# LEVERAGING ADVAN

## The focus is on combating bank risk & fraud

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# NCED ANALYTICS

In 2007, no one would have predicted that regulatory pressures and risk management oversight could have increased as much as they have since the financial crisis. One major lesson learned over the past nine years: financial institutions must do a better job of predicting and halting risk and loss before it ever happens.

## Enter advanced analytics

For decades, banks have used predictive analytics to detect and identify fraudulent activity, cyber threats and potential loan delinquencies. However, descriptive and predictive analytics uses statistical data and machine-learning techniques to identify the likelihood of future outcomes based on historical data.

Unfortunately, what happened in the past is not a reliable indicator of the future. Today, the focus is on leveraging advanced analytics to forecast future events and behaviors, allowing financial institutions to conduct what-if analyses to predict the effects of potential scenarios.

Advanced analytics enables financial institutions to ask critical questions around risk management (why, how and what happens next).

Advanced analytics capabilities enable transparency into the challenges associated with managing various risks in bank operations, regulatory compliance, cyber security, lending, credit and so much more.

By using analytics to measure, calculate, spot and predict risk, financial institutions can create a solid risk management program that keeps their institution and their customers' information safe.

Risk managers that want to greatly increase their knowledge of inherent risks impacting the bank with risk-based action are doing so by defining, understanding and effectively managing the institution's ability to handle exposure to risk.

## Five ways advanced analytics is fueling greater risk management

### 1 Action-centric dashboards:

For small and mid-sized banks, identifying potential risk is a critical component to their risk management program since capital is not always available. By gathering customer data and using advanced analytics, financial institutions can interpret clean data to better identify risk factors of borrowers.

This is more than just targeting customers based on credit scores and loan delinquencies or even borrowing history. Advanced analytics provides insight into those buyers who are most likely to be loyal customers for years to come.

**Example:** Most banks have a risk management dashboard. Dashboards fuel feedback much more powerfully than a simple Excel file. Imagine being able to slice and dice the data to see overall concentrations of a particular loan type or loan amount.

What if you could analyze the timing of loans renewing or if they should not renew or be repriced? Can you evaluate this easily with your simple data analysis metrics? Can you answer critical questions such as when do these loans renew so the bank can either reprice or choose to not renew?

One should divide renewing loans into three segments (at least): those above the weighted-average-rate (WAR), those below WAR for unprofitable customers and those below WAR but for profitable customers.

Knowing the overall profitability or loss of the relationship is critical. Perhaps segment by collateral types or industry where concentrations are already high. Do you have the primary deposit relationship? Is this a strategic customer? Analytics answer these critical questions so you can detect red flag activity and help grow loan portfolios.

Simple Excel dashboards won't facilitate the ability to clearly view data trends — and much time is spent on the creation of such dashboards versus their automation. After identifying interesting trends or spotting potential risks monitored on the risk management dashboard, the financial institutions can dissect the data by region, branch, line of business, officer, collateral type and much more.

Advanced analytics enables the financial institution to paint the real picture of customers based on behavior, trends and characteristics associated with risk.

### 2 Risk reporting tools:

Regulators are looking for more sophistication in risk management. Banks need a powerful, robust analytics system that delivers real-time risk combating and reporting tools with not only the ability to move through the data (dashboard functionality) provided by an underlying Data Lake technology (a storage repository that holds a vast amount of raw data in its

native format until it is needed), but also by an advanced analytic platform that delivers statistically derived alerts and recommended actions.

### 3 Halting fraud with risk-based action:

Information used in risk management decisions should be comprehensive, accurate, accessible and based on high-quality data. Advanced analytics software enables management teams, auditors and examiners to analyze the bank's customer data to gain insight into how well internal controls are operating and to identify transactions that indicate fraudulent activity or risk of future fraud.

Advanced analytics also provide an effective way to be more proactive in the fight against fraud. Using indicators of fraud within the data can curb fraudulent activity faster and stop it before it has grave consequences to the financial institutions.

**Example:** Key questions advanced analytics will help bank management uncover are: how much check fraud did the bank have last year or was there fraudulent activity; what percent was customer versus business-based? If it was a higher percent of consumer involvement, what product line was involved?

To help avoid placing the wrong customer with the wrong product, what were the characteristics of such customers to avoid in the future? If fraudulent activity was performed by a small business customer or a corporate customer, perhaps the bank can generate non-interest income, improve retention and totally eliminate check fraud by having a specific customer list to promote positive pay. Providing positive pay can also give customers peace-of-mind that they will not fall victim to check fraud.

Beyond simple algorithms, an advanced analytic platform will quickly identify changes in deposit behavior, check volumes, total withdrawals and other key indicators of fraud that are out of the normal routine based on standard deviation over the course of three or more months.

### 4 Coping with regulatory reform:

Many banks may not be properly measuring credit and market risk or using analytics-driven information for credit and underwriting decision-making. Analytic capabilities developed for Basel III can innovate bank offerings such as services, pricing, portfolio management and more.

Consistent with Basel accords, is the bank tracking from an ALLL to an Expected Loss (EL); are you ready for CECL? Does ALLL methodology incorporate the ability to use risk rating, balance, LTV, DTI and collateral type? Dodd-Frank Act Stress Testing (DFAST) is here. Basel guidelines mandate retention of risk and transaction data for three to five years; and Sarbanes-Oxley requires firms to maintain audit work papers and required information for at least seven years. Advanced analytics can better aid in the reporting on enterprise-wide exposures.

From the Sarbanes-Oxley Act to the Dodd-Frank Act, regulatory pressure is reaching new levels. Innovative financial institutions have realized that the key to optimizing their operations and meeting the regulatory pressures is maintaining an efficient and comprehensive data infrastructure.

**Example:** According to the American Banker, risk analytics can help banks address some of the unintended consequences of regulation. For example, scenario analysis can help them better assess the impact of increased capital requirements, such as restricted lending and reduced levels of capital available to generate income, as well as the resulting shifts in their customer base and product portfolio.

Identifying and developing the right skills is also essential to using risk analytics effectively. It is not just the technical and quantitative capabilities that are in short supply, it is the business knowledge needed to build meaningful data models. Financial institutions that are now leaders in credit risk were ahead of the pack in setting up teams dedicated to analytics.

### 5 Detecting cyber threats:

Cyber attacks and fraud result is serious financial losses that range from recovery costs, regulatory fines and customer distrust. Today, financial institutions have the tools to better handle fraudsters and cyber criminals. Thanks to advanced analytics, financial institutions can stop cyber threats and fraud in their tracks in real time.

**Example:** With advanced analytics, financial institutions can search for patterns in transaction data. This helps to quickly create and search for algorithms and compare records of data and source of transactions (geo location and IP addresses). Financial institutions can even create a risk scorecard to establish patterns and relationships, making non-intuitive connections between sources of data.

## Connecting advanced analytics to better risk management and prevention

Preservation of profits is the best cure to manage risk. Self-assess the financial institution's current practices and ask: Does the financial institution have loyalty measures or derived retention measures? What about accurate profitability measures with risk-based weights and capital costing so that the institution is making the correct data-driven decisions?"

The investment and adoption of modern risk management capabilities found in advanced analytics is an opportunity, not a burden or an expense. Advanced analytics, dashboards, modeling capabilities and high-performance risk monitoring is the key to an effective risk management program. Getting your management team united on the necessary steps to implement a program within your financial institutions should be high on your priority list.

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