Canada's Iconic Food Chain Uses Big Data to Boost Sales and Feed Hungry Customers
by Amar Narain

You probably think pizza is built on toppings, but what if I told you it was built on data? Every year, Pizza Pizza fulfills over 20 million orders. That's a lot of slices. If you were to break down everything that goes into making our pies, you'd have a lot of information. In fact, one of our IT partners recently estimated that the last five years of our operations would have generated a database that contained 1.5 billion fields. Toppings alone would have amounted to 500 million entries.

That's a lot of data to process. Staying on top of it means better service for our customers and improved revenue. However, there's a gap between saying this and achieving it.

> **Staying on top of data means better service for your customers—and a better bottom line for you.**

[Pizza Pizza](#) is a complex operation. We've been in business for over 50 years, having opened our first Toronto location in 1967, the year of Canada's Centennial. We have since expanded coast to coast and currently operate over 750 locations. Among other things, we operate several data and call centres that process orders. Some of our contact agents work from home, but their activities are transparent to our customers. The integration is seamless.

There is a single databases for delivery information, and actual items ordered. The point of sale terminals in our retail locations also feed information into this database at our head office—a centralized system for all customer information.

A customer satisfaction survey operated by a third party adds to these data sets. This is the offer that's on every printed receipt. Fill out the online survey and you'll get a free item with your next purchase. We also have Google Analytics for our digital and ecommerce channels, including Twitter and Facebook. People take to social media to praise us or to vent about orders we got wrong. We monitor all such activity and work it into our marketing and branding efforts.

A complex ERP system further adds to our sprawling data. Every Pizza Pizza franchise is a turnkey operation. Our head office not only manages order taking through our contact centre and website, but we also handle utility bills and rent for our franchisees. We pay for everything and then send them a detailed statement.

Finally, Pizza Pizza operates a network of regional warehouses that supply our franchises with everything from pizza toppings to paper napkins. Managing stock in these facilities is crucial to ensuring orders are processed and that individual stores have enough supply to meet demand.

Too Much Data But Not Enough Insight

As you can see, Pizza Pizza uses a lot of data. We deal with six different and highly complex data sets at any given time. To make the best use of all this information, we need the ability to access it before, during, and after every transaction, at every level of our business. But we lacked this capacity in the past. Like many other organizations, we used spreadsheets and static reports to look at our operations.

The process went something like this: Every morning static reports would be emailed out to our executive team. They'd go over a spreadsheet of the previous day's activities. There was no interactivity, and there was only one way to look at the data. If we needed a different perspective, we had to ask IT to generate a new kind of report, which would then take days or weeks. Other reports would go out during the day, and business users who were proficient with Excel could generate limited reports from our data warehouse system.

There wasn't enough flexibility in the way we presented the numbers. This may not seem like a problem to some. After all, the questions you ask are more important than the numbers, right?

Data without flexibility only gives you part of the picture.

That's not necessarily the case. Take our walk-in deals, which we run across the country as a way of getting people into our stores. For $5.99 or $6.99, you get a medium one-topping pizza. It was very difficult to determine the actual average ticket of such deal. Base on the movement of the products, it was determined whether this was a success or failure. When they looked at the numbers with our old system, they saw how many promotion units were sold and compared this to the number of more expensive pizzas customers were buying.

Sometimes it was concluded that the bargain-priced single-topping pizzas were cannibalizing sales of more expensive products. It turns out the wrong questions were asked because the report was showing the numbers one way. What couldn't be seen was that people who were coming in for the special were also buying dipping sauces and drinks which would increase the average ticket. We knew what items were selling and the average price per sale, but we didn't know how often customers were asking for more than the walk-in special when they placed their order.

In the past, we made decisions solely on how many units of a product were moved. It was difficult to get a wider perspective. We were working from a very high level and couldn't readily drill down to the nitty-gritty.

We knew a business intelligence (BI) tool would be the answer to our problems. We looked at three different options and realized Qlik was the best solution. In the six months since we've adopted Qlik, we've gone from spreadsheets to dashboards, from reports to visualizations, and from historical to real-time data.

