THE BIG SAVE

Big data means big savings for manufacturers

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That data can transform our everyday lives is a given in our digitally driven world. It also can save businesses huge sums by highlighting new efficiencies, improved productivity and growth.

Just ask Ignacio Villalobos, director of finance for Brantford, Ont.-based Atlas Hydraulics Inc., who used data to modernize his employer's manufacturing processes.

"Atlas had never used data in the past because it was a very small family business. When I came onboard about three and a half years ago, I noticed that we didn't have the correct costing information," Mr. Villalobos says.

The hydraulic parts manufacturer was managing annual growth of 10 to 15 per cent operating six facilities across Canada and the United States. But it was losing money to avoidable inefficiencies in product delivery, manufacturing and inventory control.

The solution was to begin collecting data to identify areas for improvement. The company then incorporated lean operating principles while monitoring a "scorecard" of metrics that covered areas such as product quality, material waste and the time needed to complete orders.

The result of the company's $25,000 spent to collect, analyze and act on this business intelligence? "We've been able to reduce costs by 40 per cent and efficiencies have improved by about 10 per cent," Mr. Villalobos says. "Overall profit margins have improved by around 5 per cent."

As globalization, strides in automation and other macroeconomic factors put pressure on business, chief executive officers are searching for deeper statistical intelligence. For cash-strapped small or medium-sized businesses (SMEs), determining what those metrics might be, then collecting and analyzing them, can prove challenging.

But it's critical.

"The world is a different place than 30 years ago," says Mick O'Sullivan, owner of the management and operations consultancy Venturi Vision Inc., based in Georgetown, Ont. "I think a lot of (SMEs) have not grown their infrastructure, knowledge or processes to align with global activity."

The answer, Mr. O'Sullivan says, is to tap the right data to become more competitive. In many cases, that means automating the data collection process itself.

That was the approach taken by Dave Shaw, co-owner of the London, Ont., manufacturer Taurus Stampings Inc., which installed data-collecting systems on its factory equipment last year. The units,

which cost $50 a machine to install, provide Mr. Shaw with real-time insights into start and stop times, product output and other analytics.

The software delivers data in simple spreadsheets and graphs that Mr. Shaw and his team use to adjust resource allocation or inquire as to why an employee was less or more productive on a given day. Taurus Stampings' profit margins have improved by about 2 per cent – a significant amount in an industry where margins are traditionally razor-thin.

"You want to keep it simple so it's usable," Mr. Shaw said. Investing in expensive, complex systems is a trap that can ensnare well-meaning CEOs.

So, too, is the temptation to implement new data collection processes too quickly, potentially confusing managers and upsetting workplace cultures that might be ill-prepared for change.

"I would recommend that businesses start small," says Murat Kristal, program director of the master of business analytics program at York University's Schulich School of Business. "I would try to pick something very concrete and experiment to see if they get better results."

Businesses need to keep their organizational memory intact to build on the learning from each project, Dr. Kristal advises. "That's less risky, more tangible and easier to manage. If they do it the other way, they'll likely fail."

For Mr. Villalobos, taking a measured approach meant mastering data-collection techniques at Atlas's headquarters before deploying them in the company's other five plants.

But as he learned, securing buy-in from employees, from senior managers to machine operators, is key. In Atlas's case, some employees were skeptical.

Managers began holding sessions at which staff were presented with data from the shop floor, then encouraged to present ideas to reduce waste and find efficiencies.

"After a few hours of learning what this is was all about and what we were trying to accomplish – as well as the benefits for everyone, including them – they were more open to giving ideas," Mr. Villalobos says.

As Mr. Villalobos notes, you can't improve what you don't measure. But that means having the willingness and ability to act where improvement is necessary.

His advice to CEOs is simple: "Don't measure anything unless you're really going to use the information," he says.

"Gathering information just for the sake of gathering it is costly for the company. Whenever you implement a system or communication, it has to have a purpose. You have to be able to mine that information into something you can act on."