

## **Round 1 – Problem Statement – CIBIL Finesse**

iBank is an established bank operating in the major cities in India. It was looking to expand retail banking solutions in newer cities. Accordingly, the bank conducted research and decided on 6 new cities. Rahul, head of strategy took the responsibility to devise a strategy to enter these 6 cities. He identified housing loans as one of the key product after studying the credit outlook of these cities and allocated a capital fund of INR 500 Crores to be used for financing of housing loans.

Market study of the housing loan sector was used to estimate the percentage of population expected to apply for loans in the next one year. The details of the same for each of the 6 cities is given in **Exhibit 1**.

The bank considers various factors before deciding whether to sanction a loan. One of the primary factors is credit rating of the customer from a leading rating agency to assess the default risk. This is also used to determine the interest rate that is offered to the customer on the loan. **Exhibit 2** gives the average interest rate charged by competitors for different credit score range.

The customers are very sensitive to the interest rate that a bank is charging on loans. The higher the interest rate, the lesser will be the customers opting for loans with iBank. Specifically, every 10 bps increase in interest rate (compared to the average interest rate) results in 200 bps decrease in customer share. Similarly, every 10 bps decrease in interest rate results in a 200 bps increase in customer share. (1 bps = 0.01%)

Rahul estimates the market share that the bank can get in each credit category of a city, by offering the prevailing average interest rates, is 20%.

Further, **Exhibit 3** gives the probability of bad loans for each credit score range. This is used to estimate the amount of loans that will not be recovered.

Assist Rahul in deciding the capital fund allocation among the 6 cities for each of the credit score ranges to maximize the total revenue (after deducting bad loans write-offs). **Exhibit 4** provides details of proportion of customers across credit score ranges for each city.

**The final submission link is available [here](#)**

Important Information:

- 1) Assume that the bank is giving housing loans of INR 5 lakh only
- 2) Assume amount written-off on bad loans is 40% of the principal and no interest is received on the loans written-off
- 3) To have a diversified loan portfolio the bank has put a cap on the maximum amount that can be allocated to each city at INR 125 crores. In addition, the cap for each credit score range is also set at INR 125 crores

- 4) Assume that the % of population looking for housing loans in each city is spread across credit score ranges in the ratio given in Exhibit 4

**Annexure**

*(Same as tables provided in the enclosed excel sheet)*

**Exhibit 1:** The 6 cities and their housing loan market

Cities	Population (Nos.)	% of population looking for housing loan
A	83,200	4.5
B	1,59,200	3.3
C	3,00,800	5.2
D	1,37,600	3.6
E	2,40,000	4.8
F	1,80,800	6.2

**Exhibit 2:** Average interest rates based on credit score range

Credit Score	Rate of Interest (p.a.)
>= 750	9%
650-750	10%
550-650	11%
<=550	12%

**Exhibit 3:** Probability of bad loans based on credit score range

Credit Score	Probability
>=750	0
650-750	0.05
550-650	0.10
<=550	0.15

**Exhibit 4:** Proportion of customers in each Credit score range  
(as % of total customers looking for housing loan)

Cities	>=750	650-750	550-650	<=550
A	50	30	15	5
B	50	40	10	0
C	30	45	20	5
D	35	30	25	10
E	40	25	25	10
F	45	40	15	0

### **General guidelines:**

- There are 6 cities and 4 credit score ranges in each city. For the decision variables following is required to be provided:
  - Loan amount of INR 500 crores to be fixed for each of these 24 categories
  - Interest rates for each of the 4 credit score ranges
- Please take care of including interest rate sensitivity (as mentioned in this problem statement) in deciding your final allocation.
- Teams are required to upload the participant CVs at <http://iiml-manfestvarchasva.com/2015/content/finesse-cv-submission> before filing the Google form
- Submissions will be evaluated based on the revenue generated as per the given allocation provided participants' strict adherence to the constraints and time deadline. In case of a tie, the team with an earlier submission will be considered.
- In case of critical issues, send a private message to the FB page of IIM Lucknow's Manfest-Varchasva (<https://www.facebook.com/ManfestVarchasva>) or contact any of the following persons:
  - Preetham - +91 888 498 8799
  - Vivek - +91 992 045 7679
  - Praveen - +91 960 008 6168
- There might a requirement for MS-Excel Solver function. Participants are advised to ensure that the function is added in MS-Excel.

### **Instructions for adding solver function to MS-Excel:**

1. Click the File tab, and then click Options.
  - For Excel 2007, click the Microsoft Office Button and then click Excel Options.
2. Click Add-Ins, and then in the Manage box, select Excel Add-ins.
3. Click Go.
4. In the Add-Ins, select the Solver Add-in check box, and then click OK.
  - If Solver Add-in is not listed in the Add-Ins available box, click Browse to locate the add-in.
  - If you get prompted that the Solver add-in is not currently installed on your computer, click Yes to install it.
5. After you load the Solver add-in, the Solver command is available in the Analysis group on the Data tab.