

2020 Indiana Manufacturing Survey:
COVID-19 SPECIAL EDITION

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Foreword

Now in its 14th year, this year's annual *Indiana Manufacturing Survey: COVID-19 Special Edition* has taken a divergent path from its historical focus on market trends and best practices and instead focuses on important issues related to the ongoing COVID-19 pandemic. While we await an end to this pandemic and the economic turmoil it leaves in its wake, it is our hope the information gleaned from this report will help Hoosier manufacturers more successfully ride-out these challenging times.

Indeed, 2020 has been a year unlike any other for Hoosier manufacturers. While only 7% of respondents to the 2020 survey described the impact of the COVID-19 pandemic as “devastating” to the point of threatening their organization’s survival, a large majority, 62%, reported that the impact has still been very serious. Just 31% of respondents stated that the COVID-19 pandemic had not significantly threatened their business.

Notably, the pandemic has exposed the vulnerability of long supply chains that are designed primarily to minimize costs. The results of this year’s study in particular suggest that although it may be more costly, manufacturers are now looking to build more resilient, geographically diverse supply chains based on communication, as well as true, mutually beneficial, partnerships. While a large majority of the respondents to this year’s survey found that their supply chains were able to function at acceptable levels, based on industry standards, much of the credit for that is clearly due to federal loan programs such as the Paycheck Protection Program. One of the most notable results, in fact, of this year’s study, is the number of respondents, 44%, that credit the PPP as the primary means by which they have been able to manage and survive.

It is also clear that the pandemic has accelerated the long-term trend toward automation – not just in manufacturing processes but also in communications and managerial processes – and exacerbated longstanding workforce challenges related to recruiting, retention, and skills training. After the remote work environment that has been thrust upon many organizations, it comes as little surprise that, in the future, manufacturing companies anticipate offering employees more opportunities to work remotely and plan to place greater emphasis on creating a more flexible workforce that can adapt and change rapidly to new conditions.



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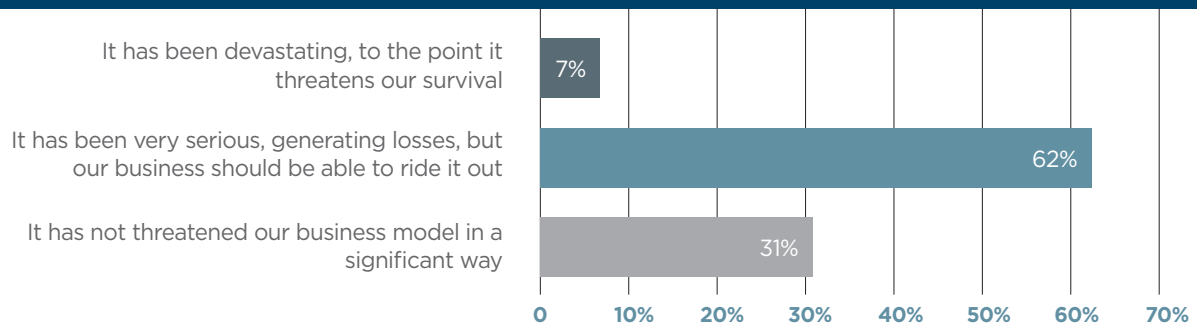
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I. The Impact of the COVID-19 Pandemic on Indiana Manufacturing

While only 7% of respondents to the 2020 *Indiana Manufacturing Survey* described the impact of the COVID-19 pandemic as having been devastating to their business – to the point of threatening their organization’s survival – a large majority (62%) reported that the impact has been very serious, with related losses, although they should be able to ride it out. Just 31% of respondents stated that the COVID-19 pandemic had not significantly threatened their business.

