UNDERSTANDING CREDIT SCORE ALGORITHMS

MAHEK | HRITHIK | ARYA | PIYUSH

TEAM CODE : F5

MENTOR - MADHAV GUPTA

CONTENT

CHOOSING YOUR FIRST CREDIT CARD

- A crucial first step in building a solid credit history is selecting your credit card

- The following factors should be considered :

  - Research which credit card matches your buying preferences

  - Low credit limit

  - Fees and Interest Rates

  - Benefits and Incentives

- Consistently using credit cards responsibly may create a favourable credit history over time, raising credit scores and improving future lending prospects

- By carefully selecting your first credit card and using it sensibly, you may put yourself on the road to establishing a solid credit score, which in the long term opens doors to numerous financial prospects
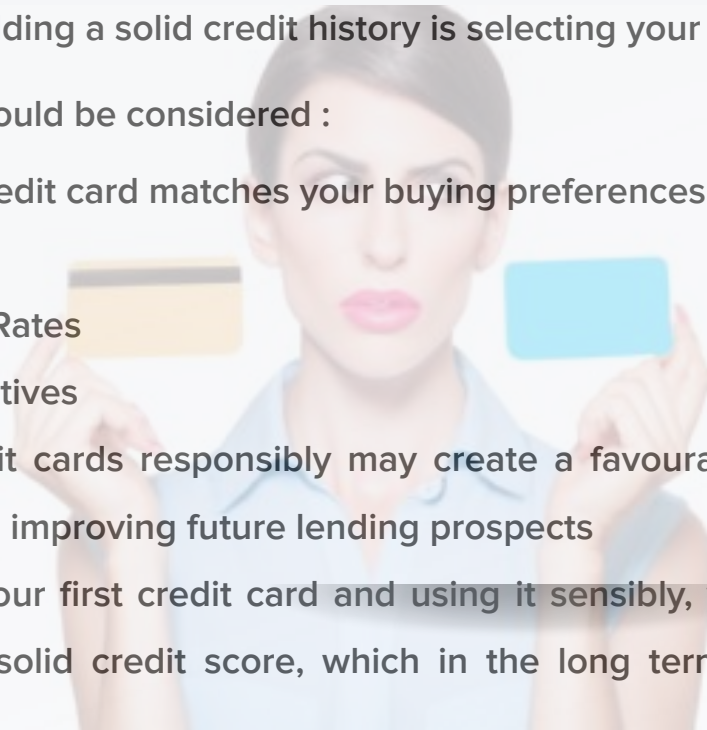
WHAT ARE CREDIT SCORES ?

- Credit scores are numerical summaries of a person's credit history and creditworthiness
- Credit scores are essential in deciding loan approvals, interest rates, and credit limitations since they aid lenders in calculating the risk of providing money to a certain person
- Higher credit scores in India indicate reduced credit risk; they are often stated as a three-digit number
- Generally a credit score ranges from 300-850

FACTORS AFFECTING CREDIT SCORES IN INDIA

- **Payment History(35%) :** Your payment history carries the most weight in factors that affect your credit score, because it reveals whether you have a history of repaying funds that are loaned to you

- **Credit Utilisation ratio(30%) :** Measures how much debt you have compared to your available credit limits

- **Credit History(10%) :** Creditors like to see how long you have been using credit. For how many years have you had obligations? How old is your oldest account? What is the average age of all your accounts?

- **New Credit(10%) :** How many new accounts you have. It factors in accounts you have applied for recently and considers the last time you opened a new account

- **Types of Credit in Use (10%) :** Whether you have a mix of different types of credit, such as credit cards, store accounts, instalment loans, and mortgages. It also looks at how many total accounts you have

COMPANIES CALCULATING CREDIT SCORES IN INDIA

Overview of the major credit rating companies in India:

- **CIBIL (Credit Information Bureau (India) Limited):** One of the leading providers of credit ratings for individuals and corporations

- **Equifax:** A multinational credit information provider with operations in India, offering credit scores and reports

- **Experian:** A significant provider of credit information and services in India, including credit ratings

