

IBM Cognos Software Demo Transcript IBM Cognos SPSS Customer Retention & Churn

-- In this short demonstration, Paul and I are going to go through an end-to-end closed loop business process utilizing Cognos 8 Business Intelligence and SPSS Clementine.

Here we are in the IBM Cognos 8 Portal, a 100 percent Web-based zero footprint Web portal that allows me to organize my BI content how ever I choose.

(00:19)

I've organized my data into a customer retention dashboard so that I have all the data necessary to run the customer retention program that I have started in my company.

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On the top left of my dashboard, I've set up an alert which allows me to proactively manage my business. Rather than spending a lot of time looking for it, I can easily set up my Cognos system to monitor my back end process and alert me when there are exceptions.

(00:43)

Below my alert I have a list of reports that I frequently view. This report shows customer churn score, trailing 12 months revenue, plus a data item called opportunity which is generated from an SPSS Clementine algorithm that gives a customer's potential revenue amount based on past purchases and comparisons with similar customers.

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This report also includes a micro chart for each customer showing a year to date revenue trend. The majority of the customer retention dashboard is dedicated to a highly visual and interactive report that supports my customer retention activities. A key differentiator for IBM Cognos 8 is the ability to easily pull in data from disparate data sources and report off of them in a unified view.

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This dashboard combined data from my SPSS Clementine data mining algorithms with my point of sale system to give me a complete view of my customers. I have graphs that show customer churn by sales code, a graph that is showing me the number of new and lost customers plus their five or six month sales amounts.

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The bottom charts are sourced from my point of sale system and show me revenue related information such as monthly sales months by sales zone and trailing six months sales amounts by sales regions. These graphs are all highly interactive, allowing me to drill up and down to move from highly summarized data to more granular data and even allows me to drill through to the detailed transactions if I wish.

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For example, right away I notice on my new activity chart -- which is sourced from SPSS Clementine -- that I've lost a lot of business in Zone 1, 20,000 customers that did over \$6 million in the last six months with us.

If I drill a bit deeper, I can see what zones in this region are driving this activity. It looks like Zone 5 and Zone 18 are contributing more so than other zones. I may want to follow up on this at a later time.

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But let's get back to that alert. As I mentioned earlier, alerts are a way for me to proactively manage my business. This alert is monitoring my SPSS Clementine customer churn process, and has notified me that the most current scores are in.

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If I click on the headline I get some additional information. There are 26 customers that had an increase in their churn score from July to August. This is obviously something I'm concerned about, and so I can run a report associated with this alert.

(03:03)

This report shows a list of customer that has had an increase in their churn score from July to August. It shows me their July churn score, their August churn score, the variance from month to month, as well as their trailing 12 month revenue.

This report was created by combining the data from our SPSS Clementine customer churn algorithm with data from our point of sale system, a very powerful combination that allows us to see patterns or trends in our data that we may miss looking at each data set individually.

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You can see that there are five customers that have had an increase in their customer churn score of 80 percent or more from month to month. These customers were 80 percent more likely to stop doing business with us as they were last month -- obviously something we should take note of.

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But notice that some of these customers with high churn increases don't really have that much revenue associated with them. Also, some of the customers that have relatively large amounts of revenue have medium to low churn score increases. I wonder if there's something more to the relationship between customer revenue and their churn potential.

If we assume that a customer that spends more money on our products is more valuable to us it stands to reason that if we could put a quantitative value on a customer and put that together with our churn scores we can be much more effective and efficient in our customer outreach activities. For example, we might not want to spend as much

time on the low value customers that are likely to churn as we would on the high value customers.

(04:30)

Wouldn't it be nice if we could put a relative value on our customers to see how valuable they are to us? Maybe there's a way to use the point of sale data that we have displayed in our dashboard to come up with a way to bucket our customers so that we can further enhance our retention activities. Luckily, we have a best of breed tool available to help us do just that: SPSS Clementine.