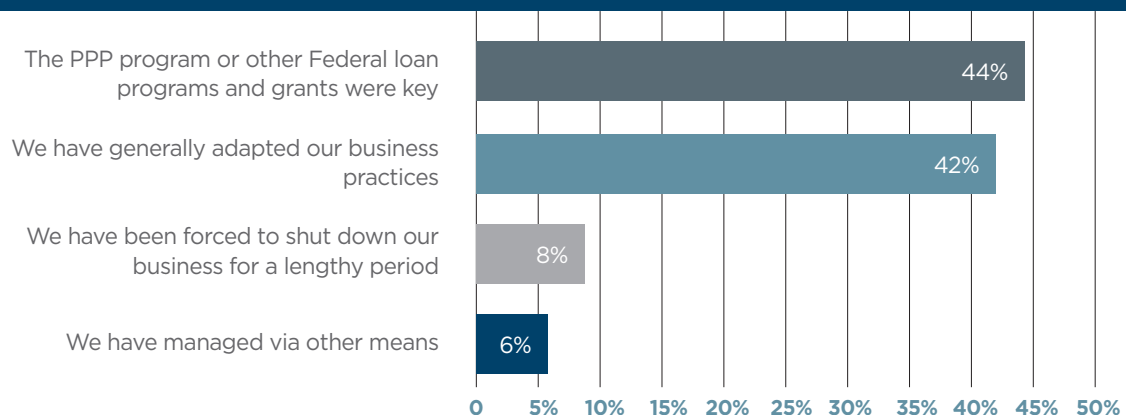
THE IMPACT OF THE COVID-19 ON INDIANA MANUFACTURING



II. Government Response to COVID-19 and Business Survival

Perhaps the most striking result of the survey is that a plurality of respondents (44%) credit the federal government’s Paycheck Protection Program (PPP) as the primary means by which they have been able to manage and survive the pandemic. While almost as many (42%) identified “adapting business practices” as their primary reason for survival, undoubtedly some combination of the two, PPP and adaption, has been critical for many, and helps explain why only 8% have had to shut down for lengthy periods of time.

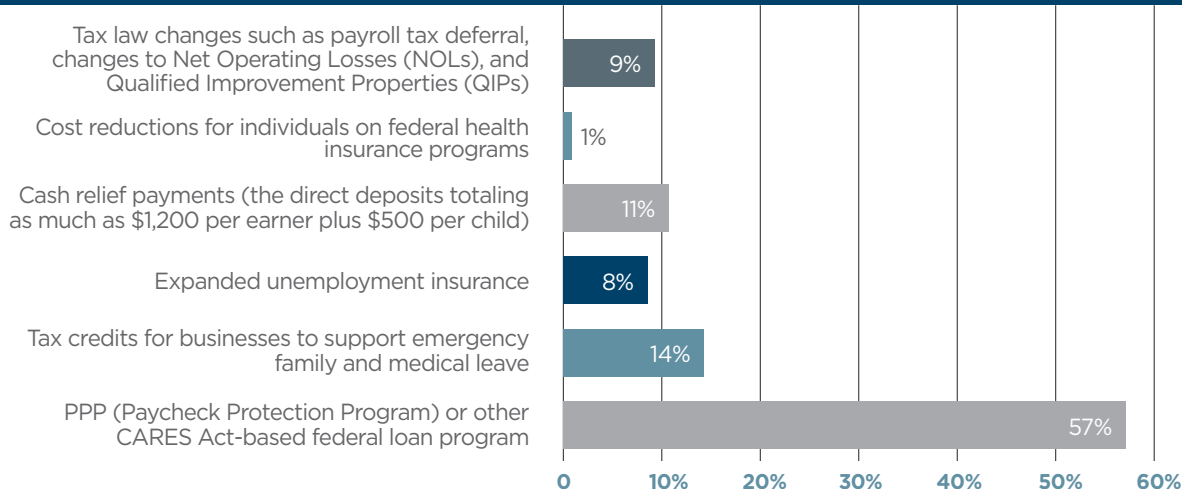
PRIMARY MEANS OF MANAGING AND SURVIVING THE COVID-19 PANDEMIC



The critical role of the PPP and other federal loan programs is even more apparent from the 57% of respondents who tagged these as the most helpful among the various federal programs intended to help firms deal with the pandemic.

In addition, when asked if the U.S. federal government has been doing a good job of supporting Hoosier manufacturing during the pandemic, an impressive 74% responded affirmatively. And an even more impressive 87% responded affirmatively when asked the same question about the job Indiana's state government has done in supporting Hoosier manufacturing during this pandemic.

