Risk-Based Pricing Whitepaper

Playbook: *Best Practices* for Risk-Based Pricing in Auto Lending

Five plays any auto lender can run to *implement a truly analytics-driven approach* to risk-based pricing.



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Executive Summary

Today, many aspects of the car-buying process have become much more modern, especially with new mobile and digital capabilities. Yet at the same time, the lending process still feels like it did 10-20 years ago.

For lenders, part of the problem may be the continued use of traditional risk-based pricing methods and not capitalizing on a more modern approach: **analytics-driven risk-based pricing.** The benefits can be significant for auto lenders willing to take the leap. Next-level risk-based pricing can help them develop more compelling offers to:

- ✓ Win market share
- ✓ Minimize risk
- ✓ Increase profits

— **all while gaining a valuable first-mover advantage over the competition.**

This playbook will describe the challenges caused by existing, “status quo” pricing models while also highlighting how a new analytics-driven approach to risk-based pricing using machine learning can help auto lenders achieve their most critical goals.

The playbook also outlines **five important steps any auto lender can follow** to use machine learning and other modern technology to implement a true analytics-driven risk-based pricing strategy.



Section 1: The Need for a New Approach to Risk-Based Modeling

Facing limitations posed by a traditional approach to other pricing models, including traditional risk-based pricing methods, **auto lenders need a better solution now.**

Challenges to Current Pricing Methods

Financial institutions have used many different methods to price auto loans over the years. While each pricing approach may be slightly different—and offer unique pros and cons—they are all focused on two main goals.

First, they must provide the consumer with the best loan offer and terms to close the sale. But at the same time, each loan must meet the institution's requirements for profits, loan portfolio composition, or other goals.

Examples of these methods include value-based, cost-plus, competition-based and traditional risk-based pricing models. While each approach may work to a certain degree, ultimately, **each of these models present limitations.**

Value-Based Pricing

This is a strategy where auto lenders create prices based on the customer's perceived value of a product or service. While this approach may lead to higher prices, value-based pricing requires a significant investment to collect all the customer data need. It can also be difficult to set a price that works for each and every customer.

Cost-Plus Pricing

The auto lender calculates all costs that will be incurred in the offer, and then applies a markup percentage to the loan price. While this may seem to make sense, cost-plus pricing does not incorporate important elements such as the customer's willingness to pay and competitors' prices —which can lead to loan pricing that is completely off base.

Competition-Based Pricing

As the name suggests, this is a method where the lender develops prices based on its competitors' prices. Competitive pricing may bring in more customers and contribute to increases in market share and revenue, but it can also lead to pricing wars that reduce prices and require long-term strategies to get back on track.

Traditional Risk-Based Pricing

This occurs when lenders offer different consumers different interest rates or other loan terms, based on the estimated risk that the consumers will fail to pay back their loans.Yet most risk-based pricing approaches can't react to ongoing changes to credit scores and other information fast enough, leading to the potential for misplaced loans or excessive risk.

A Closer Look at Traditional Risk-Based Pricing

Pricing Models	Benefits	Limitations
Value-Based Pricing	Can attract new customers and generate higher prices—and revenue.	Lenders may not be able to collect all the data they need. May be difficult to find a price that works for every customer.
Cost-Plus Pricing	A standard approach to pricing that covers all costs—fixed and variable.	Does not address customers' willingness to pay or competitors' pricing.
Competition-Based Pricing	Based on competitors' prices, this approach can lead to increase wins and revenue gains.	May also lead to pricing wars and customer churn.
Traditional Risk-Based Pricing	Creates different offers, rates, and terms based on each borrowers' creditworthiness, which can help balance profitability and risk.	Can't keep up with real-time changes to consumer data or manage growing data volumes that can drive better decisions.

Traditional Risk-Based Pricing Approaches Fall Short

It is important to note that **risk-based pricing is not a new approach** to pricing loans.

In fact, it has been in wide use in banking and other financial services for more than 30 years. With risk-based pricing, lending decisions have been driven by two variables: the borrower's overall creditworthiness, which is usually determined by their credit score, and the use of statistical models based on the behavior of large segments of consumers over long periods of time.

While this approach worked well enough for auto lenders over the years, recently new developments have led to new concerns with traditional risk-based pricing.

First, credit scoring relies on information that has long time lags and may not represent the latest information or implications for pricing. Examples of this include consumer income information, repayments on other loans, changes in credit scores, and other data.

Today, most auto lenders' pricing models aren't built to incorporate real-time changes to this information. Also, they're not equipped to make use of high volumes of other data that could provide even more intelligence related to ideal pricing. As a result, auto lenders could be mispricing their loans or mismanaging risk—and may not even realize it.