- **CRIF High Mark:** A credit agency that computes credit ratings and provides credit-related services to customers and lenders
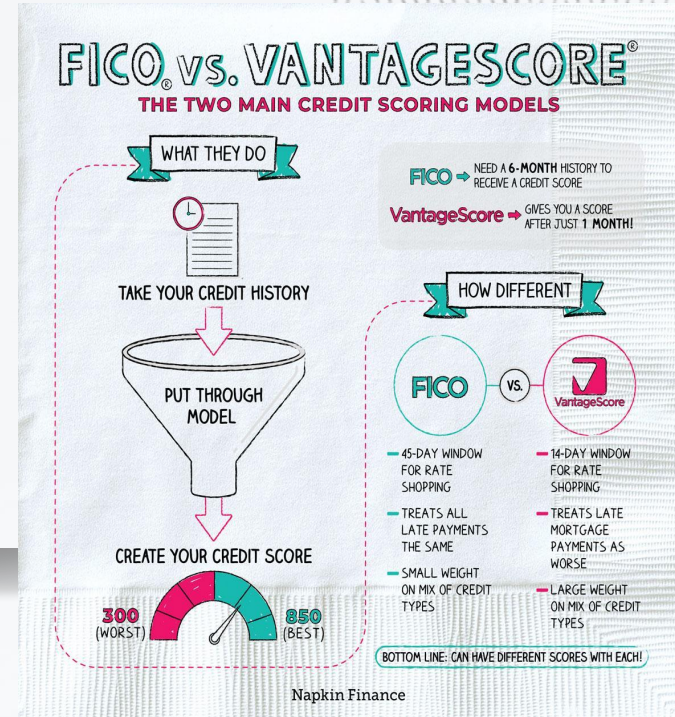
TYPES OF CREDIT SCORING MODELS

- There are two major credit scoring companies—FICO and VantageScore—each with its own scoring models

- **FICO Scoring Model:** The FICO scoring model is considered the most reliable because it has the best track record. The "classic" FICO scoring model gives consumers a number between 300 and 850. A score under 600 is considered poor. A score above 740 is considered excellent. In between is considered average to above average.

- There are five factors that mostly influence a "classic" FICO score and help to define your credit score:

  1) Payment history

  2) Credit utilization,

  3) Credit history

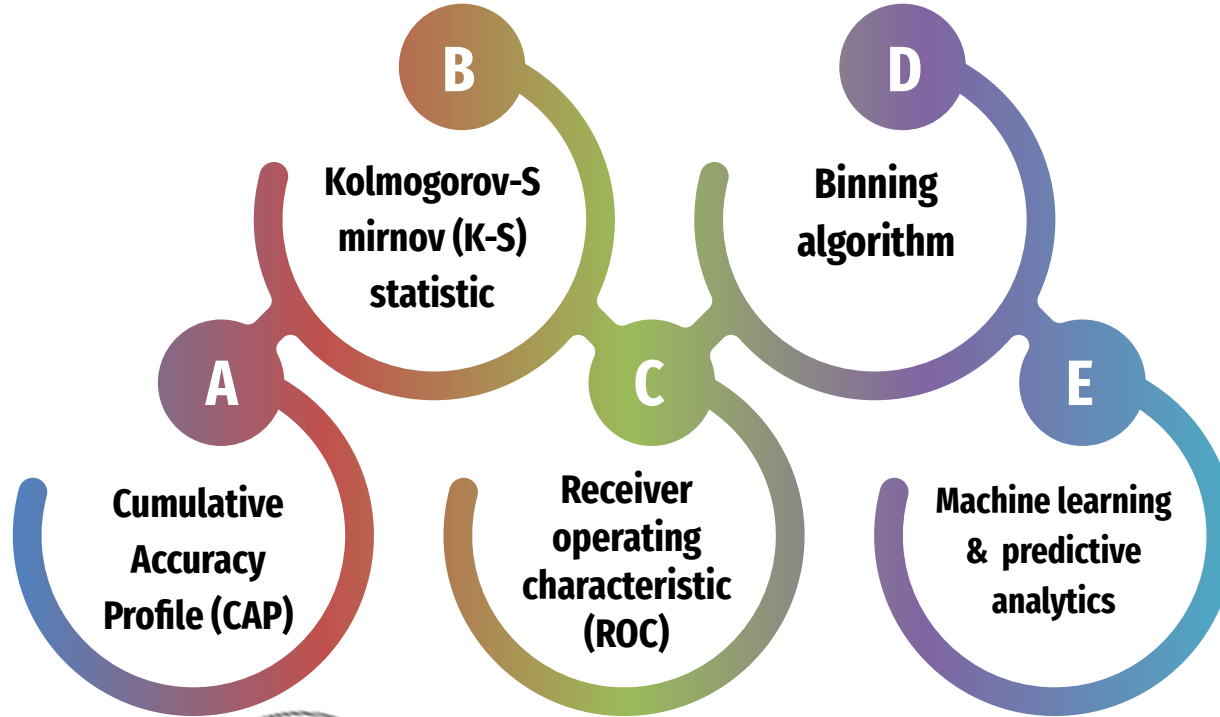 4) Types of credit

  5) New credit

TYPES OF CREDIT SCORING MODELS

The **VantageScore model** looks at familiar data — things like paying on time, keeping credit card balances low, avoiding new credit obligations, bank accounts and other assets — to calculate its score. The major factors VantageScore factors depend upon are :

- **Payment History (40%)**
- **Age And Type Of Credit (21%)**
- **Credit Utilisation (20%)**
- **Total Balances (11%)**
- **Recent Behaviour (5%)**
- **Available Credit (3%)**

Techniques Used To Create And Validate Credit Scoring Models

B Kolmogorov-Smirnov (K-S) statistic

D Binning algorithm

A Cumulative Accuracy Profile (CAP)

C Receiver operating characteristic (ROC)

E Machine learning & predictive analytics

Role Of AI And Machine Learning In Credit Scoring

Integration of AI and ML into credit scoring has transformed the lending industry.AI and ML credit scoring models evaluate credit risk more accurately and efficiently. These models leverage vast amounts of data and advanced algorithms.