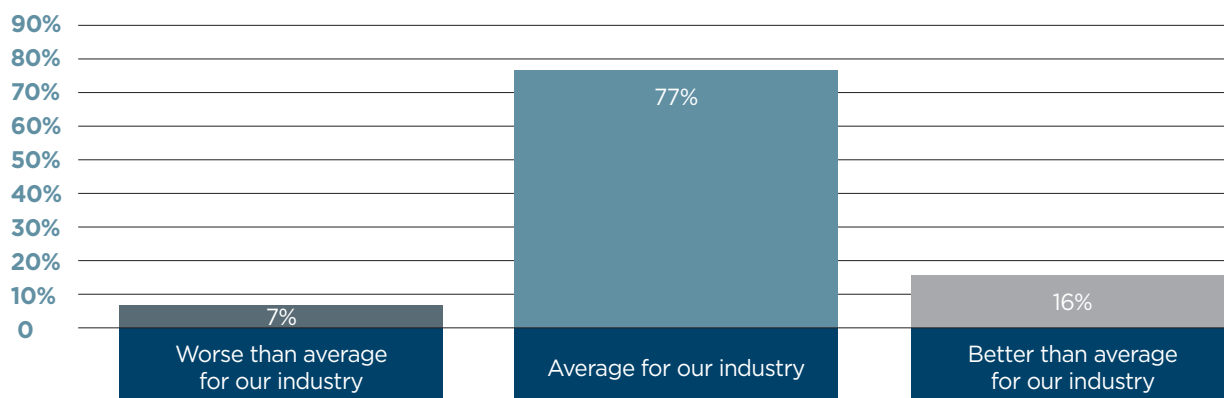
MOST HELPFUL FEDERAL PROGRAMS DURING THE COVID-19 PANDEMIC



III. Supply Chain Performance

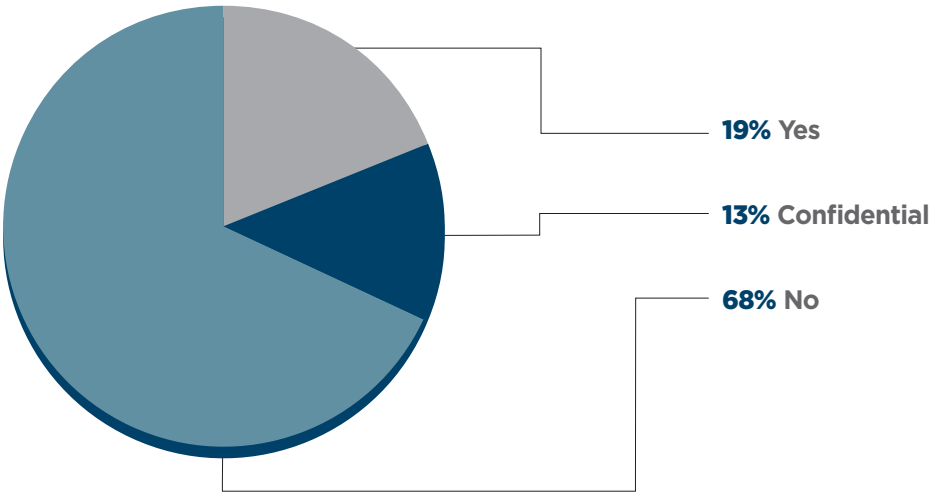
When asked how supply chains performed, again, we see a similar pattern emerge, in which a large majority of respondents (77%) have seen their supply chain partners be able to ride out the pandemic and maintain industry standard performance. Only 7% described their supply chains as performing worse than standard for their industry, while 16% of respondents stated their supply chains performed better than standard.

HOW WELL SUPPLY CHAINS "PERFORMED" IN THE COVID-19 PANDEMIC

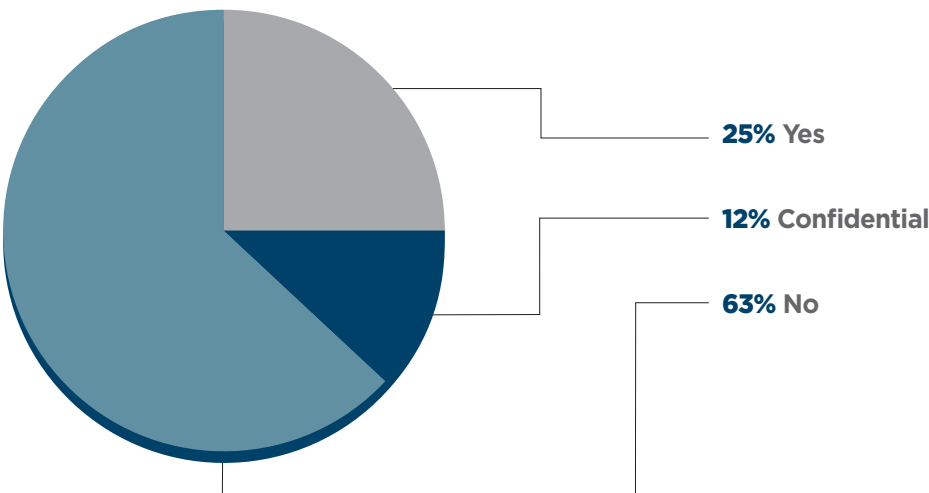


As to whether this pandemic will have long-term effects on the respondents' supply chains, almost one in five (19%) report that their organization either already has moved or plans to move elements of their supply chain from foreign locations to the U.S., and 25% indicate that they either have reduced or plan to reduce the exposure of their supply chains to China.

