



MANUFACTURING

DIGITAL
TRANSFORMATION
SURVEY

INSIGHTS INTO DIGITAL TRENDS AND CHANGES
IN THE **MANUFACTURING** INDUSTRY

EXECUTIVE SUMMARY

"Industry 4.0 is not just a trend. It's something that is going to change the future of manufacturing."

Shruti Gupta
RSM senior industrials analyst

"Our research already shows that our clients were moving toward this, but the pandemic is going to accelerate the adoption of these technologies."

Jason Alexander
RSM senior industrials analyst

Advanced technologies are transforming the future of manufacturing

The rise of new digital technologies is changing the manufacturing industry and transforming traditional, linear manufacturing supply chains into more dynamic, interconnected systems. Companies are using artificial intelligence, cloud computing, the Industrial Internet of Things, advanced data analytics, additive manufacturing, smart devices, virtual reality and advanced robotics to accelerate innovation. This transformation, commonly known in the marketplace as Industry 4.0 or the Fourth Industrial Revolution, is driving manufacturers to be more efficient, faster and more focused on optimizing customer lifetime value.

Manufacturing has always used technology to increase efficiency and productivity. It's a trend we expect to increase, especially as more manufacturers adopt advanced technologies to help them increase their agility, enhance productivity, accelerate growth and manage a more dynamic workforce.

As manufacturers increasingly use data to improve their production processes and product quality, investments into new manufacturing technologies will also allow for more flexibility and faster delivery to the marketplace when designing and launching new products and services. Creating a strategy and adopting a business model to take advantage of Industry 4.0 technologies provides the means to navigate change and allows manufacturers to reinvent their business models to focus on value-added services. Using advanced technologies also opens up opportunities to enter new geographic markets or adjacent market segments.

"Industry 4.0 is not just a trend. It's something that is going to change the future of manufacturing," said RSM senior industrials analyst Shruti Gupta.

The importance of adopting and implementing new technologies in the manufacturing industry is growing; digital transformation has become a higher priority for industry executives in the past three to five years, according to a recent RSM survey. In the manufacturing and industrials space, 74% of the business leaders who responded to the survey said they have a digital strategy, and about a quarter of respondents are developing such a strategy.

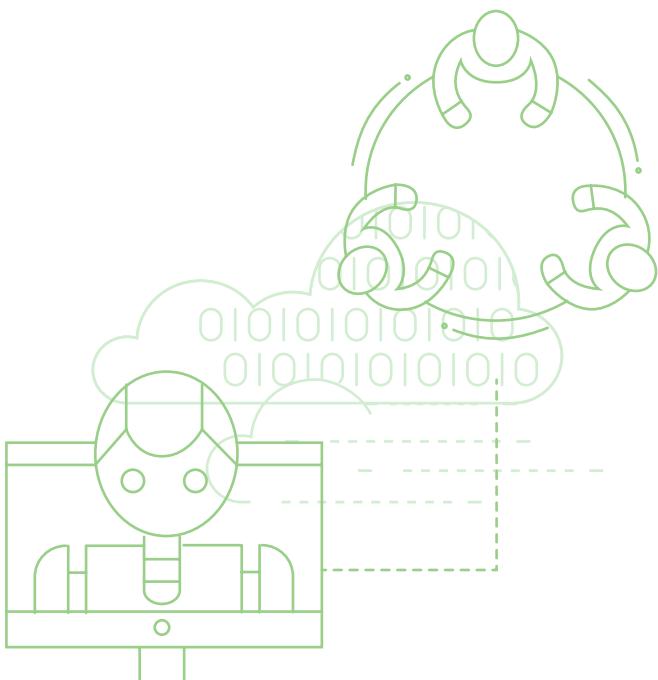


Challenges remain, however, when it comes to integrating new technologies. And while digital transformation had already emerged as a crucial area of focus for manufacturers before 2020, the coronavirus pandemic has forced companies to adopt digital initiatives at a more rapid clip.

"Our research already shows that our clients were moving toward this, but the pandemic is going to accelerate the adoption of these technologies," said Jason Alexander, a senior industrials analyst at RSM. The survey was conducted in 2019 before the pandemic hit the United States, but these insights will still be valuable as business leaders prioritize technology in order to grow.

View from the top

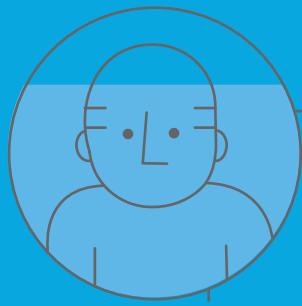
Chief technology officers aren't the only ones driving digital transformation at manufacturing companies. Prioritizing and integrating new technology is a group effort that involves a range of C-suite executives and data officers within any given business.



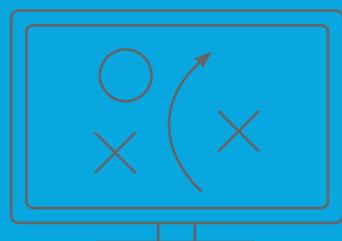
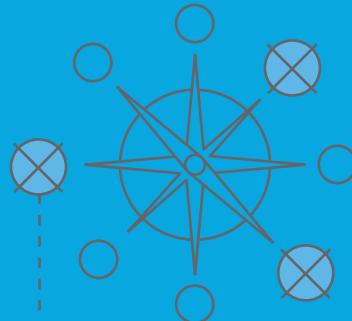
KEY TAKEAWAYS

Here's a look at some key takeaways from the manufacturing executives who responded to the survey :

73% of manufacturing leaders see their role **changing**, though a smaller proportion of leaders expect their roles to change (51%)



