



Dr. Jerry Kaplan being interviewed by MBA VP of Industry Technology Rick Hill during the Q&A Session of the Technology in Mortgage Banking Conference

Disrupting the Mortgage Lender's Database of Record

It's not always easy to see trends coming, to know what's most likely to impact your business next. But if you're a mortgage lender who has been using your current loan origination system (LOS) for more than three years, it becomes much easier to guess. For the vast majority of originators, about every five years or so, they are working on implementing a new database of record.

Since I've been reporting on mortgage technology (since about 1997), I've read a number of pieces that attempted to explain why this happens so frequently here, as opposed to the servicing side where a huge swath of the market is still using Black Knight's MSP and has been since Alltel released it as a DOS-based program for deployment on a bunch of green screens.

On the origination side, LOSs are less like platforms and more like sidearms. Every gunslinger has his favorite piece and when he comes to town, he brings his hardware with him. Every time a company changes the C-level executive in charge of the origination division, you can pretty much count on a new LOS making an appearance. But lately, it's starting to look like the next person to weigh in on the technology decision won't even work inside the mortgage company, rather it will be the consumer.

who has been in the industry for more than a few years has experienced this first hand. Executives working here witnessed the sub-prime crisis, when sub-prime automated underwriting systems, set to match the requirements of Wall Street investors starving for product, started using the borrower's vital signs as the most stringent requirement for loan approval (well, it wasn't quite that bad, but you remember, right?). They also watched computerized equity trading systems piggyback on each other as stocks weakened, speeding up the devaluation process and throwing the market into panic.

It is conceivable that an expert system programmed to learn from the big data streams available to lenders today would return results that can only be interpreted as fair lending violations. As Kaplan pointed out, these systems can't steer clear of gender, for instance. They will return whatever answer they feel is right, even if we wish it wasn't. It may appear that the computer is denying a request for credit on the basis of race or gender or some other illegal borrower attribute, when in fact it's because the system has identified a higher probability of default among people of the borrower's height or television preferences or birth month. And how would our regulators deal with that?

In the end, computers are getting smarter, though Kaplan promises that without goals of their own they will never become the army of robotic doom that we read about in science fiction. Crunch Network contributor Mike Finley agreed last month when he wrote his post, "Be kind to artificial intelligence" on Techcrunch.com. He wrote:

"Artificial intelligence is the next obvious controversy. It's around us every day, helping singles find a mate, or routing traffic or diagnosing disease. But will it one day take over like the Terminator? Make us obsolete and slothful like WALL-E? Enslave us like The Matrix? In a world of truly challenging problems like famine, terror and disease, it's hard to argue that more intelligence will leave us worse off."

In the end, the biggest obstacle to more intelligent systems, at least for our industry, may be the people who use them. As Finley put it, "How we perceive AI at work may not be so blatantly destructive — but still illustrates our unease. In 1934, Upton Sinclair wrote that people can't understand new ideas if their livelihood depends on the old ones."



cloudvirma CEO Bill Dallas sketches out his vision for the future of mortgage technology

Fintech firms, many of which were simply tech firms before they discovered the fields of gold hiding in financial services, are expert at watching consumers and seeing what they are likely to want next. Will it be plowing virtual farms, pitching angry birds or crushing candies in a Tetris-like waterfall of smartphone-based color? Will it be reading a

historic novel on their handheld or finding a historic mansion on Zillow's app? Not only are most lenders not equipped to answer these questions, they don't find them remotely relevant.

For mortgage loan originators, the customer base they serve includes real estate agents, financial planners and accountants, and investors. No one in this group is likely to spend a lot of time playing games on their phones. If they need financing for a project or want to buy an originator's closed loans, they'll use the phone, but probably to call them — something you can't get a Millennial to do if you offer them money, a coffee shop gift card or hipster beard conditioner.

So, while some large LOS providers are pulling their software out from behind the lenders' firewalls to store it on their own SaaS servers, a few are pushing their software out to consumers directly. Perhaps surprisingly, some of these players are actually from inside our industry.

Kyle: Save functionality. I can run rules without people waiting and let thousands of things happen in the background, rerun rules check tolerances, everything, and then bubble up if there are any exceptions. All is well and when you save, we check it all. Then you can revert back.

When you live in an LOS flat file system and do a loan, you go through the process to build a loan and you're constantly going back in and changing your object, the record. You have to know what you're changing. Now with our platform, I can do all kinds of what if scenarios without actually tainting the record. If I like it, then I can run rules around it and ask the consumer if we want to make this the new object.

Innovation from the inside

I mentioned Jorge Sauri and his new company briefly last month. LendSmart is one of the companies that is focused on providing the borrower with a sense of control. Sauri has built borrower-facing process automation with built in document management designed to provide all of the information today's borrowers are seeking while it allows lenders to get quality loan files started quickly. The goal is to put the lender's LOS—or at least the front end of it—where the borrower is most likely to be. It's smart if he can get lenders to buy into the idea.