COMPANIES MOVING ELEMENTS OF THEIR SUPPLY CHAIN FROM FOREIGN LOCATIONS TO THE USA



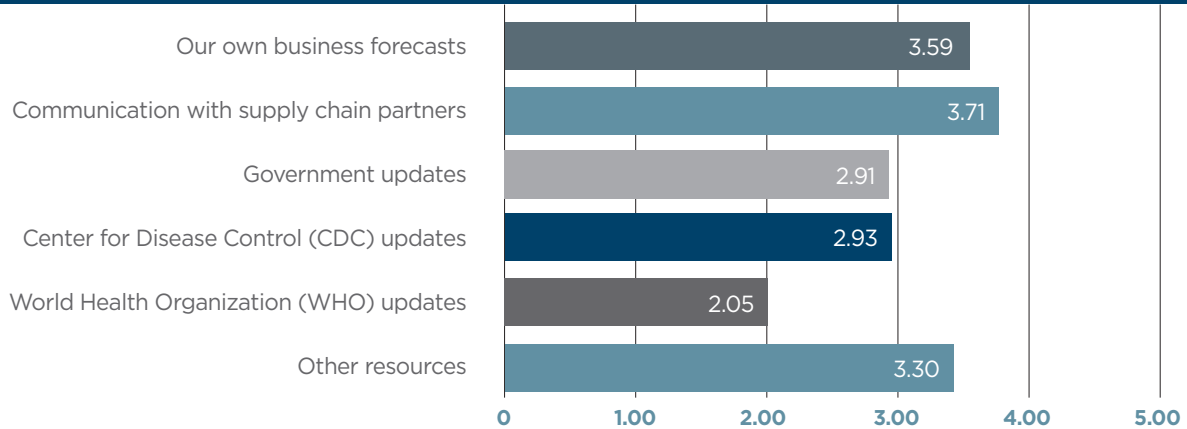
COMPANIES REDUCING THE EXPOSURE OF THEIR SUPPLY CHAIN TO CHINA



IV. What Indiana Manufacturers are Doing to Survive the COVID-19 Pandemic

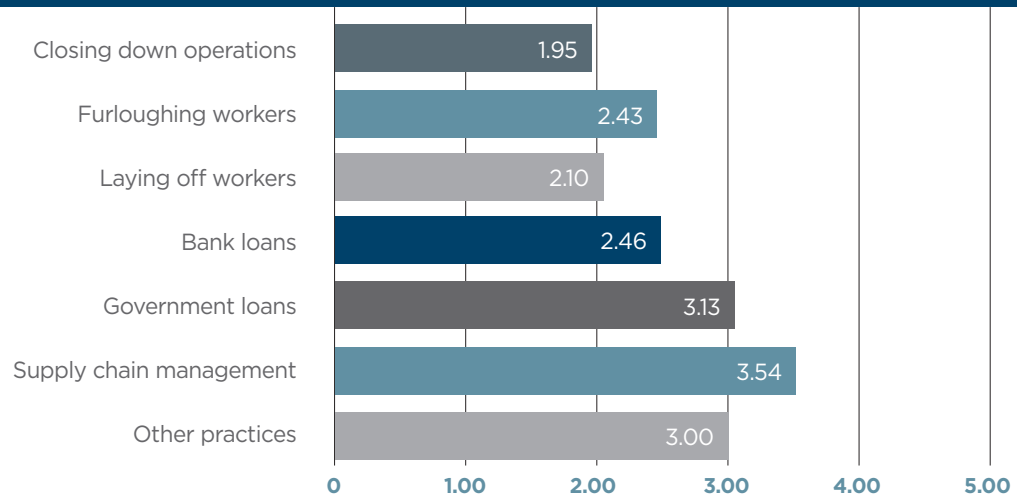
The critical importance of the supply chain to Hoosier Manufacturers comes across again in the responses to an inquiry as to the most critical sources of communications through the pandemic. Communications with supply chain partners ranked first, followed closely by a company's own business forecast. Government updates, updates from the Center for Disease Control (CDC) and the World Health Organization (WHO), all ranked below communications with other unspecified sources.

