Credit Scoring: Development of a Business Case

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

The purpose of this document is to provide you with information to help you perform a cost/benefit analysis and support a business case for the development of Custom Empirical Credit Scoring Models. We understand that some lenders can be relatively new to credit scoring, and may be concerned about the potential costs and question the return on investment.

There is good news here. The decision to develop custom empirical credit scoring models for applicant evaluation is an easy one to make. In twenty years of developing and implementing these types of models, we have seen that payback periods for credit model developments can be as short as *months* for a portfolio of any size.

The development and implementation of new custom models allows benefit in two ways. It allows the reduction of loss rates at previous approval rates. And it can allow the increase of approval rates at previous loss rates. There is also a strategy that permits both a reduction in losses and an increase in volume. But for the sake of our analysis, we will focus on the most conservative approach, or a reduction in losses at previous approval rates.

We will work through a specific example as a way to show you the factors to consider. Your own numbers and calculations will of course, differ, due to your own individual circumstances.

Factors to Consider for Cost/Benefit Analysis:

There are several things to consider. One key number is the cost to your organization of a charge-off or loss for a loan. This can vary from a write-off on a credit card account (which is usually about 110% of the credit line), to the cost of a repossession for a car, to the cost of a home foreclosure. Certainly, these numbers will vary significantly.

The good news is that the number of reduced Bads, or losses, to pay for the cost of a model development is usually quite small. We have found that, over many years of model development, a 20% improvement is a minimum expectation. In other words, the use of a new set of risk models ought to allow you to reduce your Bad rate by 20% with no impact on your approval rates. The benefit may exceed this, and we often see that the greatest improvement occurs with the first generation of empirical models, but it will not likely be less than this. There are never any promises, but it would be *very* unlikely to not achieve at least that amount of benefit.

Let us say that your loan volume is 100,000 new accounts per year. And let us estimate that the cost of a loss is $10,000 per charged-off account. This is possible for an auto loan. It might be somewhat less for a credit card account. And it would be significantly more for a home equity or mortgage loan.

Let us estimate that your annualized Bad rate is 3%. So this means that 3,000 of your new accounts each year would ultimately reach your Bad performance (account payment) definition. This would translate to an annual potential loss of $30,000,000.

If our estimate of a 20% reduction in Bad rate is achievable, then there is a potential reduction of 600 Bads or an annual savings of $6,000,000 in this case. Please note that we have tried to use conservative numbers for all of these estimates.

Let us look at this in a different way. What is the typical cost of a multiple model development? Let us estimate a one-time cost of $200,000. This would require a reduction of 20 Bads. From our estimates above, this could be accomplished in the first month of use (two weeks, actually). Over the life of the models (which is from 3-4 years, conservatively), the overall benefit could be as high as $18,000,000 to $24,000,000. This represents a return of over 100 times your investment over 4 years. I would doubt that your bank has any other investment options with this type of potential!

Sample Cost/Benefit Worksheet:

Here are the following items to consider:

1) Annual loan volume: opened accounts per year

2) Annual Bad rate: % of booked accounts going to 60+DPD status

3) Number of Potential Bads/year: (1) times (2)

4) Estimated Loss per charge-off: $

5) Potential Losses per year: (3) times (4): $

6) Potential reduction in Charge-offs/year: (5) times .2 $

7) Potential Savings over life of models: (6) times 4: $

Number of reduced Bads to Pay for Models:

8) Estimated cost for model development and implementation: $

9) Cost per charge-off (item (4) above): $

10) Number of Bads needed to pay for development: Bads
(divide (8) by (9)

We hope that this document has been helpful in determining the investment return on your modeling investment. At Portfolio Defense, we would be pleased to work with you and answer any scoring questions that you might have. Please feel free to call us at 415-492-8262.