

Lenders can ferret out default trouble before it happens if they use analytics technology correctly.



**W**hat good are “predictive” analytics if you have to accept a major downturn in the mortgage market as a mysterious event that somehow caught everyone by surprise? That is a question a lot of mortgage professionals are asking.

Ed Jones, founder and CEO of Austin, Texas-based subprime technology pioneer ARC Systems, said the subprime collapse should have surprised no one. “We went to Wall Street with our pool builder and demonstrated the lack of quality of loans in the pools. Nobody wanted to pay any attention,” he stated. “We showed the rating agencies technology that could do the job. The rating agencies told us, ‘We have recourse to the lenders.’” Watching its customer base of subprime lenders disappearing rapidly, ARC Systems went looking for an acquirer.

# DEMYSTIFYING ANALYTICS

BY SCOTT KERSNAR  
Illustration by Jay Montgomery

In any event, the downturn did catch a lot of people by surprise, including the rating agencies. Some say major investors won't buy MBS solely based on agency ratings for a long time to come.

At the end of the day, that kind of reluctance severely impacts the flow of capital for mortgage lending. So, what is the industry to do?

The rating agencies reject being blamed. To counter such blame, Standard & Poor's announced in October that it was undertaking an analysis of data-quality issues involved in its conduit and originator reviews, querying RMBS issuers about their

"Models were likely re-estimated or adjusted to try to capture these impacts, but short-dated performance available at decision-making times may not have revealed the full performance impact."

Difficulty and blame aside, for lenders and investors the bottom line is making sure the technology they deploy to handle fraud and other risks actually protects them.

As a result, the onus is on the vendors, meanwhile, to demonstrate that their products deliver that protection needed.

A partial sampling of recent releases by various mortgage technol-

resentation of employment data, and the ability to order cascading AVMs to check for property flipping directly from within Interthinx.

To help an "unstable mortgage industry regain footing," Oxford, Miss.-based FNC released three new products – Property Scan, Easy Price Opinion, and QC Vigilance – to use in origination, review, purchasing, or securitization for "an extra layer of insight that may help safeguard against future losses felt by mortgage lenders active in the market today."

With its new Clarity system, Shelton, Conn.-base Clayton Services Inc. is adding new predictive tools to run entire pools of loans through risk-filters in order to estimate loss risk. Clayton emphasizes that it also uses leading third-party mortgage technology providers to assess collateral and fraud risk as well.

Kerry O'Neill, Clayton's EVP for transaction management and product development, said they began developing new analytics "at the end of last year as we saw the performance of loans start to deteriorate in the 2006 timeframe."

In actuality, the Clarity system draws on a database of 7.5 million loans to provide pre-due-diligence "high risk" screening.

So far, she said, they are pleased with the results. Clayton also uses third-party vendors to back up its own analytics processes.

"We are testing a number of providers' offerings to empirically discover which ones should be incorporated into our models," she said.

Also in October, Fidelity National Information Services Inc. rolled out several analytics initiatives, including HQ Certified Valuation which offers to close potential fraud gaps in the valuation process, and a portfolio management tool that integrates FIS Applied Analytics default and prepayment algorithms with FIS property and pricing trend data to offer a more so-

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loan monitoring and fraud detection measures.

"It's important to note that rating opinions are neither audits nor due-diligence reviews," said the announcement.

Instead of taking any blame at all in this case, S&P does indeed put responsibility back on the shoulders of the mortgage originators and securitizers themselves "to be able to demonstrate appropriate data quality – in other words, to have proper practices for addressing fraud prevention and detection."

Asked what went wrong with predictive analytics, Mark Beardsell, director of RiskModel Analytics for First American LoanPerformance, said, "The combined effects of expanded and different combinations of risk layering features – I/O, ARM, stated-income, purchase, piggybacks – would probably not be fully captured in most models in the market today.

ogy vendors shows that vendors in the analytics and due-diligence space are keenly aware that their systems are drawing heavy expectations right now given what is going on in the mortgage industry.

For example, in September San Francisco-based Compass Analytics LLC released its Mortgage Servicing Rights Analytics to provide loan-level and aggregated modeling capabilities for mortgage servicers and servicing investors, including both static and option-adjusted spread valuations.

In October, Agoura Hills, Calif.-based Interthinx fast-tracked "a number of cutting-edge technological enhancements to protect financial institutions across the country from further devastation caused by the epidemic of mortgage fraud and risky loans," including pre-funding analytics that compare current loan application data to the entire Interthinx database of application data, payscale metrics to catch misrep-

phisticated picture of default and prepayment risk.

FIS Applied Analytics president Michael Bykhovsky said the enhanced analytics offer a more reliable picture than that provided by risk-based pricing models centered principally on borrower credit scores.

San Francisco-based First American Loan Performance identifies home-price deterioration as major culprit in the downturn.

Loan Performance says its Risk-Model "has a significantly improved model for incorporating boom and bust cycles in housing prices, which leads to improved quantification of the range of losses – housing price exposure – possible on mortgage loans."

Another tool LP considers leading edge is its CoreLogic LoanSafe collateral risk scoring system, which predicts potential fraud or collateral risk prior to funding "since the system kicks out potential fraud for further detailed due diligence," said Mr. Beardsell.