COMMUNICATIONS MOST CRITICAL TO MANAGING THROUGH THE COVID-19 PANDEMIC



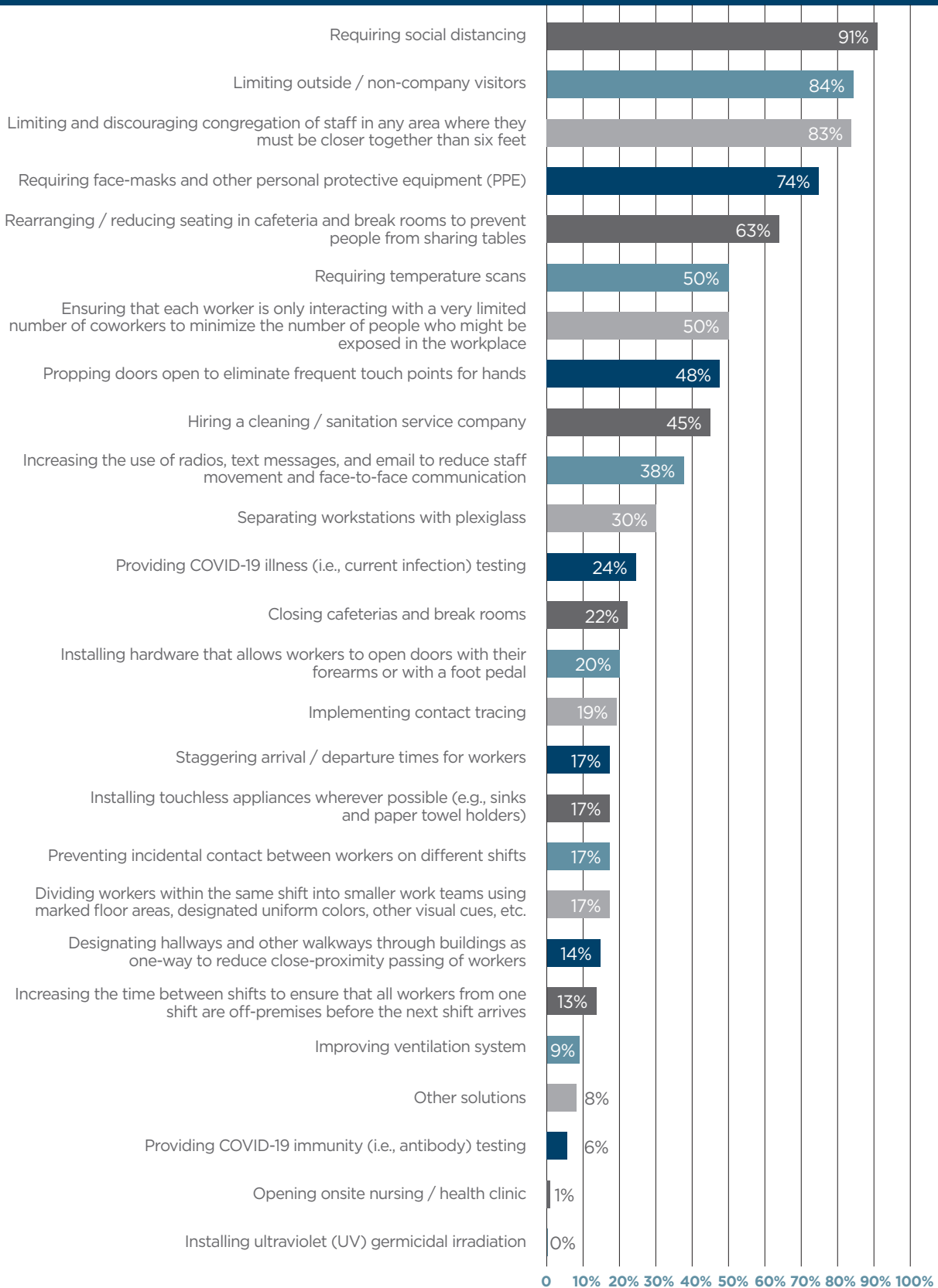
The importance of the supply chain comes through once again when Hoosier manufacturers were asked what business practices have been most critical in the responding to the pandemic. Supply chain management ranked first, followed closely by the procurement of government loans.

PRACTICES MOST CRITICAL IN TERMS OF "RESPONDING" TO THE COVID-19 PANDEMIC



As for the practices that helped most in terms of maintaining workforce safety and preventing the spread of the virus, a large majority of respondents listed requiring social distancing (91%), limiting outside visitors (84%), discouraging employees from congregating (83%), and requiring face masks (74%).

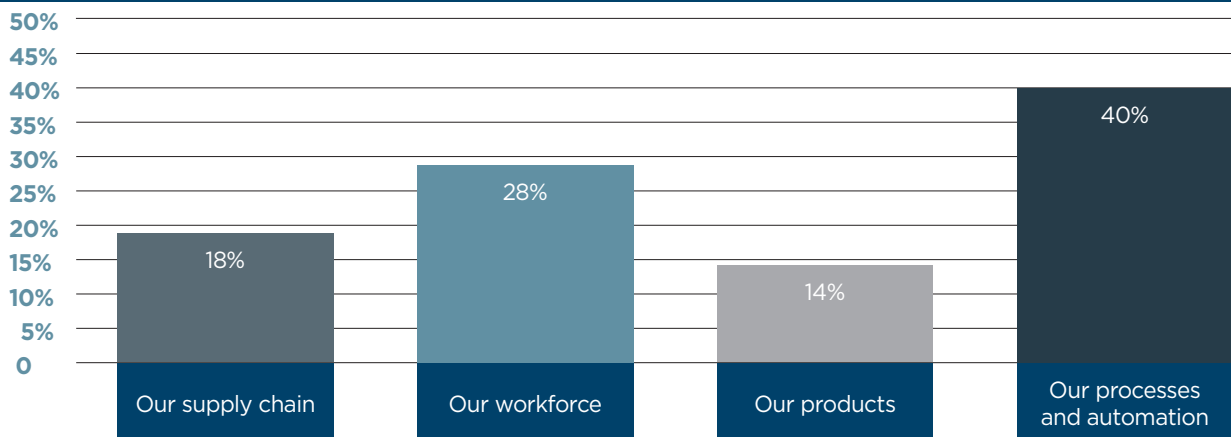
PRACTICES USED TO MAINTAIN WORKFORCE SAFETY DURING COVID-19



V. Looking Ahead

When asked to rank general areas of business operations in which the experience of this pandemic will lead to future changes, respondents placed processes and automation first, followed by workforce, and, somewhat surprisingly, supply chain changes were third, just ahead of products.

