

Competition has never been higher in manufacturing, and outside factors can cause major disruptions overnight. The systems that manufacturers rely upon must be able to support resiliency rather than hold them back.

How Modernizing on Cloud-Based Platforms Drives Manufacturing Transformation

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Introduction

The disruption caused by COVID-19 will have a long-lasting impact on all industries, but manufacturers will need to adapt the most. In fact, IDC's Worldwide ICT Spending Guide has shown that roughly \$1.3 trillion has been lost because of COVID-19, with the manufacturing industry bearing the greatest portion of this loss. Manufacturers continue to struggle with supply chain disruption, evolving government/regulatory requirements, and shifting production capabilities to meet public demand for their goods and services. The rapid pace of change has led the industry to start defining its future success by how well it can react to market disruptions, which IDC calls operational resiliency.

The manufacturing industry has always been slow to respond to change; however, companies had no choice but to adapt or they would not be able to keep the lights on. Manufacturers have encountered many challenges in their efforts to become more resilient, but one of the most frequently cited issues is outdated/legacy infrastructure. Manufacturers too often rely on assets and systems that are decades old, which makes it difficult to access the information needed to make the most effective decisions in the necessary time frame.

However, some manufacturers had already made investments in modernizing their operations, which resulted in these companies being able to respond more effectively. A "digital divide" formed between these two types of companies, with digitally enabled manufacturers feeling less of an impact and further along in their recovery efforts. These manufacturers are now focused on innovating and trying to capture market share, while nondigital manufacturers are still focused on cost cutting and selling off high-risk projects. The longer a company waits to act, the further ahead its peers will get.

AT A GLANCE

KEY STATS

32% of manufacturers will accelerate their use of cloud as the underlying platform for IT and business automation initiatives.

WHAT'S IMPORTANT

Cloud is a proven enabler of manufacturing transformation, delivering improvements in cost, productivity, business agility, revenue growth, and innovation.

The Importance of Technology and Modernization

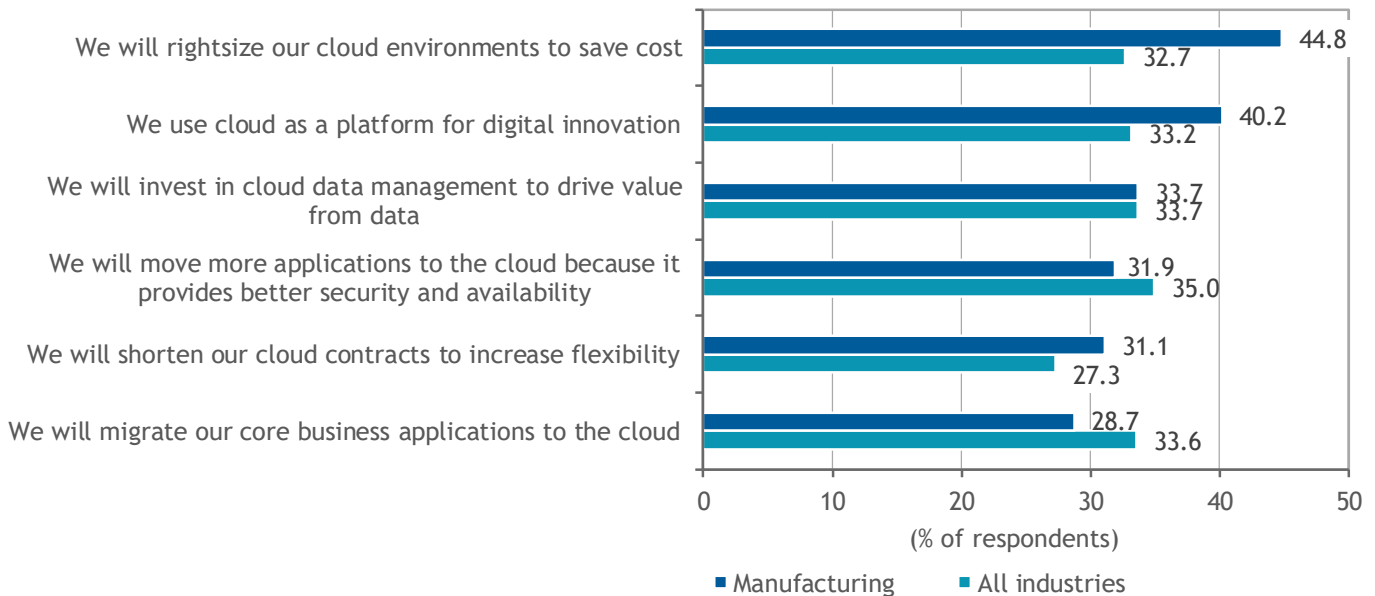
3rd Platform technologies are the foundation that allows businesses to accelerate their digital transformation. At the core of the 3rd Platform are four pillar technology areas: big data and analytics, mobile, social, and cloud. These four technologies have caused a change in how we act, interact, buy, do business, and so forth. One of the biggest opportunities from the 3rd Platform is the ability to access, analyze, and act upon more data than ever before, allowing for new ways to innovate and drive value to the business.

