those customers who have not availed personal loans | | | | | 59 |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
| **8** | Create 4 separate Pivot Tables. Summarise your data by percentages. | | | | |  |
|  | · Education vs Personal Loan | |  |  |  |  |
|  | · TD Account Vs Personal Loan | |  |  |  |  |
|  | · Online vs Personal Loan  ·Income categorical vs Personal Loan | |  |  |  |  |
|  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |
|  | **Count of Personal Loan** | **Column Labels** |  |  |  |  |
|  | **Education** | **No** | **Yes** | **Grand Total** |  |  |
|  | Graduate | 24.42% | 3.64% | 28.06% |  |  |
|  | Professional | 25.92% | 4.10% | 30.02% |  |  |
|  | Undergraduate | 40.06% | 1.86% | 41.92% |  |  |
|  |  |  |  |  |  |  |
|  | **Count of Personal Loan** | **Column Labels** |  |  |  |  |
|  | **TD Acc** | **No** | **Yes** | **Grand Total** |  |  |
|  | No | 87.16% | 6.80% | 93.96% |  |  |
|  | Yes | 3.24% | 2.80% | 6.04% |  |  |
|  |  |  |  |  |  |  |
|  | **Count of Personal Loan** | **Column Labels** |  |  |  |  |
|  | **Online Loan** | **No** | **Yes** | **Grand Total** |  |  |
|  | No | 36.54% | 3.78% | 40.32% |  |  |
|  | Yes | 53.86% | 5.82% | 59.68% |  |  |
|  |  |  |  |  |  |  |
|  | **Count of Personal Loan** | **Column Labels** |  |  |  |  |
|  | **Income Categorical** | **No** | **Yes** | **Grand Total** |  |  |
|  | 0-50 | 38.28% | 0.00% | 38.28% |  |  |
|  | 100+ | 15.48% | 8.76% | 24.24% |  |  |
|  | 51-100 | 36.64% | 0.84% | 37.48% |  |  |
|  |  |  |  |  |  |  |
| **9** | Analyse the Pivot tables created in the previous question and state any anomaly that you | | | | | |
|  | observe. Which categorical variables appear most important for your further study if you | | | | | |
|  | want to analyse which customers are most likely to take personal loans and why? | | | | |  |
|  |  |  |  |  |  |  |
|  | 1 | categorical variables which appear most important for further study are | | | | |
|  |  | Education |  |  |  |  |
|  |  | Online |  |  |  |  |
|  |  | Income categorical | |  |  |  |
|  |  | TD Acc |  |  |  |  |
|  |  |  |  |  |  |  |
|  | 2 | analysis which customers are most likely to take personal loans | | | |  |
|  |  | Education Loan |  |  |  |  |
|  |  | online Loan |  |  |  |  |
|  |  |  |  |  |  |  |
|  | 3 | why? |  |  |  |  |
|  |  | Need of money with some assurance and monthly repaying adding interest upon that, and people in general are in need of certain amount which is huge.  And such procedures benefits the both. | | | |  |
|  |  |  |  |  |  |  |
| **10** | In the last campaign, bank reached out to 5000 customers out of which 480 customers | | | | | |
|  | accepted the personal loan offer. The bank incurred a huge cost in running a marketing | | | | | |
|  | campaign to reach out to so many customers. This is where you as a strategic business | | | | | |
|  | consultant step in. You are tasked to optimise the cost of this campaign by identifying the | | | | | |
|  | correct target base (without significant reduction in number of acceptance of offers). The | | | | | |
|  | bank can then send Personal Loan offers to these target customers who have a higher chance | | | | | |
|  | of accepting the offer. Based on your analysis, what strategy would you suggest to the | | | | | |
|  | management of HBFC bank? | |  |  |  |  |
|  |  |  |  |  |  |  |
|  | personal loans | Education loan | online loan | income categorical | |  |
|  |  |  |  |  |  |  |
|  | As of the current analysis from the above data provided by HDFC banking’s state that, | | | | |  |
|  | there is 9.60% demand for Personal loans out of 100%. | | | | |  |
|  | And higher chance to avail/accept offer through campaigns. | | | | |  |
|  | Campaigns can be executed in a optimised way by the digital publicity like social media promotion or advertisement. | | | | |  |
|  |  |  |  |  |  |  |