**INVESCO TRADING CHALLENGE**

**Goal:** In the month of 2017 / 01, given an UAID, UIID, Find out whether the mutual fund will be purchased or redeemed.(Also find the probability with which the mutual fund will be sold)

**Method:** In the table of transactions, for example we know that in 2016 / 01 , UAID=1000103 purchased the mutual fund of UIID=20058.

His purchase of the Investment with UIID=20058 may depend on:

1. In the month before, i.e 2015 / 12 , The type of transactions done by UAID=1000103. ( His purchase of 2016 / 01 will depend on what kinds of transactions he did in 2015 / 12 only)

Ex: In the month 2015 / 12 , UAID=1000103 had done 3 transactions of Type 13. He did not do transactions of any other type. The O/P for this is that he Purchased i.e **P.**

1. In the month of 2015 / 12, The number of shares of UIID = 20058 and Value of these Shares(AUM) that UAID=1000103 had. Whether UAID=1000103 will buy UIID=200058 in 2016 / 01 will depend on how many shares of UIID=200058 and value of shares(AUM) he had in 2015 / 12.

Ex: In 2015 / 12 : UAID=1000103 had 0 shares and 0 AUM of UIID=200058. Which can be a reason why he bought it in 2016 / 01.

1. Buying of an UIID=200058 in 2016 / 01 will depend on the rating of the UIID in the month of 2015 /12 . Given all the rating ( rating , 1 yr rating, 3 yr rating etc) of the UIID O/P is whether he bought the UIID or not in 2016 / 01.
2. Buying the UIID=200058 by UAID=100058 in 2016/01 depends on the where he bought the UIID( Geographical Location etc) in the same month(2016 / 01) . Like this, all other codes values of that month only) will determine whether UAID=1000103 will buy UIID=20058 in 2016 / 01.

These attributes are categorical variables, they are used to tell things apart only.

We have to create a full dataset for all the transactions already available in Transaction table for all the months available.

The table will be like:

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| UAID | UIID | AT11 | | AT13 | .. | |  | | #Shares(prev month) | | | #AUM(prev month) | Rating(prev month) | .. | NetFlows(prev month) | Geo region | | o/p |
| 100058 | 20058 | 0 | 3 | | |  | |  | | 0 | 0 | | 1 |  | 3.4 \* e09 | 1 | P | |

Create this table for all combinations of UAID , UIID with the O/P known as we know the data till 2016 / 12.

The relative weightages of each attribute in contributing to the final result(P/R) will change from 1 person to the other.

So we need to create weightages for each UAID separately( because for one advisor, attribute 1 YR rating may mean a lot but not for the other advisor).

So, in the required final o/p , when they give the UAID and UIID combination, we will generate the full table values for them using prev month ( 2016 / 12 ) values and based on their weightages for different attributes we can calculate the final score based on which we can decide they will sell or not.

Note:

We do not have 2017 / 01 values for code1 , code2 , etc. That will be I/P by him. We, through our training will be able to decide the weightage assigned to those attributes.