Business Report

HBFC Bank

Q.1. What percentage of the bank’s customers (according to the data) have availed Personal Loans?

=> =COUNTIF(A2:A481,"Yes")/5000

Total Bank Customer = 5000

Total Bank Customer who availed Personal Loans = 480

Percentage of customer who availed Personal Loans = 9.6%

Q.2. Generate a table with min, max, median & average for all numeric variables (age, experience, income, family members, CCAvg, Mortgage). What are your observations?

=>

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Data | Age (in years) | Experience (in years) | Income (in K/year) | Family members | CCAvg | Mortgage |
| Min. | 23 | 0 | 8 | 1 | 0 | 0 |
| Max. | 67 | 43 | 224 | 4 | 10 | 635 |
| Mean | 45.3384 | 20.1348 | 73.7742 | 2.397230028 | 1.937938 | 56.4988 |
| Median | 45 | 20 | 64 | 2 | 1.5 | 0 |

* According to data the customer have minimum age 23 and maximum age 67.
* Customer have average age approx. 45.
* Customer have maximum 43 years of Experience and average 20 years.
* Customer have Starting salary from 8k and get highest salary 224k according working Experience. And have average salary is 64k.
* According to ages family member are increase customer have highest family member is 4 and average 2.
* Customer have Avg. spending on credit cards per month 1.5k and maximum is 10k.
* Customer have Mortgage value Maximum 635k and most of have no mortgage value, some have average 56.5k Mortgage value.

Q.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.

Plot a bar graph for this new categorical variable [Hint – You may make use of if else/nested if statements to accomplish this tasks. You can refer how Income\_Category has been created in the dataset]

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Experience (0-10) | Experience (11-20) | Experience (21-30) | Experience (30+) |
| No. of Empl. | 1289 | 1253 | 1301 | 1157 |

Q.4. Create a scatter plot of the Age and the Experience variable. What do you observe?

* I observe that while increasing in ages experience are also increase.

Q.5. What are the top 3 areas (ZIP Codes) where the bank’s customers are located?

|  |  |  |
| --- | --- | --- |
| S.No. | ZIP Code | No. of count |
| 1 | 94720 | 169 |
| 2 | 94305 | 127 |
| 3 | 95616 | 116 |

Q.6. How many customers have a combination of Fixed Deposits and Credit Cards but not Personal Loan?

=> 147 Customer have TD account and credit card but not personal loan.

=IF(AND(A2="No",B2="Yes",C2="Yes"),1,0)

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?

|  |  |
| --- | --- |
| Personal Loan | Median Income |
| Yes | 142.5 |
| No | 59 |

* Customer who availed personal loans have median salary is 142.5k.
* Customer who not availed personal loans have median salary is 59k

(Note):- According to my observation those client have high salary are more interested to take loan.

Q.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\_Category vs Personal Loan

[Hint: Please drag Personal Loan to the Columns area while creating the Pivot Table to get the required values]

1. Education vs Personal Loan =

|  |  |  |  |
| --- | --- | --- | --- |
| **Count of Education** | **Column Labels** |  |  |
| **Row Labels** | **No** | **Yes** | **Grand Total** |
| Graduate | 27.01% | 37.92% | 28.06% |
| Professional | 28.67% | 42.71% | 30.02% |
| Undergraduate | 44.31% | 19.38% | 41.92% |
| **Grand Total** | **100.00%** | **100.00%** | **100.00%** |

2. TD Account Vs Personal Loan =

|  |  |  |  |
| --- | --- | --- | --- |
| **Count of TD Account** | **Column Labels** |  |  |
| **Row Labels** | **No** | **Yes** | **Grand Total** |
| No | 96.42% | 70.83% | 93.96% |
| Yes | 3.58% | 29.17% | 6.04% |
| **Grand Total** | **100.00%** | **100.00%** | **100.00%** |

3. Online vs Personal Loan =

|  |  |  |  |
| --- | --- | --- | --- |
| **Count of Online** | **Column Labels** |  |  |
| **Row Labels** | **No** | **Yes** | **Grand Total** |
| No | 40.42% | 39.38% | 40.32% |
| Yes | 59.58% | 60.63% | 59.68% |
| **Grand Total** | **100.00%** | **100.00%** | **100.00%** |

4. Income\_Category vs Personal Loan =

|  |  |  |  |
| --- | --- | --- | --- |
| **Count of Income Categorical** | **Column Labels** |  |  |
| **Row Labels** | **No** | **Yes** | **Grand Total** |
| 0-50 | 42.35% | 0.00% | 38.28% |
| 100+ | 17.12% | 91.25% | 24.24% |
| 51-100 | 40.53% | 8.75% | 37.48% |
| **Grand Total** | **100.00%** | **100.00%** | **100.00%** |

Q.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?

=> \* Online customer have maximum chance to take personal loan because according to analysis they have higher value.

\* In online loan customer have no extra movement from one place to another they will easily get loan from bank.

Q.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?

=> \* If bank will gave offer to his customer to pay interest accordingly to his salary so there is more chance that customer will try to take loan.

\* If bank will focus on those customer who have salary more than or equal to 100k there will be maximum chance the customer will take loan.

\* We already see above that those customer have to much high salary they have more mortgage value.

\* If bank will focus more on professional and Graduate customer then bank have higher chance that customer will take loan.