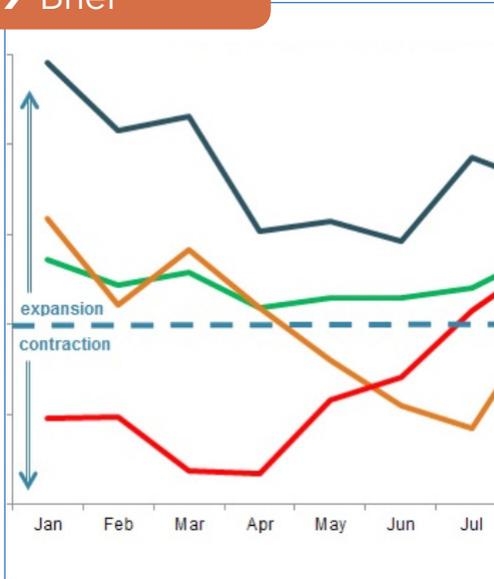


> Brief



“Coming up with new ways to identify customers and who our dealers should be working with, based on what they’re purchasing, how they’re using their machines, that innovation can help make our dealers more effective when they send their salespeople out and they’re talking to the customers.”

Manager for a leading information and analysis equipment manufacturer

The Analytics Mandate: The Future of Manufacturing

With its robust and massive supply chain spurring the creation of jobs, investments, innovations and broad economic development, the manufacturing industry has the strongest multiplier effect on the economy of any sector.

Properly applied, analytics can add to this effect within your own manufacturing efforts. Improvements in forecast accuracy and inventory optimization can have a larger, proportional effect on revenue, costs, profit, customer satisfaction and working capital.

Long steeped in quantitative methods used to improve operations, manufacturers are exploring how to make use of the vast amounts of data that continue to pour in. To move global PMIs further into positive territory, manufacturers are using data for innovation and competitive advantage. They are discovering new ways of thinking and show a desire to change the way they do business.

Clearly, manufacturers produce and collect lots of data and are positioned to gather even more as the Internet of Things and sensor data – from the factory and the products themselves – become more pervasive. An analytical focus on quality can help you build a winning brand by identifying and addressing quality issues faster and by tying customer feedback and expectations to design, engineering, manufacturing and packaging.

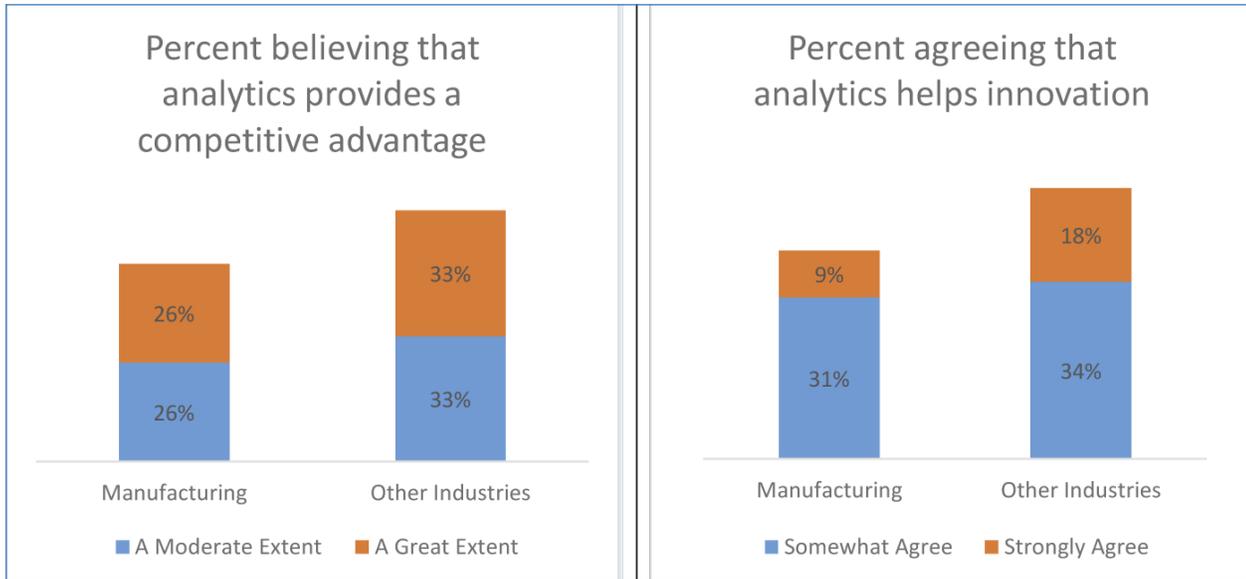
And this quality focus extends beyond product quality to the adoption of good data management and integration practices that will foster improvements in all areas of a manufacturing organization.

Innovation is the way forward

Since 2007 and the publication of Tom Davenport’s book *Competing on Analytics*, the adoption and use of analytics has burgeoned across all industries as more organizations turn to their data to gain an edge. In fact, research from MIT Sloan Management Review and SAS¹ indicates that two-thirds of businesses believe that analytics creates a competitive advantage in their organizations, and 52 percent say that analytics has helped their organizations to innovate.

But despite, or perhaps because of, the enormous amount of information generated by manufacturers, only about half report they have been able to use analytics as a competitive advantage. And only 40 percent currently use analytics to help their organizations innovate.

¹ The Analytics Mandate: MIT Sloan Management Review, 2014.