LOOKING AHEAD TO 2021, WILL THE COVID-19 PANDEMIC LEAD YOUR COMPANY TO CHANGE ANY OF THE FOLLOWING?



Respondents provided comments on these anticipated changes, which explain why processes, automation, and workforce rank so high.

Anticipated changes to processes and automation:

- "Increase amount of product going through automation; consider what other areas we can automate"
- "Any step in production that can be automated means you do not have to account for a person with COVID who is not able to do it"
- "We will put in place more pick-and-place robots to increase labor productivity and address labor shortages"
- "Invest in machinery that will eliminate as many jobs as possible"
- "More automated inspection using cameras more fool proof part picking; some autonomous material handling"
- "Continue to implement "lights out" or unstaffed processes - e.g., machining"
- "Buying newer / more automated machines"
- "Implement more robotics where practical"
- "Increase capacity through automation"
- "Looking at new automation machines to increase productivity"
- "Evaluating what processes can be automated"
- "We have a lean initiative and are increasing robotic welders"

Over the past seven years, survey respondents have indicated they would prioritize automation, and this pandemic is clearly accelerating the transition toward automation. The reasons for this acceleration appear to be two-fold, but related:

1. Recognition that automation can accommodate greater physical distance between workers and, thus, make operations less susceptible to possible future pandemics.
2. The pandemic has exacerbated the longstanding difficulties associated with recruiting and retaining a trained workforce.

While an acceleration of the trend toward automation comes through from the above comments loud and clear, it is not clear this will necessarily result in a substitution of automation for labor. As we have considered for the past few years of this survey, automation can make manufacturing companies competitive and, in turn, increase their demand for complementary labor, especially skilled labor. The representative selection of the comments regarding workforce changes, quoted below, tend to bear this out, although it is definitely a mixed bag, emphasizing improved productivity, training, flexibility, the challenges of recruiting and retention, and reducing head count when possible.

Anticipated changes to workforce issues:

- *"We will add an additional 5% to our workforce in 2021"*
- *"Hiring more with ability to flex to different areas (cross-training)"*
- *"Add more employees, and train faster"*
- *"Hiring fifth-shift for weekends; labor trending to +50%"*
- *"Better use resources to train existing and hire better employees"*
- *"Raise starting wages and to attract a better worker, especially with manufacturing experience; rely less on temp agencies to be conduit for all permanent employees"*
- *"Reduce workforce by 20% and hire more part-time workers"*
- *"Implement more automation to improve productivity"*
- *"Reduce number of employees through automation"*
- *"Reduce head count; increase skill of those remaining"*
- *"We are hiring 'utility' employees to float to counter absenteeism; we are investing in more robotics and automation, which reduces the low-skill worker and increases the high-skill worker"*
- *"We cannot find enough workers, and we are not alone; we will use media to a greater degree than ever before"*

Regarding supply chain changes, comments confirm the results presented earlier: Manufacturing companies are looking to reduce the risk exposure of their supply chains through numerous measures, such as by expanding the number and quality of suppliers, by diversifying geographically, particularly through the addition of domestic suppliers, and by improving relations with suppliers.

Anticipated changes to supply chain management:

- *"Looking for alternate suppliers"*
- *"Multiple vendors for the same items in case one goes down; also bringing suppliers to North America for most items"*
- *"Eliminate suppliers who are poor performers, unless they improve soon"*
- *"Making sure our suppliers have plans in place if something (pandemic or not) greatly affects their operations"*
- *"Bring less in from overseas"*
- *"Domestically diversify"*
- *"Investigate and qualify more domestic sources of materials, components"*
- *"Reshoring, and lead time reduction focus"*
- *"Reduce reliance on imported steel"*
- *"Sourcing more substitutes"*
- *"Reduce number of similar vendors, and make those remaining vendors true partners"*
- *"Time to shop both local and global"*

Most of the comments regarding changes to products appeared to be unique to the individual company's situation, with the exception of a few that emphasized the need to be more responsive to online products and markets.

Anticipated changes to products:

- *"Continued growth in e-products"*
- *"Need more innovation to reach consumers at home; more digital advertising as people are buying off the Internet and not in person"*

Finally, we asked, beyond the areas of processes and automation, workforce, supply chain, and products, **“What positive changes has COVID-19 forced your company to make that you believe will have lasting impact?”** Comments relate mostly to electronic communications and increased opportunities for remote work. However, there were also numerous comments about the ability to adapt to change, risk management and planning, as well as workplace cleanliness and illness prevention.

