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About us

Edulyt India founded in 2018, with a Vision to bridge the gap between Education and Employment by democratizing education in emerging technologies, making it accessible to learners worldwide. Disrupting the education management sector mainly focused in the field of Analytics. Our core area of working is in Data Analytics for BFSI domain. Our team is working on basic AI tools to make the world a better easier place to live. Our core expertise lies in making the Graduates industry ready. We are highly skilled and trained in delivering training to aspiring Graduates.

Problem Statement

Guidelines

Feature Name	Description
person_age	Age
person_income	Annual Income
person_home_ownership	Home ownership
person_emp_length	Employment length (in years)
loan_intent	Loan intent
loan_grade	Loan grade
loan_amnt	Loan amount
loan_int_rate	Interest rate
loan_status	Loan status (0 is non default 1 is default)
loan_percent_income	Percent income
cb_person_default_on_file	Historical default
cb_preson_cred_hist_length	Credit history length

Tasks

- Check for which loan intent there is a higher historical default rate.
- Check is there any relationship exists between credit history length vs historical default.
- Check for which loan purpose the interest rate is higher and for which it is lower.
- Create a relationship with logical purpose between loan intent and loan amount.
- Check for which purpose the default rate is higher.
- Any relationship between loan default rate and interest rate.
- Check the relationship of employment length and loan amount.
- Check the relationship between income and loan amount.
- Any direct correlation between person home ownership and loan intent.
- Any correlation between income and age of the applicant.
- Draft at least 8-10 recommendations on different parameters to business in order to reduce the default rate.
- Draft at least 8-10 recommendations on different parameters to business in order to increase the portfolio size.
- Check whether the recommendations for first (reduce the default rate) will affect positively/negatively the recommendations on second (increase the portfolio size).

ASSIGNMENT – 02

BY shivangi Chaudhary

TASKS:

Q1 Check for which loan intent there is a higher historical default rate.

Ans Education has higher historical default rate.

Debtconsolidation	36
education	48
home improvement	6
medical	46
personal	45
venture	31
Total	212

Q2 Check is there any relationship exists between credit history length vs historical default.

Ans Company has minimum default in 4 credit history and maximum default in 3 credit history.

Historical default		Credit history length
Yes	No	
70	264	2
73	255	3
69	266	4

Q3 Check for which loan purpose the interest rate is higher and for which it is lower.

Ans Medical loan has higher avg int rate and Venture has lower avg Interest rate.

Loan Intend	Avg Int Rate
Debtconsolidation	12.2764
Education	11.7265
home improvement	12.0227
medical	12.6169
personal	11.9748

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venture	11.6546

Q4 Create a relationship with logical purpose between loan intent and loan amount

Ans The only relationship between loan Intend and loan amount is that Education has higher loan value.

Loan Intend	Loan Amount
Debtconsolidation	2772325
education	3830900
home improvement	254750
medical	3197125
personal	2878575
venture	2872175

Q5 Check for which purpose the default rate is higher.

Ans Medical has higher default rate.

Loan Intend	Default rate
Debtconsolidation	98
education	98
home improvement	10
medical	118
personal	82
venture	94

Q6 Any relationship between loan default rate and interest rate.

Ans Yes, There is relation between loan default rate and interest rate, Default rate is high where the avg interest rate is high .

Loan Intend	Avg Int Rate	Default Rate
Debtconsolidation	12.2764	98
education	11.7265	98
home improvement	12.0227	10
medical	12.6169	118
personal	11.9748	82
venture	11.6546	94

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Q7 Check the relationship of employment length and loan amount.

Ans As we can see that person of Employment length 2 has taken highest loan amount of Rs 24,75,775 and person of Employment length 11 has taken minimum loan amount of Rs 33,000.

Employment Length	Loan amount
1	1843750
2	2475775
3	2004325
4	1428250
5	1661125
6	1679625
7	1645900
8	1224350
9	1170500
10	639250
11	33000

Q8 Check the relationship between income and loan amount.

