

Using predictive analytics in Microsoft Dynamics CRM Online to improve sales

Knocking on your customer's door at just the right time gives you an edge. They are ready to buy, and you are ready to sell. How can you make sure that every sales call occurs at the right time?

The top challenge facing sellers and leaders in the field today is the proliferation of tools and disconnected experiences that reduce productivity and create inefficiency. In the *Qvidian 2015 State of Sales Execution Report*, 22 percent of respondents cited an inaccurate pipeline as their key challenge for not reaching sales quotas.

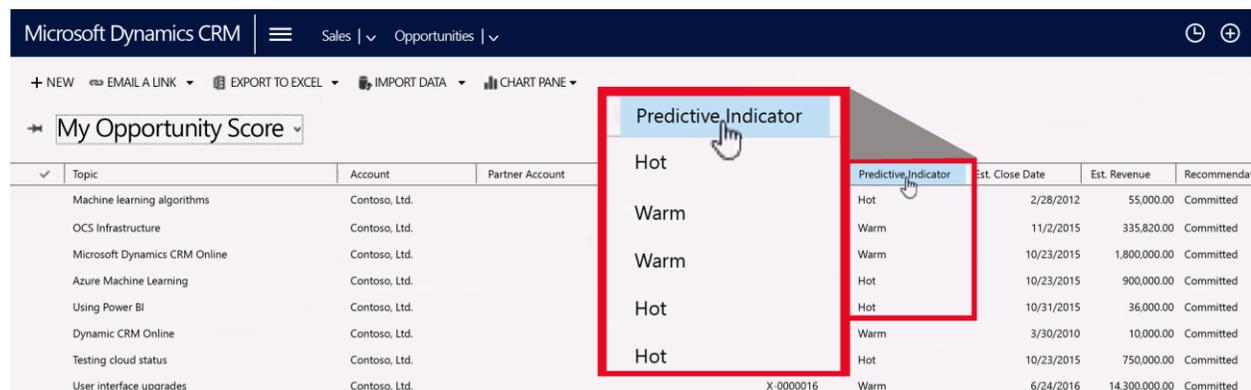
As part of the effort to modernize sales and marketing capabilities for Microsoft sales teams worldwide, Microsoft IT developed a customized sales solution to streamline seller tasks—the Microsoft Sales Experience (MSX). MSX is built on Microsoft Dynamics CRM Online. We recently added an advanced analytics model to MSX that increases the ability of our sales people to make informed decisions by giving them win/loss probability information. The tool provides data about each customer opportunity, based on telemetry and visualization in Microsoft Dynamics CRM Online as well as Power BI. It also provides suggestions for specific actions our sellers can take next, per opportunity. The Microsoft Dynamics CRM team is working to make this functionality available for you soon.

Built on millions of data points

By using more than 3 million opportunities that our sellers worked on over the past two years, our model calculates near real-time opportunity win/loss predictions with sophisticated machine-learning algorithms.

The actionable suggestions that sellers get along with the opportunity indicator come from a basic recommendation model. We built it to run on the historical data and provide concrete, analytics-based advice to help our sales people move forward on the deal.

In their sales pipelines, our sales teams can now see whether an opportunity is hot, warm, or cold, at a glance. The interface also shows the recommended data-driven actions.



Topic	Account	Partner Account	Predictive Indicator	Est. Close Date	Est. Revenue	Recommendat
Machine learning algorithms	Contoso, Ltd.		Hot	2/28/2012	55,000.00	Committed
OCS Infrastructure	Contoso, Ltd.		Warm	11/2/2015	335,820.00	Committed
Microsoft Dynamics CRM Online	Contoso, Ltd.		Warm	10/23/2015	1,800,000.00	Committed
Azure Machine Learning	Contoso, Ltd.		Hot	10/23/2015	900,000.00	Committed
Using Power BI	Contoso, Ltd.		Hot	10/31/2015	36,000.00	Committed
Dynamic CRM Online	Contoso, Ltd.		Warm	3/30/2010	10,000.00	Committed
Testing cloud status	Contoso, Ltd.		Hot	10/23/2015	750,000.00	Committed
User interface upgrades	Contoso, Ltd.		Hot	10/23/2015	750,000.00	Committed
		X-0000016	Warm	6/24/2016	14,300,000.00	Committed

Figure 1. Predictive Indicator in the MSX My Opportunity Score view

We rely on feedback from the sales team to improve the recommendations the tool provides. For example, the indicator may show an opportunity is hot, but the seller knows that budgets are frozen. This feedback helps us to determine what additional signals are needed for the recommendation model.

Data quality and quantity limits

While the tool provides good advice about sales opportunities, we are still working to improve the quality of this advice. It's only as good as the data it consumes.

As machine learning models learn and train from data, our biggest challenge is the quality (completeness, usefulness) of CRM data in our system. Very few fields are mandatory in Microsoft Dynamics CRM, so missing data is a problem for good quality predictions.

Also, a lot of data is tied to monthly and quarterly rhythm of business cycles. Because data is typically entered during these times, the rich engagement with our customers is not reflected in Microsoft Dynamics CRM Online in real time.

The learning model uses telemetry to track any opportunity changes. The model then updates the opportunity predictive indicator. Therefore, we need to get as much data as possible for training the model—and more historical data will help.

Predictive model technologies readily available

You can build and attach a predictive model to Microsoft Dynamics CRM Online. Azure Machine Learning provides sophisticated technology based on a deep neural network model. It is easy to manage and doesn't require deep expertise.

Using Microsoft Azure Machine Learning and C# code, you can attach the model to Microsoft Dynamics CRM Online and achieve similar results. Once attached, the model will use your historical data in Microsoft Dynamics CRM Online and other data sets, such as sales orders or web data. These data sets can be combined for further training of the model along with feedback from your sales teams. Using Power BI, your sales leadership team can easily evaluate their sales pipeline.

Adoption and user feedback—key to evolution

Still being tested and piloted with our sales teams, we've received enthusiasm for the potential the tool offers as well as insightful feedback for improvement. We built a feedback loop into the tool that enables us to capture and add suggestions from our sales team. These will make the model more precise over time and provide suggestions that are more valuable.

This agile development process also helps us identify gaps in business processes. The more user feedback we receive; the more inputs we have to improve the model. Solutions like these provide value realization over time, leading to changes in tools, processes and behavior.

Sales tool helps everyone

While our sales people are the best judge of whether they will win the deal or how an opportunity is progressing, they now have the power of advanced analytics to supplement or rethink their judgement. They can better understand the revenue risk in their pipelines and can adjust their schedules to take advantage of hot opportunities.

Sales executives can better plan and prioritize their opportunity pipelines to improve their forecast accuracy. They can also use the tool to coach their teams and learn more about individual opportunities.

To quote one of our lead salespeople,

"We are extremely excited to see the improvements in the sales tools our sellers have available to them to improve sales productivity and customer satisfaction. This predictive indicator solution, using telemetry and Power BI, could really be a game changer for our sales people at Microsoft."

Michel Putnik, *Microsoft Sales Lead*

Stay tuned

As in everything we do here in Microsoft IT, the solutions we deploy internally and the feedback we receive gets evaluated by the product group for potential mainstream consumption. Stay tuned for potential future enhancements to Microsoft Dynamics CRM Online based on this internal rollout.

For more information

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