The manufacturing industry has been slower in embracing cloud, but that mindset is now changing. In fact, results from IDC's 2020 *CloudPath Survey* show that manufacturers believe cloud will have more impact on their businesses over the next five years than almost every other technology in the 3rd Platform. The same study showed that only 12.4% of manufacturers consider themselves "cloud last" (i.e., organizations in which cloud-based solutions are looked at as a last resort or not considered at all).

52% of manufacturers plan on moving more applications to public/private cloud.

Not only are manufacturers more receptive to cloud, but the strategy driving investment is changing as well (see Figure 1). While cost/productivity will always be important to manufacturers, the use of cloud as a platform to innovate is what will truly differentiate manufacturers as they go forward. Balancing the cloud strategy across multiple priorities becomes even more important as the line of business (LOB) becomes more involved in these discussions. IT will prioritize simplifying/standardizing, costs, and security, while the LOB will be more focused on more control over solutions, agility, and innovation.

FIGURE 1: **Cost and Innovation Are Keys to Manufacturing Cloud Strategy**



n = 134

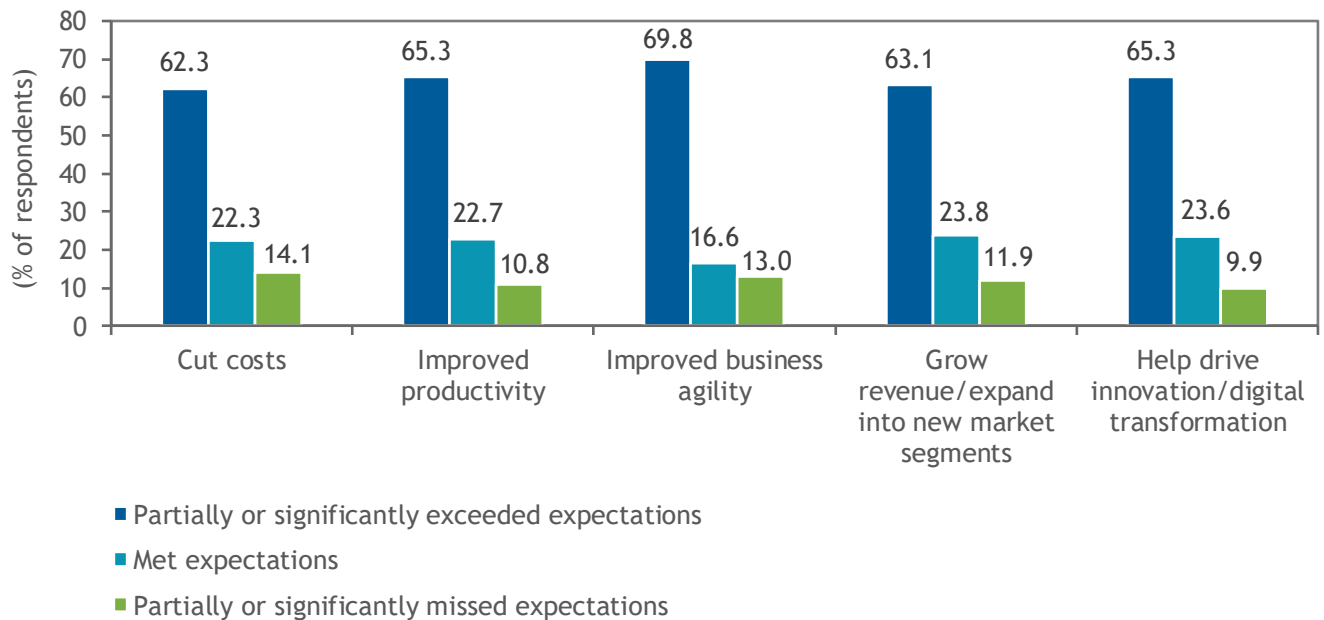
Source: IDC's COVID-19 Impact on IT Spending Survey, May 2020