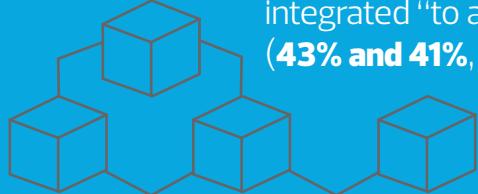
The benefit of **new, differentiated markets** was most often selected by survey respondents to be among the top benefits of digital transformation (38% of respondents)



74% of respondents have a **formed digital strategy**, and 26% are developing one



Supply chain connectivity and marketing/sales were the business processes where digital applications/technologies were being integrated "to a great extent" (**43%** and **41%**, respectively)



Three out of four companies expect their **average annual amount invested in digital initiatives to increase** over the next three years. Among those expecting their digital transformation investment to increase,

55% expect an increase of **2% to 5%**, while

37% expect an increase of **6% to 9%** over that period



"A pilot project should not stop them if they don't see real results. It should not be a deterrent, because this is a long journey."

Shruti Gupta

RSM senior
industrials analyst

Digitization reigns supreme

A central focus of digital evolution is how companies collect data and then drive insights using that data. That's the foundation for a whole range of technologies manufacturing businesses should be looking at implementing right now, from IIoT to machine learning. For example, data analytics combined with other technologies can help predict machine breakdown before it happens, and companies can schedule production runs to take advantage of fluctuating energy prices.

"It all goes back to your data strategy," said Gupta. "That's the core aspect for any transformation project."

The processes in which organizations were most commonly implementing digital applications, according to the survey results, were:

- Supply chain connectivity
- Marketing and sales
- Customer experience
- Warehouse inventory/management

Challenges remain

Within manufacturing, middle market companies vary widely in terms of how much they have embraced digital transformation and are making efforts to evolve. For those companies that are starting out or have yet to explore how to use new technologies to grow business, it's important to embrace the fact that this is the future, said Gupta.

"They're going to be left behind if they don't start or proceed on that journey," she said. For companies already engaged in digital transformation initiatives, it's important to continue addressing new areas even if some projects don't work out. "A pilot project should not stop them if they don't see real results. It should not be a deterrent, because this is a long journey."

Top challenges that remain include employee and customer adoption of new digital solutions, and projecting future digital needs and scalability. Another big challenge is the demonstration of return on investment and the ability to weave digital transformation into the broader business strategy. But digital transformation also means new opportunities; 38% of survey respondents said new, differentiated markets were a top benefit of such efforts.



BEFORE AND AFTER COVID-19

As the COVID-19 pandemic continues, companies face new challenges surrounding their liquidity positions, uncertainty related to supply and demand, and difficult choices about how to keep the business running while maintaining productivity and employee safety.

But this event will undoubtedly make industrials companies want to accelerate their digital transformation efforts and add more resiliency to their operations. Some companies are working to expedite digital transformation projects they already had in motion before the pandemic hit, said Alexander.

"There are a lot of cracks we're seeing in long-term strategic planning processes," he said. "A lot of organizations are going to need to look to technology to create efficiencies in their business going forward."

Companies are also asking themselves more and more whether they should continue their reliance on China for manufacturing, whether as a source of components or assembled goods, said Gupta. Various technologies can potentially make it more cost-effective to return operations to home countries, and can help make manufacturers more adaptable.

Here's what else the pandemic could mean for industrials companies:

- Organizations will need to rethink what their supply chains look like, and use technology to improve supply chain visibility
- Companies might seek to automate jobs affected by the pandemic
- Organizations may feel more urgency to digitize processes that involve hard-copy records

WHAT NOW? RSM RECOMMENDATIONS

- Manufacturing leaders need to be proactive and aggressive about exploring the benefits of investing in digital transformation
- Companies need to evaluate their infrastructure to determine whether they have the capacity to take advantage of newer technologies, and make upgrades as needed
- For companies that have begun to integrate newer technologies, it may be time to start moving from pilot projects to more broad-based implementation
- Understand that digital transformation is an ongoing journey that will continue to evolve

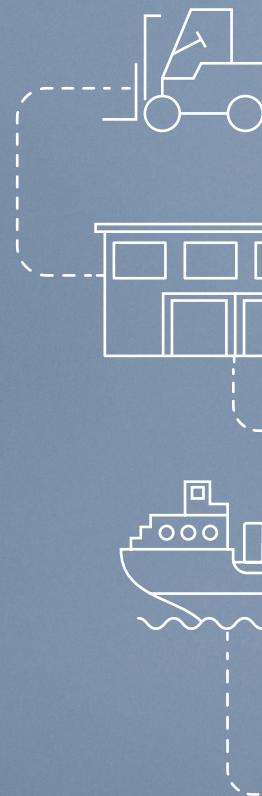
CONCLUSION

While businesses may have put ambitious future digital projects on hold to deal with the coronavirus fallout, past recessions have underscored the importance of continual evolution. Businesses that continue to make strategic digital investments and proactive decisions during economic downturns emerge stronger than businesses that do not, research has shown.

"As we've seen, recessions can create wide and long-standing performance gaps between companies," according to a 2019 article in the [Harvard Business Review](#). "Research has found that digital technology can do the same. Companies that have neglected digital transformation may find that the next recession makes those gaps insurmountable."

Manufacturers face tough questions around how to understand this new digital landscape quickly and develop new operating procedures and automation initiatives that enable them to adapt, both at the organizational level and on an individual employee basis.

New technologies that manufacturing companies have adopted in recent years are surely helping them through this current crisis, in ways both obvious and subtle. For example, accurately forecasting demand and optimizing supply requires integrating data from multiple sources and analyzing it in real time. Companies that have invested in new data technologies will reap the benefits during the pandemic, which has made supply and demand chains more challenging to navigate. Likewise, continued investment in technology will help organizations prepare for and survive future disruptions.





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