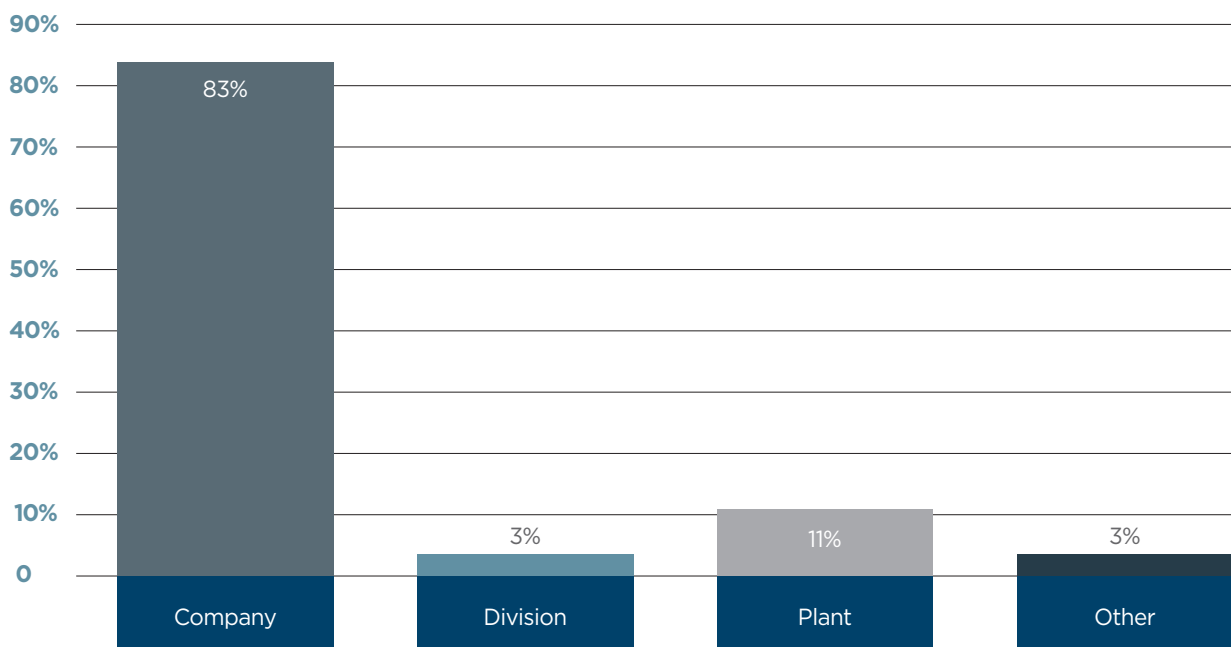
Anticipated changes in other areas:

- *“Increase confidence in the ability to get things done via video calls”*
- *“Increased Internet presence/digital marketing”*
- *“Moving communication to virtual as opposed to paper documents and record keeping”*
- *“Communication improvements to keep occurrences transparent; it has built trust we will do the ‘right thing’ when faced with challenges as a company”*
- *“Adaption to change – fast”*
- *“Reacting quicker, increase of technology for meetings, more collaboration with less travel, different ways to communicate throughout shifts”*
- *“Zoom is more productive, no small chat, and makes a more level playing field; staff spending more time at home with family”*
- *“Limit outside visitors”*
- *“Working remote; supporting people who are sick to stay at home and provide them the security in job to do so”*
- *“More flexible work environment for non-production employees”*
- *“Better hygiene creating a better work environment; more efficient schedules”*
- *“Cleaning touch surfaces, no-touch operation, handwashing habits, plexiglass dividers, ionizing air purifiers will all stay beyond the pandemic and minimize normal cold and flu transmission between workers”*
- *“More flexibility regarding employees working from home”*
- *“Deeper development of contingent strategies in case of disruption as well as catastrophic strategies due to a natural event that impacts a significant portion of workforce or operations”*
- *“More remote meetings and communications; more flexible hours for staff”*
- *“More focus on safety, cleanliness, and discipline”*

Appendix

As with previous years, this year's study collected information from across Indiana from a variety of different manufacturers. The majority of participants in the 2020 Indiana Manufacturing Survey were reporting for their organizations at the company level (83%), with the rest responding for divisions of larger organizations (3%), individual plants (11%), or other units (3%). The average number of direct or full-time employees per respondent is 248, with the largest employing 5,000. In addition, the average number of contract workers and temporary workers per respondent is two and 21, respectively.