Benefits of AI and ML Credit Scoring include:
- Improved accuracy
- Expanded access to credit
- Increased efficiency

Challenges of AI and ML Credit Scoring

Data privacy & security

Data privacy and security are critical concerns. Lenders must ensure that they are collecting and using data in compliance with applicable laws and regulations,

Bias and discrimination

AI and ML algorithms are only as good as the data they are trained on, and if that data is biassed, the algorithms can perpetuate that bias.

Explainability

AI and ML algorithms can be complex and difficult to interpret, which can make it challenging for lenders to explain their lending decisions to borrowers.

BIAS IN CREDIT SCORING MODELS

Banks and lenders are using artificial intelligence (AI) to develop credit-scoring models.Concerns have been raised about hidden biases in these models against disadvantaged communities.

The accuracy of the underlying data, particularly for those with limited credit histories, have created hidden biases in credit-scoring models

ACCURACY DISPARITIES ON LIMITED DATA

By improving the quality and diversity of credit data, accurate results and less bias can be reached.

DATA QUALITY AND DIVERSITY

Approving loans to individuals with low relative credit scores and observing their repayment behaviour can help reduce disparities against disadvantaged communities.

EXPERIMENTING WITH CREDIT APPROVALS
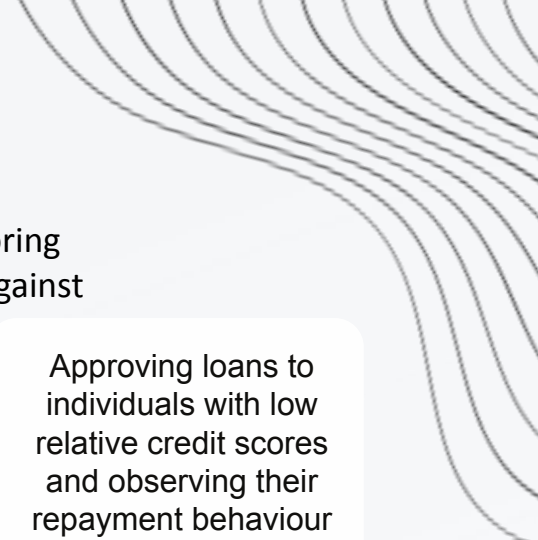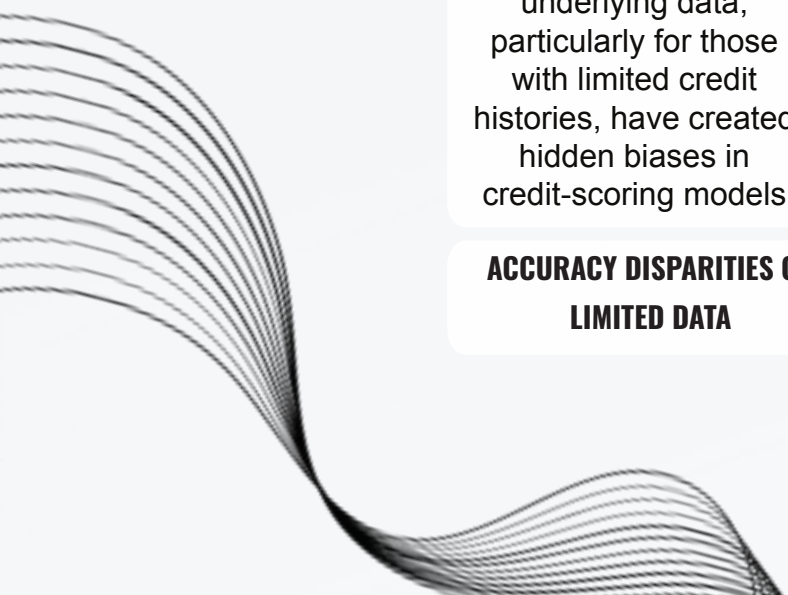
Final Thoughts

Remember, maintaining responsible borrowing habits and keeping a close eye on your credit report can improve your overall financial health. Additionally, the integration of technology into credit scoring models is expanding access to credit and improving accuracy while creating potential for bias. We should keep our eyes firmly fixed on its development and use this technology judiciously and ethically to improve access to credit for everyone!

THANK YOU!