Bill Dallas (left) got around that problem by developing his new technology for his own loan origination company. The product is called intelligent Mortgage Platform (iMP) and was developed by his new firm cloudvirga. Dallas calls iMP the industry's first comprehensive digital mortgage platform effectively alleviating the pain points, cost and time associated with the mortgage process.

Dallas, who you may know from his long tenure in the origination industry, most recently at Ownit, teamed up

with Kyle Kamrooz and Mark Attaway to develop the new platform. He told me that he originally developed it for Skyline, a firm he was trying to build into what he calls "the next generation mortgage lender."

One problem he faced was that the origination technology Skyline was using when he bought it was last generation tech. With cloudvirga, he set out to build something better and has, as of last month anyway, originated over \$5 billion worth of mortgages on iMP.

"My costs in 2000 were \$2,000 per loan; in 2006 they were \$4,000 per loan and today, they are probably \$8,000 per loan," Dallas told me. "The solution was for us to try to lower our costs, integrate services, get to the cloud, go digital, use big data, be mobile and factor it for the purchase money market."

No small task. When their current LOS wasn't up to the task, the Skyline team started building their own. According to Dallas, they built it three times. The first time in C++, the second time on Microsoft's .NET framework and finally on the latest web-based tech, Google's Angular JS. Angular was designed to make it easy to build Model-View-Controller structured in web-friendly Javascript. Two way data exchange between the database and the consumer-facing view makes it easy to offer what-if scenarios that make mortgage borrowers feel like they have their hands on the wheel.

With cloudvirga, Dallas says Skyline is tackling the mortgage process with a platform that delivers an improved experience for consumers. Lenders are able to increase volume and reduce cost by streamlining and automating 50-60 percent of the front- and back-end processes. And by the way, the database isn't flat.

Today's LOSs are the gateways to databases made up of loan files, each of which can be modified by one person at any given time, generally dependent upon that person's role and certain milestones built into the system. The result is a pipeline report where workers made decisions about what they will work on next, perhaps based on the easiest task or the person they are most willing to help at the moment.

Dallas told me this is crazy and it's the primary reason that compliance is a nightmare and loans take 49 days to close. In a flat file world, anyone who changes the loan record must know what they are

doing and that it is compliant. A better approach is to load the rules into the system, split the work into parallel workflows and let the software respond to events, like the completion of a task, intelligently routing the work to the next station. By doing this, Dallas claims he can do 40 percent of the work of originating a loan in 45 minutes.

As the work is being completed, the rules are running in the background, checking and rechecking tolerances and loan program guidelines and if exceptions occur they bubble up. As the loan changes, a record is stored, allowing the lender or borrower to go back to it if necessary. When everyone approves changes, the new record is saved into the database of record. Dallas says this approach speeds up everything. Which saves money. His team estimates that every day they can shave off the loan origination cycle will save the lender \$55.

"If you can save 20 days per loan, that's significant," Dallas said.

Going deeper into the LOS

I hope to go deeper into cloudvirga in a future story. Because the LOS is so important to the industry, any real innovation that our industry achieves in the future will be either helped or hindered by this technology platform. What cloudvirga is offering is interesting because it opens the door to rethink the LOS into something more akin to what today's consumers seem to be embracing online.

For now, I'll leave you with Kyle Kamrooz thoughts:

"Consumers want the mortgage process to be painless, simple, cheaper, transparent at all times; lenders want to reduce overall cost to produce and increase loans per full time employee or FTE. It's a digital workflow engine that has been thought through for the 21st Century. Systems should be driving workflow, not people driving workflow. This is a movement to totally change mortgage lending and we are passionate about solving this problem."

That's way disrupters talk. At NMP Next, we like it.

A Critical Tool for Trend Spotters



One of the risks reporters face when they dig too deep into the stories of so-called innovators is that not everyone who believes they are innovating actually are doing so. It's easy to get caught up in our own hype sometimes and it's really easy for a publication to publish stories about dreams when they think they're actually bringing you stories about accomplishment.

Naturally, we're very careful about that and even though most of the companies you read about here are sponsoring the section, they still have to let us uncover actual stories about their leadership exploits. Thus far, it's working well, but this is one of the tools we use to guard against hype. It might be something you can use.

First, a tip of the hat to Open Culture. This website is an example of what's best about an open and free internet. Creative individuals flock to this website for inspiration, creative ideas and a glimpse into popular trends that might impact the future. Recently, the website offered up an excellent piece based on a book by Carl Sagan entitled "The Fine Art of Baloney Detection."

In his book, Sagan provides a framework that he used to separate fact from fiction (two worlds that he was equally comfortable in). I encourage you to find out more on Open Culture or in his book, but here are a few of his rules that we live by at NMP Next:

1. Facts should be independently confirmed when possible.
2. Arguments from "authorities" carry little weight.
3. Avoided attachment to a hypothesis just because it's yours.
4. Remember Occam's Razor: when the data explain a number of hypotheses, choose the simpler.