

# Leveraging Customer Analytics for Business Success

*In the era of Big Data, businesses must be smart about how they deploy analytics tools to derive deeply valuable insights about their customers. In this video, Knowledge@Wharton spoke with Wharton professor and analytics expert Peter Fader, Raj SivaKumar, head of the travel, technology and strategy unit at WNS, a global business process management company, and Mike Nemeth, head of the insurance practice in North America for WNS, to talk about best practices in analytics for business.*

*An edited transcript of the conversation follows.*

**Knowledge@Wharton:** People are talking a lot about big data and customer analytics. What is customer analytics and why should companies pay attention to that?

**Peter Fader:** Customer analytics has been around forever, from the time that marketing as we know it today, was born. Let's think about the 1950s or so, when we started realizing that customers are different from each other and that there's different ways that we can meet their wants and needs and anticipate what it is they might want next — and get smarter about how we'll deliver it.

We started collecting a lot of data. We started with demographics, sprinkled in a little bit of behavior, started asking questions about attitudes, started getting physiological measurements as well. Then let's mix in a little bit of social too. So a lot of it is being smart about the kinds of data that we should be collecting in order to make better decisions. But then the analytics part is getting beyond the data, or more specifically, below the data. It's telling stories about the true underlying, unobservable processes that are driving that data and driving business success.

If you think about analytics, one of the ways that we like to break it down is into three broad buckets. We have descriptive analytics, we have predictive analytics and prescriptive analytics.

The names are reasonably self-explanatory but it's interesting to see where the boundaries and the synergies are among them.

With descriptive analytics, that's just all about the data. Let's collect data. Let's come up with suitable summaries of it. Let's do some data visualization. Let's do some data science to really take the raw data and best frame what's going on.

Then when we get to predictive analytics, the word predictive is a little bit misleading. It's not only about prediction, but it is this idea of drawing insights that aren't directly observable in the data. That's where we want to pull out people's true, underlying propensities, which is going to help us make predictions and it's going to help us make better decisions. Predictive analytics — that's the heart of analytics — it's the models that we build, the stories that we tell to really understand what's going on.

And then we layer on the prescriptive part. So now that we know what's really going on, now that we can project what's going to happen next, what do we do about it? How are we going to optimize? If we have a pile of money to spend, how are we going to allocate it across different kinds of activities or different customer segments or different geographic areas? It's all about this notion of descriptive, predictive and prescriptive.

And that of course leads to decision-making, which is what my colleagues here can talk about with much more expertise.

**Knowledge@Wharton:** What are some of the data sources companies are using in customer analytics?

**Fader:** There are a lot of generic data sources, some of which are becoming super-hot, some of which are tried and true. It all starts with demographics. Not to suggest that that's necessarily the best, but it certainly is the oldest and the most common and there are a lot of companies that, even when they find better data sources, they care so much about just simple observable characteristics of the customer.

It's things like age and gender and geography, and moving a little bit into media habits, what kind of car you own. Tell me more about the characteristics of the zip code that you live in. So demographics will kind of spread itself out and will sometimes get into things, like I said, media habits, that wouldn't be a demographic, that would really be more of a behavior. But it's still something that we often use to label people.

And then as we move from who people are, we move to what is it that they're thinking about. That's going into attitudes — things like wants and needs, your frustrations. One of the really common attitudinal metrics that we focus on today would be the Net Promoter Score. Would you recommend this particular service to someone else? That's just one of a myriad of different attitudinal metrics. And there would be different kinds of behavioral metrics. We might say, 'It doesn't matter what people look like, it doesn't matter what they say, it's all about what they do.' That's going to be the transactions that people make, it's going to be their interactions with a website, it's going to be their interactions with each other. It's going to be their responses to inbound and outbound marketing activities.

And then that gives us a segue to the next one, which would be social. We care a lot about who

someone is connected with. How many people do you have in your social graph? How many of those links are inbound — people looking at you — versus outbound — you looking at other people? How central are you to the overall social network?

And then a real big one that's taking off today would be different kinds of physiological measures. If we think about it in terms of the whole wearables revolution, let's measure heart rate. Let's track people's eyes. Let's look at their movements — not just where they're going, but how fast they're moving and so on. The real beauty of analytics isn't just collecting a lot of data, but it's figuring out ways to do it in a really synergistic manner — that we can draw insights from these different kinds of metrics collectively that we couldn't draw from any one of these types by itself.

**Knowledge@Wharton:** What are some of the common mistakes that companies make when they collect and use big data, as well as when they deploy analytics tools? What should they be doing?

**Mike Nemeth:** The first mistake that people make, in the insurance industry in particular, is that they assume the way they have the data organized and the data they're storing are going to be useful in an analytics project. And it isn't always. One of the first barriers is, 'How can I reorganize information from the various places that I have connections to, internally and externally? How can I organize that data and how can I transform the information to make it usable in an analytics project?'