Source: MIT/Sloan Management Review, Data and Analytics Survey, 2014.

The devil is in the data

Manufacturers have been shaped by an operationally focused past, with heavy investments in physical plant and equipment. Understandably, there is an ingrained bias to think that the next investment dollar is best spent improving operations for cost, quality and efficiency rather than the data side of the business.

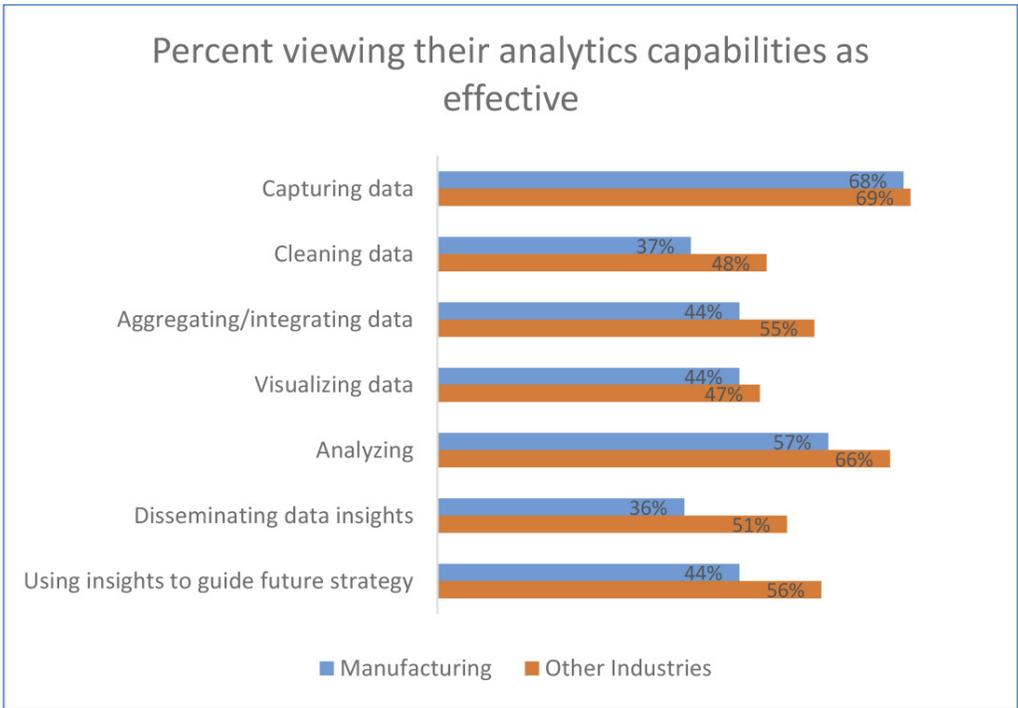
More recently, operations research and methodologies like Six Sigma have been implemented to improve efficiencies and increase productivity, but have provided little focus on managing and analyzing their vast amounts of data.

It's important to note that manufacturers hold their own with other industries in capturing data and are seeking ways to disseminate data insights and guide strategy to catch up to other sectors.

In fairness, the sheer volume and complexity of manufacturing data - legacy and digital, along with the rapid growth of the Internet of Things and enormous, unstructured volumes from social media - create unique challenges. Some manufacturers lack the necessary analytical skills, technologies and processes to capitalize on their information. To put it another way, it's not just about process anymore.

“One of the things that we always try to look for in a particular project is: Why is an analytics approach superior? And typically it's because the scale or complexity of the problem escapes just simple human intuition, or the data provides something that is fairly counterintuitive.”

Phillip Kim, Senior Director of Big Data and Analytics, Under Armour



Source: MIT/Sloan Management Review, Data and Analytics Survey, 2014.

New times bring new challenges

Despite data challenges, manufacturing professionals are looking for more data-driven decisions. Similar to survey respondents in other industries, 85 percent of those in the manufacturing sector say it's important for their organizations to step up their use of analytics. In addition, 59 percent are feeling pressure from senior management to become more analytical. And analytics is a top-down mandate driven by 42 percent of manufacturing executives.

Even as respondents call for increased use of analytics, manufacturers' analytics investment plans for the next 12 months fall short (see below). In fact, while others industries seem slightly more focused on adding analytics technology, manufacturers appear to place an equal emphasis on technology and training.

The path forward

But manufacturers are also positioned for great opportunities in which analytics will play an important role. Small changes can yield big results. These firms need to capitalize on their Six Sigma and OR efforts by developing the analytical skills they need to exploit the big data at hand. They need to prepare themselves for the continuing data deluge and develop a sustainable analytics strategy across the organization.

But even for attempting such a daunting undertaking, companies can establish small centers of analytics to prove its value to stakeholders. We've seen this as one path to success for a number of organizations that have participated in this research program over the last few years. Once you've shown how analytics can tackle a relevant business issue, the rest of the organization become believers.

The Analytics Mandate report

To read more about the transformative power of data and the characteristics of companies using analytics for innovation and competitive advantage, read the full MIT Sloan Management Review report, *The Analytics Mandate*. sas.com/en_us/whitepapers/mit-analytics-mandate-107098.html

How SAS can help

Using your product as a platform for embedded and aftermarket services can be your secret to higher margins. And optimizing your customer and market data via segmentation, analysis and real-time decision management can be the ultimate value optimizer. SAS stands ready to provide you with the high-performance analytics to support any and all of these manufacturing analytics mandates. Learn more at sas.com/mandateMFG.

