Why Predictions Alone Don't Help You, Only Better Decisions Do
How Predictive Analytics plus Business Rules make for better decision making

Now predictive analytics obviously is a huge topic. I'm only going to touch on it very briefly. So predictive analytics you know there are three main things you can do with predictive analytics. You can predict risk. So imagine you're trying to decide if you're going to give somebody a loan or not. There's a risk based decision to make here. If you get it right and you estimate their risk correctly then you stand to make a little bit of money out of them in fees over the lifetime of the loan. If you get it wrong, they don't pay the loan, you're out of pocket for the whole value of the loan. So you have… typically have a big downside risk, a little bit of upside. You can predict fraud. And in a fraud case obviously you… you've got another transaction that happens after the fraud detection which may or may not make you money. And so the only side in the fraud is downside. If you get it wrong you lose money. If you get it right then you get a chance to make money in whatever your transaction was. And then increasingly you see analytics being used for opportunity. I'm going to interact with this customer. What's the best cross sale? What's the best up sale? How do I maximize the value of this interaction with my customer? In those cases there's typically not much of a downside. I guess in theory you could make a cross sale offer that was so stupid the person who was checking out said I'm not shopping with you anymore and left. But realistically speaking what's the worst this could happen? Well they won't expect the cross sale. And what predictive analytics is doing in these cases is turning uncertainty into a probability. So if you think about it I don't know who's going to fail to pay back their loans but a predictive analytic model tells me how likely it is that you are not going to pay back your loan. I don't know which credit card transactions are fraudulent or which claims are fraudulent. A predictive analytic model tells me how likely it is that this particular claim is fraudulent. I don't know what offer you're going to accept but a predictive analytic model can tell me how likely it is that this offer will be appealing to you.

And if you listen to those words there they sound awfully like the kinds of repeatable transactional decision making that we've been talking about because they are. If you're making decisions about customers, about transactions, about interactions then predictive analytics is your friend because they can predict probabilities about those transactions or those customers. But the way this works you have to be able to embed these predictive analytics in your decision making. Predictions don't help you, only better decisions does. So how do you make sure your predictions map to your decision making? Well there's two ways you don't do this. Anyone who used to watch the show Numbers. Remember Numbers? Okay? Remember Charlie from Numbers. He would always do things like this, right? He would turn up the white board and write a bunch of math on a white board. Well there are a certain group of people who build predictive analytics and think that that's a suitable delivery vehicle. You're working with one rules customer and they've hired an outside consulting firm to do some predictive analytics and they said well what's the deliverable and they said well, we've been told and I quote it's a 60 page report full of math. I don't know about you but that doesn't sound like a very helpful deliverable. What are you going to do with that math? How do you use that math to make better decisions?

What about the death by PowerPoint problem? This is a real story. Company online business and the business people had hired some data miners to come in and help them with predicting opportunity in this customer base and they'd use those predictions to build a better customer segmentation and the business people thought this was fabulous. This was the most insightful thing they ever heard about their customer base. They really were excited about having the website use it to interact with customers differently. And the IT guys called them into a meeting and they said great, show us the model. So they stood up and presented the PowerPoint and the IT guys go well, that's what we in IT call a PowerPoint

presentation. We can't use that. We can't take that down to the basement, wrap it around the tape drive and have it make the mainframe go. Where's the model? But all of… all they had was the PowerPoint presentation. The understanding was there but the model was not. ___ is you're going to take predictive analytics and you're going to apply it to these kind of repeatable, transactional decisions, apply it in a business rule, in a decision management system, you need a way to turn it into something you can execute. And the good news is many predictive analytic models can in fact be turned into business rules. Lots of modeling techniques produce decision trees or association rules. They're easy to turn into rules because they are rules.

Predictive score cards are another classic representation that also has its metaphor in business rules. And even if you can't turn them into business rules by embedding the prediction, the regression model, the analytic algorithm into your business rules management system you have it in a place where you can wrap the so what rules. Because predictions don't help you. Only decisions based on those predictions help you. So you have to think through how you're going to deploy predictive analytics and a focus on decision management systems and on business rules really helps.

So I'll give you an example of that. I think this is my last story and then I'm going to wrap up with the last few slides. So a specialty insurer of vintage cars and so on, about 12,000 claims a month. So not terribly high volume. Recession hits and they're told we want you to reduce staff by 25% but we want you to detect more fraud and more subrogation opportunities in the process. Now subrogation is a word, I'm not going to try and define it but what it boils down to is you make a claim against us but there are other insurance companies who should be paying some of the claim and you didn't tell us. So for instance you have an umbrella policy. Well I'm going to use the umbrella policy to pay some of the claim but you didn't tell me you had an umbrella policy. I have to figure that out. Now I'm sure none of you have ever been told reduce staff by 25% but improve results. But it's obviously a little bit tricky. And so what these guys did is they used business rules and predictive analytics together. They used predictive analytics to predict the likelihood that there was a subrogation opportunity given who you are, how likely it is that you have a policy we can subrogate against. And also to decide how likely it was that this claim was fraudulent. They automatically therefore identified subrogation opportunities to investigate and they changed the way they handled claims. They have a certain number that go to fraud investigators. A certain number that go to fast track which is basically you're someone who isn't a claims adjuster who just double checks all the numbers and then the ones that go out to claims adjusters. And to make this work what they did is they dramatically increased the number they fast tracked by identifying the really low risk policies. They were able to route them to a fast track analyst. They actually retrained a bunch of people from their call center to become fast track claims adjusters. They didn't really review the claim. They're just handling the process and the paperwork. By increasing that 11 fold to 22% they were able to hit their staff reductions because those staff handle a lot more claims because they're very, very simple while at the same time reducing their lost ratio. So actually you know paying less out in fraudulent claims and spending less money processing the claims. Getting 32% more subrogation opportunities and about an extra $10 million a year in subrogation money. A great illustration of the point.