It comes as a surprise sometimes to people. They tend to hire a bunch of expert analytics people. They buy tools. They put them all in a room and they say, 'We have a lot of data.' Insurance companies do have massive amounts of data. And they say, 'Tell us some insights.' And it's just really not that simple. The very first step is what data are we going to use? Where are we going to create a new data store that's used specifically for

analytics purposes? How we manage that data, replicate that data over time, is really the first challenge that people tend to face.

**Raj SivaKumar:** In the travel industry, with data collection and storing data becoming so much cheaper, [the result is that,] unfortunately, the emphasis on data collection has overshadowed the emphasis on analytics. A lot of companies and a lot of people collect data, but to what purpose? And the key is to be able to ask the right question to get to the right answer. Asking the right question is so much more important in the end because if we ask the wrong question with the technology that we have, we can really quickly get to the wrong answer. So the emphasis on analytics, the emphasis on interpreting the data, the emphasis on realizing that it's all about tradeoffs is so much more important in the current environment.

**Fader:** I surely agree. And I think about the old days. Again, I'm a historian of marketing and business; there's so much that we can learn. When we didn't have all of this data, when there really was more focus on decision-making than on data collection and data management, companies were pretty good at taking just a limited amount of data and squeezing as much value out of it as possible.

Unfortunately, today a lot of companies are saying, 'Well, we have all of this data that we didn't have 40 years ago so therefore whatever we knew back then is irrelevant.' It's important to think about what kind of data you need in order to address the specific questions and hypotheses that you have in mind, rather than this idea of, 'If we build it — a data warehouse — amazing things are going to happen.' So we're all on the same page about that.

**Knowledge@Wharton:** Some companies, particularly ones in the banking and insurance industries, sit on a lot of data. But they don't mine it to great effect. Can you tell us about the barriers that stop companies from mining data more effectively?

**Nemeth:** It begins with the fact that the data that's been traditionally collected in the insurance industry is not about the customer. We have elementary information like Peter mentioned earlier: gender, age, location, things of that nature. But really most of the data that is being sat upon by insurance companies is information about the risk, not about the customer. So it's about the house, it's about the car, it's about the business as opposed to about the customer. And we can intuit a certain amount of customer information from information about the risk, but most of it is not about the customer.

Collecting information specific to the customer is a relatively new thing in the insurance industry. These doors are suddenly wide open. And like Peter mentioned just a moment ago, all of a sudden we have this influx of information that insurance companies have not had a lot of experience with. And so they don't really know how to interpret the meaning of some of that information, how to combine it with information they do have experience with, to come up with good analytics results.

One of the keys to making that work is to add domain expertise to the analytics project teams. And this is sometimes overlooked, unfortunately. We hire analysts, we buy tools, we have data — we think those are the three components to produce these fantastic results. And they forget about the domain expertise that needs to go into the mix. And Raj hit the nail on the head when he said, 'I think we have more questions about this, so I won't go too deeply into it at the moment, but analytics is all about asking the right questions.' And the people who know what the right questions are, are the domain experts.

**Fader:** Everything that Mike just said, take out the word insurance and financial services and plug in pretty much any other industry and the same applies. In fact, in many ways insurance might be a step ahead of many other sectors because traditionally they have looked at, say, risks differently for different kinds of customers, as

opposed to a lot of other sectors that have looked at the customer in some kind of singular way.

But indeed, the idea that our data collection has been much more focused on the products that we develop and the activities that we do to develop and serve those products, as opposed to those previously faceless, nameless customers out there that were creating the demand for them — that is a change. And I like to believe that a lot of the activities that I'm doing and that happen at, say, academia in general are trying to get companies to wake up and realize that it's not just a matter of collecting more data about your products, it's about changing the kind of data, the kinds of questions that you're asking, in a very transformational way.

**SivaKumar:** In the travel industry, and particularly with airlines, the issue is tradeoffs. Let me give you a very simple example. Let's say the marketing department would like to ensure that the customer with the highest [value] year gets the preference in terms of seat assignment and travel, whereas the revenue management department would like to make sure that every single passenger pays the highest price. This tradeoff between what you charge a customer versus you allocating a high value customer who may not be paying a high value on that flight — it becomes a classic tradeoff. The companies that ... leverage the data to understand the tradeoffs better, are going to be well served.

**Knowledge@Wharton:** What's next for customer analytics?

**Fader:** We've made it very clear, and I hope that people resonate with the idea, that it's not just a matter of collecting more data. Let's go back to the basic rubric of the descriptive, the predictive and the prescriptive. There's so much attention these days on the descriptive part, which is, 'let's collect lots of data, let's make lots of pretty pictures, let's do a lot of what we call data science.' The problem is when we talk about data science there's been too much emphasis on the data and not enough emphasis on the science.

I think the next generation — as we start seeing that there are limits not only to how much data we can collect, but the quality of data that we collect — is going to start saying, 'Let's not collect anymore. Let's think more carefully about that data. Let's understand the processes that are driving it in the first place, and let's get smarter about the ways that we can layer on top different kinds of prescriptive or optimal elements.'

We're going to see — I don't want to say a shift, I'm not saying we're moving away from data by any means — a broadening of our horizons. A little bit more of the science to balance out the focus that we've had on data so far. ■