Ans As we can see that person of Income between 50,000 -59004 has taken highest loan amount of Rs 23,33,325 and person of Income between 9600-10800 has taken minimum loan amount of Rs 16,850

Person Income	Loan amount
9600-10800	16850
11000-19800	253050
20000-29000	922500
30000-39996	334900
40000-49896	1710150
50000-59004	2333325
60000-69996	2112700
70000-79631	1738400
80000-89908	1347400
90000-99996	785425
100000-108160	338650
110000-116004	366900

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120000-129996	435550
130000-138000	364200
140000-148000	135500
150000-169000	596100
170000-191000	563550
200000-226000	542950
230000-234000	96600
250000-275000	112600
280000-306000	138550
500000	30000

Q9 Any direct correlation between person home ownership and loan intent.

Ans The direct corelation is made between home ownership and loan intend is that ==Rented person== **has taken large amount of loan and all different loan intend chategories except** ==Home Improvement.==

Loan Intend	Person Home Ownership			
Chategories	Mortgage	Other	Own	Rent
Debtconsolidation	32	1	9	125
education	42	1	26	176
home improvement	17	0	14	0
medical	33	0	24	141
personal	33	1	16	125
venture	33	0	27	124
Total	190	3	116	691

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Q 10 Any correlation between income and age of the applicant.

Ans Increasing Trend: There is a noticeable increase in average income as the age of the applicants increases from 20 to 26.

Significant Growth: The average income grows significantly from age 21 to 26, indicating that older applicants tend to have higher incomes.

Peak at Age 26: The highest average income is observed at age 26, with an average income of 95,652.45.

Person Age	No. of Person	Aggregate Income	Average Income
20	1	64000	64000
21	71	2801965	39464.29
22	206	10930370	53060.04
23	229	15915641	69500.61
24	191	13852552	72526.45
25	173	15025095	86850.26
26	129	12339167	95652.45

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Q 11 Draft at least 8-10 recommendations on different parameters to business in order to reduce the default rate.

Ans Reducing loan default rates is crucial for maintaining the financial health of a loan company. Here are 8-10 recommendations based on various parameters to help reduce default rates:

1. Loan Intention:

Thorough Assessment: Conduct a detailed assessment of the borrower's purpose for the loan. Ensure that the loan is intended for productive purposes that can generate income or improve financial stability.

Education and Counseling: Provide financial education and counseling to borrowers about the risks and responsibilities associated with different types of loans.

2. Loan Amount:

Affordability Analysis: Ensure that the loan amount is within the borrower's repayment capacity. Use debt-to-income ratios to assess affordability.

Tiered Loan Amounts: Offer tiered loan amounts based on the borrower's creditworthiness and repayment history.

3. Interest Rate:

Risk-Based Pricing: Implement risk-based pricing to offer lower interest rates to borrowers with better credit scores and higher rates to riskier borrowers.

Interest Rate Caps: Set caps on interest rates to prevent excessively high rates that could lead to defaults.

4. Age Group:

Tailored Products: Develop loan products tailored to different age groups, considering their unique financial needs and repayment capacities.

Youth Programs: For younger borrowers, offer financial literacy programs and starter loans with lower amounts and interest rates.

5. Historical Record:

Credit History Analysis: Use comprehensive credit history analysis to assess the borrower's past repayment behavior and predict future performance.

Reward Good Behavior: Offer incentives such as lower interest rates or higher loan amounts to borrowers with a good repayment history.

6. Employment Status:

Employment Verification: Verify the borrower's employment status and stability. Prefer borrowers with stable and long-term employment.

Income-Based Repayment Plans: Offer repayment plans based on the borrower's income to ensure affordability.

7. Loan Repayment Terms:

Flexible Repayment Options: Provide flexible repayment options, such as varying installment amounts or extended repayment periods, to accommodate different financial situations.