Benefits

Digitalization has long been the backbone of operational effectiveness for manufacturers. IDC's recent Digital Manufacturing Study of 680 publicly traded manufacturers highlights the clear advantage that occurs over time for organizations that embrace digitization. Over the study's six-year period, digital manufacturers benefited from a 26% increase in their revenue performance index (RPI) and a 27% increase in their profit performance index (PPI). During this same time, nondigital manufacturers experienced decreases of 9% in RPI and 2% in PPI. The biggest takeaway from the study is how the gap between the two groups increases over time. How much longer can nondigital manufacturers wait?

On top of overall digitization efforts, the move to the cloud brings its own benefits that can be highlighted across a few key areas that appeal to IT and the LOB (see Figure 2). Most manufacturers that adopted cloud exceeded their expectations in regard to costs, productivity, agility, revenue growth, and innovation. Being able to tie back to measurable return on investment (ROI) in these areas is important, especially for manufacturers looking to build the internal business case and make progress on their cloud journey.

FIGURE 2: *Cloud's Impact on Meeting Business Objectives*



n = 448

Source: IDC's Industry CloudPath Survey, April 2019

Considerations

Manufacturers face many challenges when building and executing on a data strategy, which often results in pilots that fail to scale and a lack of ROI for these initiatives. Common pitfalls holding manufacturers back include:

- » **Siloed systems/integration.** The issue of silos has existed for years but is becoming worse in today's data-rich world. However, silos extend to more than data; they also affect organizational structure, staff, and processes. They result in lost productivity, exposure to unnecessary risk, opportunity cost, and substandard customer, employee, and external stakeholder experiences. Integrating across systems and data sources allows for more information to be analyzed and better decisions to be made.
- » **Limited talent pool.** Manufacturers rely heavily on systems integrators, engineering firms, software specialists, machine builders, and other partners to integrate all their complex equipment. Those partners likely have cloud practitioners in-house to help manufacturers implement cloud-based solutions. This talent piece is an important consideration because many manufacturers lack internal talent. The experience that partners possess with cloud deployments helps manufacturers complete projects in a faster time frame, often at a lower cost, than if approached only in-house.
- » **Proving ROI.** When computing ROI, many manufacturers fail to include the costs of IT support, power, cooling, and regular equipment refresh cycles in the total cost of ownership for their on-premises compute and storage. Standardized ROI/TCO calculators can help evaluate the total cost of these resources for use in an ROI analysis. These tools can help uncover some of the overlooked costs in traditional deployments.

Conclusion

The manufacturing environment is changing faster than ever before. As the industry comes to terms with this shift, manufacturers that embrace resiliency will become the most successful. Having the data needed to support resilient decision making has become the top priority for manufacturers. To achieve this goal, they must address the outdated infrastructure being used. The adoption of cloud can no longer be overlooked. Across manufacturing business objectives — cost, efficiency, agility, growth, and innovation — most manufacturers utilizing cloud exceeded expectations. Manufacturers must view cloud as the platform to drive tangible business outcomes and overall transformation.

About the Analyst



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Reid Paquin is Research Director for IDC Manufacturing Insights responsible for the IT Priorities and Strategies (ITP&S) practice. Mr. Paquin's core research coverage includes IT investments made across the manufacturing industry and manufacturers' progress with digital transformation. Based on his background covering the manufacturing space, Mr. Paquin's research also includes an emphasis on the technology enablers that help manufacturing executives make better-informed operational decisions.

MESSAGE FROM THE SPONSOR

Accelerate, Automate, Integrate and Optimize for Business Value

While cloud-based modernization presents the potential for significant business value, we see many initiatives that fail to realize that value because they follow a transactional, technology-centric approach.

Four key steps a manufacturing organization can take to realize business value are:

- » Identify all the business benefits of cloud migration by considering not only short-term technology costs but also factors such as lower operational costs, improved capacity, and/or improved customer engagement.
- » Modernize applications as part of cloud migration, reducing the time, risk, and value erosion associated with incremental, manual, and lift-and-shift processes.
- » Integrate cloud services into end-to-end orchestration, automation, management, and optimization of services, with a focus on ongoing optimization and continuous cost and performance improvement of cloud environments.
- » Leverage cloud-native best of breed services in areas such as Analytics, IoT and Augmented Reality to enhance business capabilities of core applications as a low-cost approach to accelerating improved business performance.

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