All of this calls for a new approach, something we call analytics-driven risk-based pricing.



Why Auto Lenders Should Consider Analytics-Driven Risk-Based Pricing

Analytics-based risk-based pricing allows auto lenders to **take advantage of a more accurate pricing method**—especially over cost-plus pricing—and eliminate the use of rough customer segmentations that don't address risk effectively enough.

There's real opportunity here. The analytical tools available today are exponentially more sophisticated than they were just a few years ago. When used effectively, advanced analytics and pricing solutions allow auto lenders to accurately predict credit risk and other potential risk as the offer is developed.

It adds up to a valuable win-win: Using the analytical outcomes and insights, auto lenders can **improve their ability to price their offers** in a much more compelling and competitive way, while still controlling overall risk exposure.

Identify New Customer Segments – Without the Risk

Looking for another reason to move to risk-based pricing? Consider that it has the potential to help **improve profitability and increase market share**. This is especially true in the cases where lenders can offer loans to customer segments that they wouldn't have under normal circumstances, such as consumers with low FICO scores, without assuming too much risk blindly.

Why Make the Change Now?

1

Increased competition.

The entire industry is facing much more competition for auto loans, both from traditional vendors, but also from a growing number of non-banks and aggressive new startups.

2

Changing market conditions.

All industries are facing macro and micro economic changes such as global inflation, supply chain disruptions, inventory shortages, and rapidly changing market rates.

3

New opportunities.

Auto lenders don’t just have to react to challenges. Conversely, they can use analytics-driven risk-based pricing to theiradvantage.

4

New customer expectations.

Consumers now demand fast, personalized, competitive offers and are likely to take their business to lenders able to provide the experience they crave.



Section 2: The Best Practices to Move to Better Risk-Based Pricing

A closer look at **five specific plays any auto lender can run** to implement an analytics-driven approach to risk-based pricing.

Play #1: Plan the Analytical Infrastructure

It all starts with the plan. As auto lenders get started, they should focus first on developing an effective plan for what the ideal infrastructure will look like and how it will work. Planning steps include:

Map the profit and loss components of each financing offer, line by line. This can usually be accomplished relatively quickly by collaborating with finance to define these core elements.

Identify the level of detail needed for each component, such as expected losses, funding costs, operating expenses, dealer commissions, dealer mark-up or mark-down, future vehicle valuation, prepayment probabilities, commercial campaigns adjustments,and margin.

Consider using machine learning (ML) to perform credit risk modeling instead of traditional methods. While this may depend on factors such as the availability/skills of analytical-minded employees and even the availability of data, ML modeling can be a real advantage—and a valuable differentiator.

If using ML models, start by creating a 90-day plan to train and validate the new models, with a focus on the areas that will have the highest impact on P&L.

At the end of Play 1, you'll have a better understanding of the road ahead and what is required to develop a minimum viable product (MVP) of the analytical models needed to implement a better risk-based pricing solution.

1. **Map** P&L components for each offer
2. **Identify** the level of detail you'll need
3. **Consider** ML-powered credit risk modeling
4. **Create** a 90-day plan to build your initial MVP

Play #2: Execute an Analytical Plan Using Historical Data

Once you've developed the right plan, it's time to begin execution. Start slowly using historical data already at your disposal using these steps:

Collaborate with internal data and analytics teams. These employees tend to be the brains behind any successful analytical risk-based pricing program. Ideally, they can collect past data related to financing offers and bookings and merge it with a variety of other variables, like loan lifetime value, prepayment, loan termination, vehicle valuations, dealer pricing behavior and commission data, etc.

Focus on PD models, prepayment probability models, and vehicle valuations, since these all define residual value at the end of the loan or lease. These tend to be the hardest models and require the combination of high-quality data and staff members with the expertise to make good use of it.

Train and validate new pricing models using advanced ML pricing technology or other analytical pricing solutions.

Combine models to develop testing strategies and validate the inclusion and use of various components within the models.

At the end of Play #2, you'll have a working analytical framework for pricing based on very specific expected profit and loss goals for each financing offer—all produced in real time.

1. **Partner** with the experts
2. **Focus** on the right models and valuations
3. **Train** and validate new models
4. **Combine** models for back testing and further validation

Play #3: Identify and Define Constraints

At this point, it's important to identify and define any constraints that could affect pricing.

Every auto lender needs to clearly state its fair lending and regulatory constraints. Define how those constraints will impact your pricing strategies before you build the analytical structure of your prices.

Indirect lenders are subject to commercial, and at times, technological constraints dictated by dealers and their motor finance platforms. Clearly define such constraints, how rigid they may be, and how they could affect pricing.

