Managing Pricing Risks

with PrecisionLender

The static and manual solutions banks have relied on for years to handle commercial pricing aren't enough in today's environment, when competition is fierce and risk is high. These tools are not efficiently managed, and their informational outputs are difficult to aggregate and even harder to deliver in a timely manner to those who need them.

PrecisionLender is an automated sales and negotiation solution that solves these problems. It empowers bankers with actionable, in-the-moment insights and coaching, so they can structure, price and negotiate winning deals.

Implementing a new pricing solution comes with many questions about the calculations within the system (what we refer to as the "Engine") and how the bank can appropriately configure and monitor the system to better manage risk. This document provides an overview of the risks relevant to pricing tools, the benefits of the PrecisionLender solution, and the available resources you can use as you work through your risk assessment and monitoring activities.

Pricing Solution Risk Considerations

When deciding on the best pricing tool to use, management must consider the overall pricing strategy at the bank, as well as the risks relevant to meeting its strategic objectives. Some of these risks include:

- market and liquidity risk
- operational risks, such as:
  - model risk
  - inappropriate access
  - insufficient change control

Auditors and regulators are constantly scrutinizing how banks are addressing these risks. That scrutiny is pushing many banks to look for an alternative to their traditional spreadsheet-based pricing tools, which are not effective or efficient at managing these risks. The benefits of turning to PrecisionLender to handle these tasks are outlined below.

PrecisionLender Benefits

Dynamic Pricing and Automated Controls

Spreadsheet-based pricing tools lack automated change control and don't help relationship managers price appropriately for risk in rapidly changing market conditions. With PrecisionLender's pricing solution, banks can implement security profiles that enable role-based access control (RBAC). This is done by assigning different rights and privileges to users based on their job duties. This also allows for efficient administration of the pricing assumptions and inputs. PrecisionLender provides out-of-the-box Security Audit Reporting that spreadsheet solutions lack, making compliance with applicable change control requirements easy to achieve.

The efficient administration PrecisionLender provides ensures changes to assumptions or inputs are immediately available to all relationship managers and pricing methods are consistent across the bank. Relationship managers don't have to worry if they have the right assumptions, if calculations are correct, or about the mechanics of a spreadsheet. This allows them to concentrate on the opportunity they are pricing.

Implementation Services – Assumptions (Input) Validation

During onboarding, our Professional Services team is available to walk each client through a seamless implementation. This process includes an Assumptions Validation (AV), during which bank

stakeholders can test the configuration (regions, products, funding curves, return targets, etc.) of PrecisionLender before the system is rolled out to the entire organization. Users enter recently closed loans, deposits, and fee accounts into PrecisionLender to test settings and build the data necessary for setting the initial target return. The AV process has three major objectives:

1. Verify the product list is complete and the default settings for each individual product are appropriate for the institution.

2. Test a sufficient range of loan structures to validate that the credit, overhead, funding, and capital assumptions are reasonable.

3. Build a large enough sample of recent accounts so targets can be set for each product type that will be near current market levels.

More information on implementation services can be found in the [Implementation Guide](#) on our support site.

Relationship Awareness Data Validations

With the PrecisionLender Relationship Awareness (RA) module, your bank feeds relevant account data directly into PrecisionLender from your core system or other systems. PrecisionLender can then compute the current profitability, not only for each account, but also for the entire relationship (We call this Strategic Value). This allows your relationship managers to price new opportunities within the context of the relationship level Strategic Value. See our support article on [Understanding Relationship Impact](#) for more information.

Data Validation for clients using RA can be divided into two main categories: Prospective and Continuous Monitoring.

Prospective Validation occurs during the client onboarding process and is meant to map, analyze, and adjust the data that will become part of the

normal, scheduled RA upload. During this validation, we gain a high-level understanding of the data to ensure we can target future testing on key areas that are important to your bank. We also run the data through the PrecisionLender calculation engine and generate production-ready results for your review.

Continuous Monitoring occurs on every data upload and is meant to log and isolate, if necessary, any anomalous data points that exceed the boundary of normal operations. This phase focuses on validation of the individual records.

Both the Assumption (Input) and RA Data Validations ensure your pricing recommendations are tailored to your specific needs and calculated correctly. *This is something a spreadsheet simply cannot provide.*

Change Management

All changes to the Engine code and the Engine unit tests for PrecisionLender must be discussed and confirmed with a designated Engine reviewer prior to the change being released to production. The new set of calculations must be documented through additional unit tests to ensure that the Engine code required for financial calculations is covered by the tests. When changes are released, PrecisionLender sends an email notification and posts a list of those changes in our [Release Notes section](#) within the Support Center.

When an Engine change is required, the new set of calculations must be compatible with all previously established calculation paths; however, in the event a non-backward compatible change is required (a major release), we publish an update to our Engine Standards, sharing the details of the updated calculations with our clients.

We also perform an annual review and update of the Engine Standards document (see the Resources section below). Our Engine Unit Test Guidelines and Software Development Life Cycle also provide more information on change

management processes and controls and can be provided upon request. Send requests for documentation to support@precisionlender.com.

Quarterly Success Reviews

After onboarding, PrecisionLender is available for a quarterly Customer Success Review (CSR) to ensure that current progress/success of the system is measured, and specific steps are taken – in line with the bank's high-level pricing strategy – to continually improve results. These meetings typically include the system administrator, the executive sponsor, and any other loan or credit staff pertinent to the specific discussion.

