

WARRANTY WEEK™

The Newsletter for Warranty Management Professionals

February 15, 2005

ISSN 1550-9214

Warranty Exam:

If you pass the test, you get the sale. But Sub-Zero didn't even tell SAS what to look for in its warranty data.

What exactly does it take to sell a warranty analysis software package? For the SAS Institute Inc., it involved a final exam-like test in which the vendor didn't even know the questions, but it had to find the answers faster than the customer.

In this case, the customer was the Sub-Zero Freezer Company Inc. and the Wolf Appliance Company LLC, makers of some rather high end refrigerators, freezers, stoves, and lately, even some temperature-controlled wine racks.

If white goods were passenger cars, Sub-Zero would be a Porsche or a Ferrari. They command ten times the price per unit because they have built a long-term reputation for performance and reliability.

David Bien, Sub-Zero's director of reliability, said he agreed to purchase the SAS Warranty Analysis package only after it became apparent that the company had outgrown the system they had built themselves over the years. He said Sub-Zero currently has a staff of six warranty clerks looking at claims as they come in on paper. After a clerk checks to see that everything is in order, they type the details of the claim into a computer system, selecting one of 200 different failure codes for the problem and making a list of all the parts repaired or replaced.

Bien said Sub-Zero is actually using a call center software system made by Quintus (now part of Avaya) as the repository for all that warranty data. An engineer can then take a look at the data, using the Cognos PowerPlay package to manipulate the data and to produce reports. Reports are produced monthly, detailing failure codes and claim rates by product line.

Text Mining

All that will change March 4 when the SAS system goes live. Rather than processing failure codes, the SAS system will process text. Rather than counting the repetitions of each code, the system will look for patterns and anomalies in the comments of customers and field service technicians. Bien said that manufacturing problems which used to take five or six months to spot will in the future be detected in three months or less.

"We wanted to eliminate the manual part of the system and to come up with a more robust coding and classification method," Bien said. "The coding process is not as accurate as we need it to be. We feel text mining will allow us to more accurately classify failure modes."

Bien said Sub-Zero brought SAS in last May, largely on the strength of the company's reputation for analytics software in general. Interestingly, though, Sub-Zero was not previously using any other SAS software. "The text mining came on after the fact, when we realized that we couldn't get what we wanted with our current system of coding," he said. "Where we really want to end up is with a system that takes a limited amount of data and makes projections based on statistics — that tells us much more quickly that we need to do more research."

And research is what drives Sub-Zero's reputation. On its [Web site](#), the company lists some of its products' attributes: "Made by hand. Tested to the nth degree. Innovative, aesthetically appealing and technologically advanced. Built to ... exacting standards."

"The main benefit we're looking for is to greatly reduce the amount of time it takes from the point at which we manufacture a product until we know there's a concern with that product in the field," Bien said. "With our historical system, that's about five or six months, best case, before the system we developed could somewhat reliably detect a problem. But what that means is we built five months' worth of products that all potentially have the same shortcoming.

"With the SAS system, we're projecting to cut that in half. That's a huge benefit to us, not only financially, but also from a customer's perspective who potentially won't have a problem." Bien said the primary difference is the more sophisticated analytics available in the SAS package. As the package helps Sub-Zero identify problems in the future, the company will measure the benefit by the reduction in time multiplied by the number units manufactured. If it still takes five or six months to spot a problem, then the package isn't doing its job.

Final Exam

Bien is confident that won't happen. Before finally deciding to invest its time and money in the SAS Warranty Analysis package, Sub-Zero gave the software vendor a kind of final exam, handing it several thousand recent warranty claims that they had already processed manually. SAS' assignment was to spot the same problems in less time than it took Sub-Zero.

"We knew when we detected and fixed them," Bien said, "and we knew how many products made it out. So we knew exactly what it cost us. We fed the information to SAS. They built a mini system to do the analysis and the emerging issues reports, and then they showed us when their system caught it. So that's why we feel comfortable with the [projected] 50% reduction in time."

Bien said he expects the new system to pay for itself in around 14 months. This means that in the first 14 months after the system goes live, Sub-Zero expects to avoid enough warranty claims and product recalls to equal the software's licensing costs. He also expects it to strengthen Sub-Zero's reputation as a manufacturer of durable high-end refrigeration and cooking appliances as warranty claims become even less frequent than now.

Tom Roehm, the SAS Institute's senior director of supply chain intelligence, said the company encouraged Sub-Zero to go through the "final exam" process. SAS usually sits down with the customer to quantify the benefits in terms of a before and after scenario. Once in a while, the customer asks for proof in the form of a pilot demo. "We have a process we worked together with them on which has proven to be very credible.

Customers seem to like it quite a bit," he said.

No Peeking at the Answers

Usually, SAS takes a look at a customer's unstructured data, knowing how long it took the customer to spot a given issue. SAS loads one week's worth of data at a time and uses it to generate an emerging issues report. Then, when the desired issue emerges, they compare notes to see how long it took the customer to spot. What was different about Sub-Zero was that the final exam was completely blind. SAS assumed the data would reveal some product issues, but it didn't know exactly what those issues would be.

Evidently, SAS passed the test. Though many of its warranty analysis customers are in the passenger car industry, SAS has packaged the product as an "early warning system" for several other industries, including heavy equipment and of course major appliances. Now, Roehm said SAS is looking to take that message promising costs savings through earlier detection of problems into the computer and telecommunications equipment industries.

Bien, meanwhile, said that Sub-Zero might have invested in the SAS package even if it didn't promise huge savings in warranty cost. If it strengthens the brand through increased reliability, that in itself would help to boost revenue. In addition, a more comprehensive approach to the processing of warranty claims also provides benefits such as increased insights into product performance and customer satisfaction. Simply put, warranty claims are usually both a manufacturer's first and last direct contacts with a customer.

To move product, Sub-Zero used approximately 30 distributors who sell to appliance dealers, kitchen designers, and builders. This means that units could conceivably not be installed for several months after they're manufactured. It also means that Sub-Zero doesn't usually know who the customer is or when a given unit went into service. Bien said only 10% of his customers return their warranty registration cards, and that's actually higher than is typical in the major appliance industry. Usually, he doesn't find out even the name of a customer until they submit a warranty claim.

Twelve Year Warranties

Meanwhile, Sub-Zero is known for its longer than usual product warranties. The company provides a two-year parts and labor warranty on the entire unit, and a five-year parts and labor warranty on the so-called sealed system: the compressors, condensers, and all the tubing. For years six through 12, Sub-Zero covers just parts, on just the sealed system. Stainless steel panels are warranted to be free of cosmetic defects for the first 60 days. Service is normally provided in the home by technicians dispatched by Sub-Zero factory authorized service centers.

Bien said the lengthy warranties are actually quite beneficial to Sub-Zero. For instance, during years six or seven, when most other white goods manufacturers have lost touch with their customers, Sub-Zero is still getting detailed parts information through the parts-only warranty claims it processes. Meanwhile, it's not paying for the labor. If the SAS package helps the manufacturer glean additional insights from the data in the out years, the software will continue generating value long after it's paid for itself.

