![TVS CREDIT logo]

TVS Credit – Empowering India.One Indian at a Time

From the largest cities to the smallest villages, India is filled with ambition and enterprise. As Indians from all walks of life set out to write their growth story, our timely and affordable credit empowers them to bring their dreams alive.

As part of the $8.5 billion TVS Group, we empower Indians from various socio-economic backgrounds with financial products that serve their needs. In doing so, we further the cause of financial inclusion.

Our two wheeler, used car, three wheeler, and tractor loans are designed for Indians in small towns and the rural heartland, for our nation's growth is powered by their prosperity. Our foray into the used commercial vehicle and consumer durable finance is yet another step in this direction.

With over 5 million customers and a long-term CRISIL rating of AA-, our growth is built on firm foundations. We have won several awards, including the Flame Award for Excellence in Rural Marketing, The Best BFSI Company Award at the ET Now Makers of Developed India Awards 2018, and the Most Effective Employee Engagement Strategy Award at the World HRD Congress.

Key Facts:

Began Operations in 2010

RBI Licensed (2010)

AA- by CRISIL for Long Term Loans A+ by CRISIL & ICRA for Short Term Debt

ISO 9001:2015 ISMS 27001:2013 certification

Products:

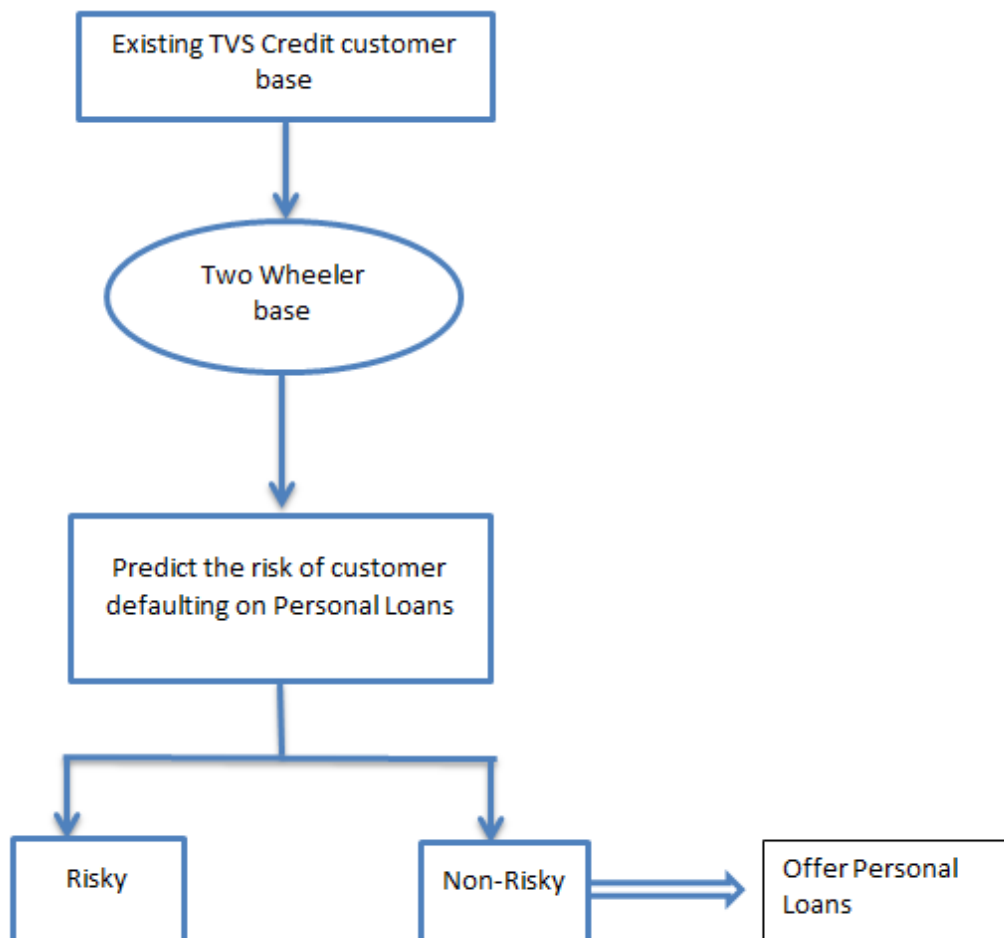| Two Wheeler Loans | Used Car Loans | Tractor Loans | Used Commercial Vehicle Loans | Three Wheeler Loans | Business Loans | Consumer Loans |