PrecisionLender provides an update on the latest success metrics and discusses any relevant changes or feature additions to the system. These calls are your opportunity to make sure the system continues to work as intended, and you are achieving the success you envisioned back when you signed with PrecisionLender.

Resources for Model Validations

How Does the Math Work

Our "How Does the Math Work?" document provides an overview of the behind-the-scenes calculations that help you maximize profitability with PrecisionLender. The document provides formulas and examples of key profitability measures and can be found on our support portal.

PrecisionLender Engine Standards

The PrecisionLender Engine Standards provide a detailed specification of the underlying calculations used by the PrecisionLender Engine. The document serves as the minimum functional description for testing and third-party auditing to ensure that the calculations used by the Engine are performed consistently and

accurately. Although this document provides a summary of the assumptions and inputs needed, the PrecisionLender support site also provides articles that further explain options for configuring user inputs and assumptions in more detail. To request access to the PrecisionLender Engine Standard, please email support@precisionlender.com. Include your name, email address, and the name of your organization in your request.

External Assessment of Controls Over the System

A SOC 2, Type II Report covering the PrecisionLender Pricing and Profitability Software System is issued annually by our external auditors. To request access to this report, please email support@precisionlender.com.

Frequently Asked Questions

Is PrecisionLender a model?

The Fed's Supervisory Guidance on Model Risk Management (SR 11-7) defines a model as a quantitative method, system, or approach that processes input data into quantitative estimates used to inform business decisions. A model has three distinct components: information input, processing, and reporting. These concepts are relevant for both manual (i.e., spreadsheet) pricing tools as well as automated solutions.

The model determination and the assessed level of model risk ultimately depends on how a pricing tool is used within each entity's environment. It is important that each client evaluate PrecisionLender's status as a model within the context of their environment. PrecisionLender has inputs and assumptions that vary by client. It does not automate the loan decision process. Existing processes and supervised personnel within the bank ultimately possess overarching control over credit and pricing decisions and what deals receive final approval.

When using a tool such as PrecisionLender, many factors, such as market conditions, borrower preference, and bank strategy must also be considered before these decisions can be made.

Does PrecisionLender have an external validation of the Engine?

According to SR 11-7, Model Validation is "the set of processes and activities intended to verify that models are performing as expected, in line with their design objectives and business uses." An external validation is one such activity, but we do not have one performed on PrecisionLender. As noted in the previous response, our system requires assumptions established by bank management, such as credit capital levels, collateral information, and funding costs. A single validation would not be meaningful or relevant, as it would not encompass all the assumptions and inputs that our clients use.
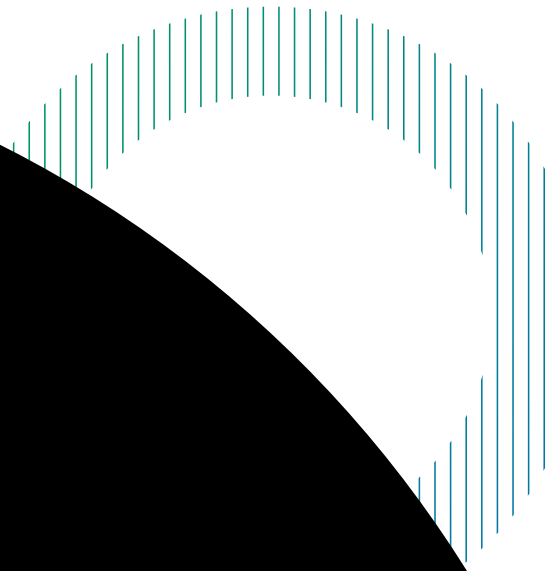
Is a third-party validation required for PrecisionLender?

The answer to this question depends on the bank's model evaluation and risk assessment results. As noted in our response to "Is PrecisionLender a model?", each institution

must evaluate PrecisionLender's status as a model within the context of their environment and perform appropriate validations as needed. Our Engine documentation referenced above can be relied on to assess the accuracy of the Engine calculations; however, the bank's inputs and assumptions should also be validated in order to validate the entire solution, if required.

What level of testing is performed on the Engine calculations?

Testing of the calculations are automated through our continuous integration development practice. Approximately 3,600 tests, reflecting pre-verified inputs and results, are performed on the Engine each time PrecisionLender releases new code to production. When an Engine change is made, the new set of calculations require additional unit tests to ensure that 99% of the functional Engine code is covered by the tests. All changes to the Engine code and the Engine unit tests must be verified by a designated Engine reviewer prior to implementation. Source code testing and reviews are documented as key controls that are independently tested and reported on in our SOC 2, Type II report, referenced above.

Q2 | PrecisionLender is modernizing commercial banking. Its sales and coaching platform empowers bankers with actionable, in-the-moment insights, so they win better deals and build strong, more profitable relationships. Andi®, PrecisionLender's digital enterprise coach, augments banker strengths and intelligence with the latest technology and data, delivering the best recommendations at exactly the right time. 13,000+ bankers at approximately 150 banks—ranging from under $1B to over $1T in assets—use PrecisionLender's solution. Set your bank apart with PrecisionLender's applied banking insights.

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