RESPONDENT BUSINESS UNITS

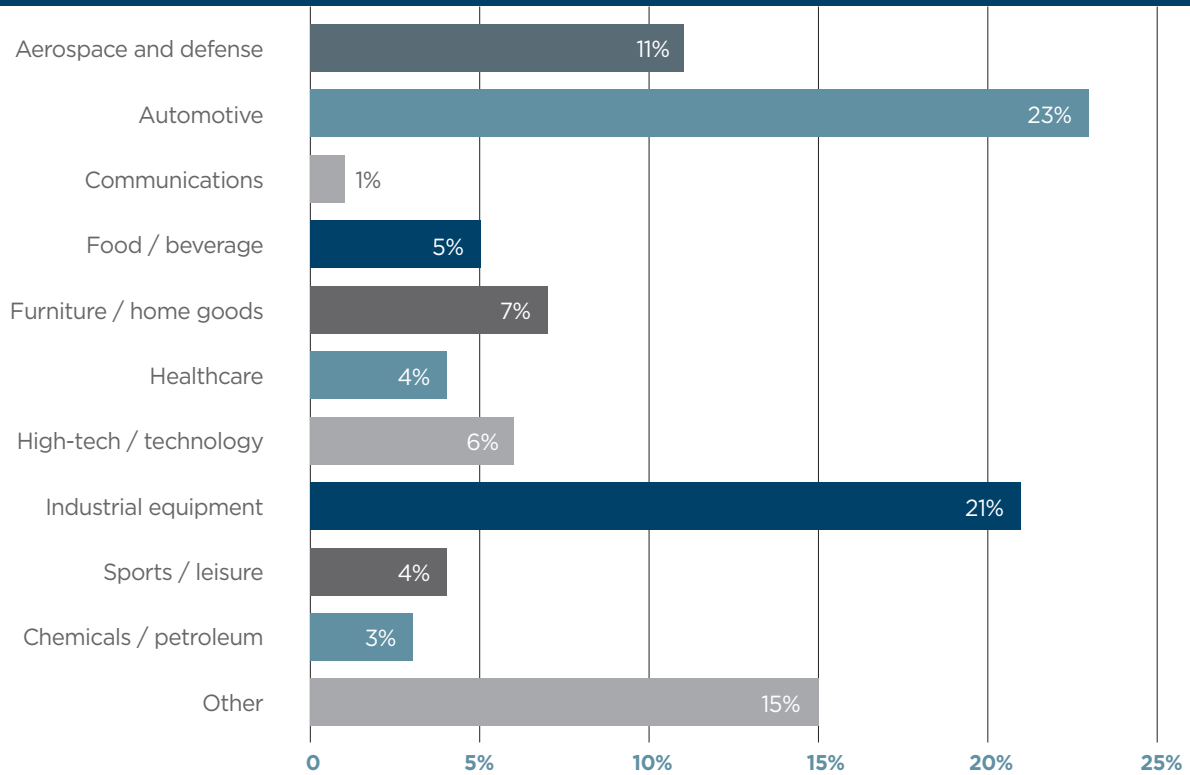


NUMBER OF EMPLOYEES

	Direct / Full-Time Workers	Contract Workers	Temporary Workers
Mean	248	2	21
Maximum	5,000	100	1,000

As with prior studies, the 2020 sample reflects all of Indiana's most significant manufacturing industries. The three largest industry groups, represented by the survey respondents, are automotive (23%), industrial equipment (21%), and aerospace and defense (11%). Another 29% of respondents are distributed between high-tech (6%), healthcare (4%), furniture/home goods (7%), food/beverage (5%), chemicals (3%), and sports / leisure (4%). Companies in the "other" category (15%) include construction productions, textiles, as well as plastics.

INDUSTRY TYPES



ABOUT KATZ, SAPPER & MILLER

Founded in 1942, Katz, Sapper & Miller (KSM) is the largest Indianapolis-based CPA firm. Today, an employee owned company with 44 partners and more than 300 staff, KSM is widely recognized as one of the country's preeminent accounting firms. Our mission is simple: Inspiring great people to do great things.

KSM has long believed the manufacturing and distribution industry is both key for Indiana and strategic for our firm. Accordingly, we have made a strategic commitment to this practice area. We consistently dedicate substantial resources, including our top talent, to ensure we stay on top of emerging industry issues and provide the highest level of service to our clients. As a result, our Manufacturing and Distribution Services Group is one of our largest practice areas.

The professionals of KSM's Manufacturing and Distribution Services Group are dedicated to providing practical and innovative solutions for the unique needs of manufacturers and distributors. The group is comprised of a cross-functional team of specialists with extensive industry experience who provide services ranging from mergers and acquisitions; process and operational improvement consulting; accounting, tax, and audit services; technology and human resources consulting; strategic planning; and more.

For more information, please visit ksmcpa.com/manufacturing-distribution.

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The research study was conducted in conjunction with faculty from Indiana University's Kelley School of Business at IUPUI.

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Dr. Frohlich's research interests are in manufacturing and supply chain strategy, and he currently serves as the director of the IU Kelley School Center for Excellence in Manufacturing. His research has won numerous awards, including best papers of the year and best operations management case study. He was identified as one of the most cited authors in the field by the Journal of Operations Management. He has likewise won IU's *Trustees Teaching Award* multiple times and, through executive education, had the opportunity to teach on four continents in more than a dozen countries. He also serves on APICS' Research, Innovation, and Strategy Committee (RISC) and chairs their research subcommittee.

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Dr. Jones' research interests are in financial management and strategy, including how financial decision making interacts with capital market conditions. He has been published in the top scholarly journals in finance, including the Journal of Financial Economics, the Journal of Finance, the Journal of Business, Financial Management, and the Journal of Corporate Finance. He also serves as director of the school's Finance Education Enterprise. He teaches courses in financial management, financial markets and investment analysis, and he is a four-time winner of a Kelley School teaching excellence award.

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