Any lender with a direct channel needs to define the extent of its pricing transparency policy in customer communications. This policy might also constrain the final pricing structure.

For captive lenders, pricing constraints determined by the relationship with the OEM or brand might be crucial criteria for deciding pricing policies, especially for subvented financial offers.

At the end of Play #3, you will have a clearly defined strategy for determining the exact structure of prices for all the financing options offered across the different channels.

1. **Define** how constraints will impact pricing strategies
2. **Identify** external constraints
3. **Consider** direct-channel implications
4. **Address** OEM/brand-driven constraints

Play #4: Socialize the New Pricing Methodology

Now is the time to share the new pricing methodology and approach with major stakeholders in the organization.

Communicate the immediate benefits of the new method, including operational efficiencies as well as a new ability to better manage the risk appetite and profitability profile of the profile.

Describe the many ancillary benefits, such as the ability to extend to value-based pricing, understanding customer up-take, and conversion behavior.

Highlight the new ability to manage the share of financing, risk exposure, and profitability with one unified analytics framework.

Chances are good that your organization has never had a single framework to analyze the impact of each decision in the pricing committee.

Over communicate and solicit feedback. Socializing the new pricing method is a crucial step to pave the way to a more successful implementation and overall adoption and can improve trust in new pricing policies.

At the end of Play #4, you will be ready to deploy pricing offers to the market that are endorsed and supported by your organization, and that don't encroach on dealers' practices.

1. **Communicate** immediate benefits
2. **Describe** ancillary benefits
3. **Highlight** new capabilities
4. **Encourage** feedback and collaboration

Play #5: Operationalize Your New Risk-Based Pricing Model

Finally, you're ready to implement the new model and put it into practice in your organization.

Integrate your new risk-based pricing structure with the most relevant decision engines, such as loan origination systems, dealer management systems, web portals, and financing apps.

Create reporting templates with adjustments to different risk-based pricing components to support periodic pricing committee discussions.

Deploy the new model into production gradually. For example, consider using it first with just a few dealers or in a small group of geographies.

Monitor model performance and "drift" for the most important predictive models (e.g., PD, prepayment, vehicle valuation).

Create and reinforce transparency and ML explainability to respond questions from dealers or customers.

At the end of Play #5, you will have a working analytical-driven risk-based pricing model in production, with the ability to dynamically adjust all variables and components and deploy effective pricing offers across different channels.

1. **Integrate** with existing systems
2. **Create** reporting templates
3. **Deploy** gradually
4. **Monitor** model performance over time
5. **Reinforce** transparency and explainability

Section 3: How to Choose a Risk-Based Pricing Solution

What to look for in a pricing solution capable of delivering significant advantages—**and end benefits.**

What to Look for in a New Risk-Based Pricing Solution

As auto finance companies evaluate new technology for risk-based pricing, they should look for the following functionality and capabilities:

Comprehensive Pricing Functionality

Auto finance companies need proven solutions that can improve the way they develop precise, personalized pricing offers and products, including integrated simulation and ML and AI capabilities that allow for faster, automated pricing processes.

Governance and Compliance

The ideal solution should also provide functionality to automate and improve governance, risk management, and compliance. For example, the solution should include complete audit trails, detailed records, and comprehensive reports, giving the pricing team and compliance officers fast, easy access to all activity, a critical edge in complying with even the most stringent regulations.

Proven Integration Capabilities

In most cases, auto lenders should avoid any technology that requires a full rip-and-replace implementation, which can take years. Instead, the ideal solution should seamlessly integrate with existing applications, databases, and systems. It should also be composable, critical to taking advantage of microservices and overcoming the challenges caused by monolithic architectures.

A Fast ROI

Many auto lenders still rely on a patchwork of legacy pricing systems and on-premises hosting, an infrastructure that is overly complex, time-consuming, and expensive. Yet by avoiding a full rip-and-replace and enjoying fast implementation, banks and auto finance companies can gain a real ROI measured in months–not years.

All of these capabilities can help auto lenders overcome the limitations caused by past approaches to pricing, especially based on credit scoring and statistical modeling, and position them to achieve their specific business goals.



Questions to Ask When Evaluating a Risk-Based Pricing Solution

Questions specific to risk-based pricing:

1. Does this solution have a modular design with the ability to change individual modules' parameters without involving IT? Does it offer the ability to add new modules, too?
2. Is this solution low code/no code? Does it offer front end integration with POS and other systems?
3. Does this solution support advanced machine learning libraries to risk scoring?