This was exactly the data transformation that Pizza Pizza needed. Qlik is helping us see how customer and food trends are evolving. We are also applying analytics to every aspect of our operations.

We built a knowledge management strategy that would provide new insights into our people, processes, and practices. We also incorporated demographic and behavioural data about customers and consumers. We then created a business intelligence architecture that consolidated data sources, provided point-and-click data mining, data analysis, and KPI monitoring functionalities. This took us from static reports and spreadsheets to real-time data and dashboards at the flick of a switch.

Real-Time Dashboards for Business Intelligence
Our new Qlik-powered summary dashboard functions in the same way as our old morning spreadsheet, but is visual and highly interactive. One version is an overview of the previous day's activities. Another is updated every 15 minutes.

The inventory analysis dashboard has become a boon to warehouse staff. In the past, we had to walk through our warehouses to physically verify supply levels or spend hours to run individual reports. This is no longer necessary. Now, we can analyze sales trends at the distribution centres and determine what ingredients are needed, and ship them to local warehouses before they run out. We can also reduce shipments of ingredients that aren't moving as fast. Supply chain management has never been simpler or more efficient.

Another dashboard we've built is for the call centre to help improve agent training. For example, when we launch a promotion, we can see who's spending more time on the phone than usual. That's often a sign that an agent is having a hard time explaining a new offer to customers. Because of this insight, we might take them off the phones for additional training. We can also monitor call volumes over time and thus predict and plan future staffing levels.

For our social media initiatives, dashboards monitor positive and negative mentions on Twitter and Facebook, along with hashtag usage. We also track the effectiveness of online marketing and Google AdWords campaigns, as well as organic search engine traffic on desktop and mobile devices.

A Good Dashboard Changes Everything
The most complex dashboard of all provides delivery analysis by store. It combines data from multiple sources and generates insights that would have been impossible using our old spreadsheet-based approach.

We start with demographic data for a store's delivery territory. We calculate the average family income to determine the offers we'll push in that area. Then, we use GPS data to compile historical delivery data.

We can determine which neighbourhoods are ordering less, and then target these households with enticing ads and offers. We can also track delivery times. Our goal is to ensure our pizza is still hot by the time it gets to its destination. This means a maximum of 20 minutes from our location to a customer's front door.

By analyzing sales data, weather, traffic, and delivery patterns, district managers and franchisees can determine, among other things, whether delivery territories can be expanded. We would even know whether there's opportunity to open a new restaurant in the vicinity.

Results You Can't Get from a Spreadsheet
We simply can't get these kinds of insights from a spreadsheet. At the same time, we have to recognize that some people can understand numbers better than graphs or visualizations. A few weeks back, our CFO came into our office and asked about gluten-free pizza sales. We pulled up Qlik, input the code for our gluten-free offerings, and showed him a visualization. "How many are we selling?" he asked, "Why do I have to click here and there?"

"Just right-click here to export the data," we said. "Now you're on an Excel spreadsheet."

"That's what I wanted," he replied. This is one of the best things about Qlik: It can render data in the format that is best understood by the end user.

End users are the core of our business. Even if they're not the decision maker, they're definitely an influencer in their area of expertise. If they quickly understand the data and reporting, it makes the conversation less emotional and more factual. It provides confidence in everything from an informal talk to critical decision making.

> **Greater access to data impacts everything from an informal conversation to a critical decision.**

It all comes down to empowerment. Data is meaningless if you can't use it to drive results. Spreadsheets limited our ability to move our business forward. The best we could see was one day into the past. We needed to look into the future. We also had to break our dependence on IT. We could no longer afford to wait for someone to program the parameters of a needed report.

Qlik freed our analysts, managers, and our executive team to imagine new pathways for growth. Pizza Pizza launched in Canada's Centennial year. We've already reached our half-century mark. Now, we're starting to look at the next fifty years.