-- In order to determine the likelihood that our customers might churn, to create those churn scores I am using SPSS Clementine. Clementine is a data mining workbench. Shown here is the Clementine interface. Everything that I do within this session will be stored in these folders at the upper righthand corner.

(05:12)

The first thing I want to do is access the same data that Cognos used for their reporting. So not only have I brought in the last customer table, I have also brought in the new customer table. Now from my record ops palette, I have added an append node that will append the lost customer and the new customer tables together.

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Next, coming off my append node I put up a filter node. The filter node allows me to remove columns so that they won't be used downstream.

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Next I wanted to bring in some more information so I am bringing in another table from the database, this table is called Art. But by adding in that Art table, I now have a wealth of information about each customers' purchasing behavior.

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Here I have added a histogram graph from my graphs palette that shows me the relationships of RFM score over churn. I am now ready to proceed to modeling and the first thing I need to do is instantiate the data.

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The evaluation chart shows the performance of each of the modeling algorithms that we ran and their lift or gain off of the random sample line. I can now get this generated model or this gold nugget and attach it to my stream.

(06:35)

We have learned some very valuable information by reading all that data in from those databases. Not only did we put together the predictive churn scores but we also scored all of our customers for RFM, as well as the individual components of RFM -- Recency, Frequency and Monetary -- and then we put those RFM scores together into groupings.

(07:00)

The last thing that we want to do is we want to get this information back out into the business process. From my export palette, I select the database export node and do a right click and edit. I'm going to point to the same ODBC driver where the original data came from. I actually have the capability to create a new file. I can create that table if it already exists I can drop it or I can insert it into a table and this will put that information that we've learned right back out into our business process where we can use it.

(07:34)

Let's go back to the customer churn score report that we looked at earlier. And this time open it for editing, so I can bring in the new RFM group to see if there's any new information to be learned. This time as I open report and edit mode I can add the new RFM group data item. We can see that the table that contains the RFM group information has now been added to my list of available tables, and I simply have to drag in the RFM group data item to make it appear in my report. I'll save it and run it from my portal page.

(08:10)

When I run the report with the new RFM group added, I can see that there are five customers that fall into the high group, 10 or so customers that fall into the low group, and the rest fall into the medium group.

As we might expect the churn scores for the highly-valued customers are relatively low, and the revenue amounts are relatively high. These customers tend to purchase more frequently and spend more relative to other customers, that's why they're in the high group.

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In contrast, for many of the customers in the low group, the revenue amounts are low and perhaps more importantly we can see that the year to date trend information for a lot of these customers is trending downward. It may be too late to save these low-value customers and we may want to consider spending our outreach activities elsewhere.

(09:01)

The most interesting group of customers are those that fall into the medium group. It is here that I think we should focus our energy. We see that quite a few of these customers have relatively high churn scores -- many in the 80 to 90 percent range -- but they also have relatively high revenue amounts, a bad combination that we need to rectify.

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I can act on this information directly from the report in a number of ways. I can add this report to my personal workspace so that I can monitor it over time. I can take a snapshot of this report as a report view so I can compare this version with past or future versions.

And, I can also e-mail the report to someone else in my company right from the report viewer. I may e-mail this to someone in our marketing department with a note to put special emphasis on the customers in the medium group that have high churn scores, as well as high revenue amounts.

Paul and I have demonstrated an end-to-end closed loop business process utilizing Cognos 8 Business Intelligence that leverages SPSS Clementine data. We started in the Cognos 8 portlet, took a short tour of some of the out of the box functionality.

We identified a situation via our alert that needed following up on, and then used SPSS Clementine to extend the data in our back-end system to drive a value that enabled us to further classify our customers.

We then demonstrated how easy it is to bring this data point into Cognos and report off of it and analyze it to solve real world problems. We hope this demo was as valuable to you as it was fun for us to make. Thank you.

[END OF SEGMENT]