Questions for any pricing solution:

1. Does it include the ability to ingest third-party data, such as bureau data, credit history, and competitors' rates and offers?
2. Does it provide a full audit train for transparency for governance and regulatory compliance?
3. Does it offer detailed "what-if" simulation capabilities?
4. Does it enable continuous monitoring of model performance?
5. Does it come with a full dashboard of reports?

How Earnix Delivers

While auto lenders clearly face a number of real challenges, there is a way to overcome them. At Earnix, we create agile, composable, and intelligent solutions that enable the world to reimagine banking operations.

The Earnix Price-It platform delivers all the tools needed to model customer demand, run complex “what-if” scenarios, quickly deploy the optimum pricing strategy, and comply with stringent regulatory requirements. Earnix also enables lenders to combine AI-driven scenario analysis and pricing science with real-time deployment strategies.

If lenders’ goals change, Earnix helps users pivot instantly by updating yield curves and competitor data, recalculating sophisticated pricing strategies and deploying to the market before the competition can even schedule a meeting between their data scientists and the pricing team.

By using the Earnix Price-It platform, banks and auto lenders can make sure prices are quoted in line with customers’ behavior and risk. They can also **develop and deploy the right pricing to achieve specific goals**, such as portfolio profitability and size, customer lifetime value, regulatory requirements, revenue growth, and profitability.

All of this helps' auto finance companies combat today’s lending challenges. For example, increasing agility and speed to market helps captives address changing market conditions, interest rate volatility, changes in vehicle demand, shifts in consumer buying behavior and other market factors.

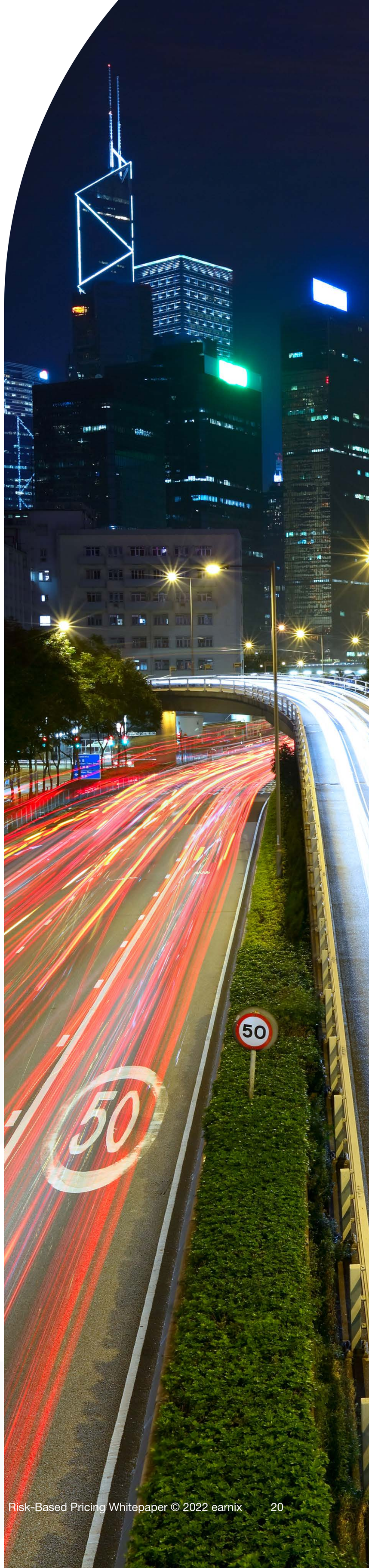


Summary & Conclusion

Auto financing and lending are going to continue to become more competitive, especially as consumers expect faster, more personalized offers and will give their business to competitors able to meet their expectations.

To better serve their customers, minimize risk, and win more profitable market share, auto lenders would be wise to take the next step in risk-based pricing models and implement a more analytics-driven approach.

By using advanced technologies such as data analytics and machine learning, auto lenders and financial services firms can now develop and deploy much more compelling auto loans, faster than ever before. All of this gives them a valuable advantage in beating the competition, generating new sales, and creating long-term, profitable connections with customers and prospects.



Win with a more analytics-driven approach today.

Learn more about Earnix, including how we can help your organization overcome existing challenges and capitalize on new opportunities with agile, dynamic, intelligent solutions.

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Earnix is the premier provider of composable intelligent solutions designed to transform how global insurers and banks are run. Earnix solutions unlock value across all facets of the business, connecting with customers, and breaking away from the status quo imposed by legacy single systems.

Earnix's solutions offer systemized, enterprise-wide value with ultra-fast ROI. It has been innovating for Insurers and Banks since 2001 with offices in the Americas, Europe, Asia Pacific, and Israel. For more information visit: earnix.com.