Lending Club case study Presentation and Recommendations

Actionable Recommendations:

Based on the findings from the analysis, several actionable recommendations have been made to reduce credit loss for the company:

1. **Reject Loans for High DTI Ratios**: Applicants with high debt-to-income ratios are more likely to default. The company should consider rejecting loans for applicants whose DTI exceeds a certain threshold (e.g., 40%).
2. **Review Applicants with Low FICO Scores**: Applicants with low FICO scores are at a significantly higher risk of defaulting. A higher interest rate could be applied to high-risk applicants, or the loan amount could be reduced.
3. **Monitor Credit Utilization**: Applicants with high credit utilization rates (above a certain percentage) should be flagged for review as they tend to default at a higher rate. This is an indication of financial distress, and the company may want to reduce the amount of the loan offered or charge higher interest.
4. **Target Specific Loan Types**: Loans for certain purposes (e.g., credit card debt consolidation) may have a higher default rate. The company could adjust the interest rates based on the loan purpose or implement stricter credit requirements.
5. **Adjust Approval Criteria Based on Employment History**: Borrowers with shorter employment tenures were found to have higher default rates. The company should consider a minimum employment history requirement or use this variable as a factor in their loan approval decision-making process.

These recommendations are aligned with the analysis, focusing on minimizing credit loss by identifying high-risk applicants and adjusting the lending process accordingly.

Assumptions:

Several assumptions were made during the analysis:

1. **Data Completeness**: It was assumed that the missing values in critical variables (e.g., `annual_inc`, `revol_util`) were addressed correctly using median/mode imputation methods.
2. **Risk Thresholds**: While specific risk thresholds (e.g., DTI ratio or FICO score) were not provided by the company, reasonable thresholds were chosen based on industry standards and the data analysis.
3. **Current Business Logic**: It was assumed that the company currently uses similar metrics (e.g., credit score, income, DTI ratio) for their loan approval process, and the analysis aligns with their decision-making criteria.