Automatic Payments: Encourage borrowers to set up automatic payments to reduce the risk of missed payments.

8. Borrower Engagement:

Regular Communication: Maintain regular communication with borrowers to remind them of upcoming payments and offer support if they face financial difficulties.

Early Intervention: Implement early intervention strategies to assist borrowers who show signs of financial distress before they default.

9. Technology and Data Analytics:

Predictive Analytics: Use predictive analytics to identify high-risk borrowers and take proactive measures to mitigate default risks.

Real-Time Monitoring: Implement real-time monitoring of borrower accounts to detect and address potential issues promptly.

10. Loan Restructuring:

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Restructuring Options: Offer loan restructuring options for borrowers facing temporary financial hardships, such as extending the loan term or reducing the interest rate.

Q12 Draft at least 8-10 recommendations on different parameters to business in order to increase the portfolio size.

Ans R**ecommendations Are:**

1**. Loan Intend :**

Diversify Loan Products: Offer a variety of loan products tailored to different needs, such as personal loans, home loans, auto loans, and business loans. This can attract a broader customer base.

Promotional Campaigns Run targeted marketing campaigns highlighting the benefits of specific loan types, such as low-interest rates for home loans or quick approval for personal loans.

2**. Loan Amount:**

Flexible Loan Amounts Provide flexible loan amounts to cater to different financial needs. Offer microloans for small expenses and larger loans for significant investments.

Tiered Loan Programs Implement tiered loan programs where customers can qualify for higher loan amounts based on their creditworthiness and repayment history.

3**. Interest Rate:**

Competitive Rates Offer competitive interest rates to attract more customers. Consider introductory rates or discounts for new customers.

Risk-Based Pricing Implement risk-based pricing to offer lower rates to low-risk borrowers, making loans more attractive to creditworthy customers.

4**. Age Group:**

Youth-Oriented Products Develop loan products specifically for younger customers, such as student loans or starter loans with lower interest rates and flexible repayment terms.

Senior-Friendly Loans Offer loans with favorable terms for older customers, such as reverse mortgages or loans with extended repayment periods.

5**. Customer Engagement:**

Loyalty Programs Introduce loyalty programs that reward repeat customers with benefits like lower interest rates, higher loan amounts, or faster approval processes.

Customer Education Provide financial literacy programs to educate customers about the benefits of taking loans and managing debt responsibly.

6. Technology and Innovation:

Digital Platforms Invest in digital loan origination platforms to streamline the application process, making it easier and faster for customers to apply for loans online.

Mobile Apps: Develop mobile apps that allow customers to apply for loans, track their applications, and manage their accounts on the go.

7. Partnerships and Collaborations:

Collaborate with Businesses Partner with businesses to offer employee loan programs, where employees can get loans at preferential rates.

Community Involvement Engage with local communities through sponsorships and events to build brand awareness and trust.

8. Customer Service:

Personalized Service Offer personalized loan advisory services to help customers choose the best loan products for their needs.

24/7 Support Provide round-the-clock customer support to assist with loan inquiries and applications.

9. Credit Risk Management:

Enhanced Credit Scoring Use advanced credit scoring models to accurately assess the creditworthiness of potential borrowers, reducing the risk of defaults.

Proactive Monitoring Implement systems to monitor loan performance and identify potential issues early, allowing for timely interventions.

10. Incentives and Promotions:

Referral Programs Introduce referral programs where existing customers can earn rewards for referring new customers.

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Seasonal Offers Run seasonal promotions with special rates or terms to attract new customers during peak borrowing times.

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Q13 Check whether the recommendations for first (reduce the default rate) will affect positively/negatively the recommendations on second (increase the portfolio size).
Ans Most recommendations to reduce default rates will positively impact efforts to increase the portfolio size. By ensuring borrowers are well-informed, financially stable, and supported, the company can attract more customers while maintaining a healthy loan portfolio.