A pie chart on a piece of paper

Description automatically generated

FINANCIAL DATA ANALYSIS

HBFC BANK

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What percentage of the bank’s customers (according to the data) have availed Personal Loans vs the ones who have not availed it?

According to data 9.6% of the bank’s customers have availed Personal Loan.

I have used pivot table to get this value in table I’ve put Personal Loan in rows and then used the count function to count the values, then I’ve converted them in row total percentage.

Generate a table with min, max, median & average for all numeric variables (age, experience, income, family members, CCAvg, Mortgage)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | Min | Max | Median | Average |
| Age | 23 | 67 | 45 | 45.338 |
| Experience | 0 | 43 | 20 | 20.135 |
| Income | 8 | 224 | 64 | 73.774 |
| Family Members | 1 | 4 | 2 | 2.396 |
| CCAvg | 0 | 10 | 1.5 | 1.938 |
| Mortgage | 0 | 635 | 0 | 56.499 |

Create a new categorical variable for Experience using 4 categories –

• 0 to 10 years

• 11 to 20 years

• 21 to 30 years

• 30+ years.

Plot a bar graph for this new categorical variable

|  |  |
| --- | --- |
| **Age Category** | **Count of Age Category** |
| 21-30 | 624 |
| 30+ | 4376 |

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

I’ve used Age and Experience column to get the result

Between Age and Experience the corelation is 0.9%

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

|  |  |
| --- | --- |
| **Zip Code** | **Count of ZIP Code** |
| 94720 | 169 |
| 94305 | 127 |
| 95616 | 116 |

These are the top 3 Zip codes where most of the bank’s customer are located.

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

In this we have used Personal Loan, TD Account and Credit Card column

=COUNTIFS(HBFC[TD Account],"Yes",HBFC[CreditCard],"Yes",HBFC[Personal Loan],"No")

With the help of the above formula, we got the required results.

There are 147 customers have a combination of Fixed Deposits and Credit card but not Personal Loan.

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** |
| No | 59 |
| Yes | 142.5 |
| **Grand Total** | **64** |

In this we have calculated median in pivot table with the help of ribbon toolbar measures.

Create 4 separate Pivot Tables. Summarize your data by percentage values.

• Education vs Personal Loan

|  |  |  |
| --- | --- | --- |
| **Count of Personal Loan** |  |  |
| **Education** | **No** | **Yes** |
| Graduate | 87.03% | 12.97% |
| Professional | 86.34% | 13.66% |
| Undergraduate | 95.56% | 4.44% |

• TD Account Vs Personal Loan

|  |  |  |
| --- | --- | --- |
| **Count of Personal Loan** |  |  |
| **TD Account** | **No** | **Yes** |
| No | 92.76% | 7.24% |
| Yes | 53.64% | 46.36% |

• Online vs Personal Loan

|  |  |  |
| --- | --- | --- |
| **Count of Personal Loan** |  |  |
| **Online** | **No** | **Yes** |
| No | 90.63% | 9.38% |
| Yes | 90.25% | 9.75% |

• Income Category vs Personal Loan

|  |  |  |
| --- | --- | --- |
| **Count of Personal Loan** |  |  |
| **Income Category** | **No** | **Yes** |
| 0-50 | 100.00% | 0.00% |
| 100+ | 63.86% | 36.14% |
| 51-100 | 97.76% | 2.24% |

In these tables after getting the values I’ve converted them in row total percentage to get the desired results

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?

As per the analysis done till now it can be observed that the people with more income and Term Deposit accounts are more likely to avail the personal loans.

So, I suggest HBFC management to target this specific range of customers to increase the throughput of loan policies.

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 optimize the cost of this campaign by identifying the correct target base (without significant reduction in number of acceptances 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?

According to the analysis I can observe that people having higher income are ones availing more of the personal loans, so bank should target the people with higher income and having term deposits.

From the pivot tables we can conclude that customer ratio (who avail loans) can be increased up to 40% which is around 10% right now by targeting the mentioned customers.