Prior to this year's debacle, "properly accounting for the performance impacts of home price corrections was likely absent from loan origination decision models," he suggested.

"Often home price growth impacts are totally absent from models or decision models were based on historically robust growth rates, which declined quickly beginning in 2006."

Those best at predicting home price growth "will prosper most at mortgage credit-risk investing going forward for the foreseeable future," Mr. Beardsell flatly stated.

Whether or not home-price analysis is key, most observers agree that in recent years the mortgage industry has been guilty of widespread overreliance on credit scores.

For one thing, it is true that credit scores say nothing about the collateral valuation or about the place of LTV in the assessment of risk.

For another, when straw buyers

and/or identity theft are involved in a bad loan, the credit score cited in the loan application is fabricated.

"Many lenders increased credit score thresholds over the last few years," said Tim Grace, president and CEO of BasePoint Analytics.

"However, we have also seen that fraud risk and occurrence have in-



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creased over that same period by two times the amount."

He predicts that a majority of defaulting subprime loans created during that period will contain some kind of fraudulent misrepresentation to make the borrower fit the lending guidelines.

Specifically addressing one of the mortgage industry's sorest pain points today, Carlsbad, Calif.-based Base-

Point recently launched EPD Alert, a statistical pattern recognition product designed to assess the risk of early payment default in both mortgage applications and loans.

What BasePoint claims for EPD Alert is that it is "the first and only pattern recognition solution designed specifically for predicting the risk of

early payment default on mortgage loans today."

Serendipitously for BasePoint and its competitors, S&P specifically singled out using risk-management tools during a prefunding audit to "identify loans that may need additional focus and review before funding.

"With one initial trial," said Mr. Grace, "we scored one year of loans for a particular lender and found that

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the solution was able to detect 49% of the early payment defaults that lender experienced.”

If the lender had been using EPD Alert, he said, “they could have halved their EPD losses for the year or avoided funding \$45 million in EPD loans in total.”

He said the company’s flagship product, FraudMark, has been used by mortgage lenders to prevent the funding or purchase of nearly \$2 billion in suspicious loans.

Pattern recognition technology typically employs neural networks and fuzzy logic to develop methods and algorithms that can automate intelligent functions normally associated with human “hunches”. Traders, for example, can use Comtex SmarTrend Alert as an automated pattern recognition system that generates real-time “uptrend” and “downtrend” alerts to support investment decisions.

Meanwhile the growth of online purchasing has supported continual investment and development of this technology by credit-card issuers. For mortgage lending, one observer said, pattern recognition technology can alert you that “roommate” and “motorcycle” could be red-flag words in a loan application.

BasePoint does not offer the only pattern recognition solution for mortgage however.

Interthinx, for example, has employed pattern matching for the past decade.

“Database validation catches little errors, little inconsistencies,” said Interthinx director of analytics Derek Stanford, “while pattern recognition is about connecting the dots, seeing the underlying cause.”

“For pattern recognition you need some idea of what you’re trying to find,” he continued. “The second thing you need is a volume of data to provide context for the patterns you are trying to find.”

Mr. Grace noted that the banking

industry has had dramatic success using pattern-recognition analytics on both credit- and debit-card fraud detection.

“In credit cards, the average loss per fraud incidence is \$600 to \$800 today – and there isn’t a single credit card issuer that would stop using pattern recognition for even a single day,” said Mr. Grace.

“In mortgage, losses can range anywhere from 15% to 35% – to even the whole loan being lost in a single fraud incident.”

The pattern recognition technology provided with its FraudMark and EPD

larger false positives, reviews are less effective.

“Risk is missed in some cases if analysts fall victim to only doing a cursory review due to the large volume they have to get through. Specific reviews at manageable volumes yield much better results.”

Is deployment of pattern recognition technology combined together with database validation analogous to wearing a belt and suspenders, when you only need one to hold your pants up?

All the experts interviewed for this article say no.



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Alert products, he said, is a major advance over the “database verification systems [that] have been used in the mortgage industry for nearly a quarter century.

They have not worked.” He said most database validation systems are now encouraging lenders to review 50% or more of their loans “because their false positives are high.”

FraudMark and EDP Alert, in contrast, review 10% of proposed loans, claiming to detect anywhere from 40% to 70% of future losses, with less than one in 10 false positives.

“Database validation cannot measure up to pattern recognition,” he stated, largely because “there is an inherent data lag in database expansion.”

The ability to get high detection rates with low review rates is important, he explained, because “reviewing more than 15% impedes the production process drastically.”

Also, he said, “When reviewing higher percentages of volumes with

Interthinx, for one, reports that its comprehensive solution is drawing a host of new customers that see the need for this technology.

“You really need both of those,” said Mr. Stanford, “and that’s what we do, that’s what our product is built on. In order to make all that work for lender customers, you have to connect the patterns you find to the business line risk.”

First American holds a minority interest in BasePoint Analytics. Therefore, it comes as no surprise that Mr. Grace advocates using BasePoint’s pattern recognition to eliminate false positives and then pairing that with a deeper dive via the First American database as a comprehensive way to deal with fraud and default in particular neighborhoods and individual loans.

What has to be emphasized is that the rating agencies have said they will not be responsible, so lenders have to think about where to apply the right analytics strategy on their own. **MT**