Analytics Case Study-Cross Sell Personal Loan Risk Assessment

TVS Credit is the captive financier of TVS Motor. We provide loans to customers buying two wheelers from TVS Motor dealerships across the country. Over the years we have built a huge base of two wheeler customers. Gradually, we also diversified into other products such as Used Car loans, Tractor loans, Consumer durable loans etc.

Through research, the business team identified a key customer need gap. A customer at times is in urgent need for money for their personal use and there exist a huge untapped need for personal loans. So the business has decided to leverage the existing two wheeler customer base to cross sell Personal Loans.

However, Personal Loan product is an unsecured loan therefore it is vital to assess the risk of the customers by checking their credit worthiness. This must be done to prevent loan defaults.

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┌─────────────────────────────┐
│  Existing TVS Credit customer│
│             base             │
└─────────────────────────────┘
              │
              ▼
        ╭───────────╮
        │Two Wheeler│
        │   base    │
        ╰───────────╯
              │
              ▼
┌─────────────────────────────┐
│  Predict the risk of customer│
│  defaulting on Personal Loans│
└─────────────────────────────┘
         │              │
         ▼              ▼
    ┌────────┐     ┌──────────┐      ┌──────────────┐
    │ Risky  │     │Non-Risky │ ───▶ │Offer Personal│
    │        │     │          │      │    Loans      │
    └────────┘     └──────────┘      └──────────────┘
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Hence, the objective of the case study is to build a Risk model which will assess the risk of a customer defaulting after cross-selling the Personal Loan.

To build this model, a variety of features are provided to you which includes:
- The existing loan history (EMI amount, loan amount, tenure etc.)
- Customer's demographic details
- Customer's loan details and repayment track outside TVS Credit.

Data Dictionary

Feature	Feature Definition
V1	Customer ID
V2	If a customer has bounced in first EMI (1 : Bounced, 0 : Not bounced)
V3	Number of times bounced in recent 12 months
V4	Maximum MOB (Month of business with TVS Credit)
V5	Number of times bounced while repaying the loan
V6	EMI
V7	Loan amount
V8	Tenure
V9	Dealer codes from where customer has purchased the Two wheeler
V10	Product code of Two wheeler (MC : Motorcycle , MO : Moped, SC : Scooter)
V11	No of advance EMI paid
V12	Rate of interest
V13	Gender (Male/Female)
V14	Employment type (HOUSEWIFE : housewife, SELF : Self-employed, SAL : Salaried, PENS : Pensioner, STUDENT : Student)
V15	Resident type of customer
V16	Date of birth
V17	Age at which customer has taken the loan

V18	Number of loans
V19	Number of secured loans
V20	Number of unsecured loans
V21	Maximum amount sanctioned in the Live loans
V22	Number of new loans in last 3 months
V23	Total sanctioned amount in the secured Loans which are Live
V24	Total sanctioned amount in the unsecured Loans which are Live
V25	Maximum amount sanctioned for any Two wheeler loan
V26	Time since last Personal loan taken (in months)
V27	Time since first consumer durables loan taken (in months)
V28	Number of times 30 days past due in last 6 months
V29	Number of times 60 days past due in last 6 months
V30	Number of times 90 days past due in last 3 months
V31	Tier ; (Customer's geographical location)
V32	Target variable (1: Defaulters / 0: Non-Defaulters)

- Features from V2 : V12 : Customer's existing loan details
- Features from V13 : V17, V19 : Customer's demographic details
- Features from V18 : V30 : Customer's loan details and repayment track outside TVS Credit

Deliverables

- The solution will be judged on the basis of understanding the problem statement, creativity/approach towards the problem, feature selection, algorithm used, model performance & recommendations
- Deliverable-A zip file containing
  - o Case study solution submitted in format of a PowerPoint presentation with maximum of 10 slides