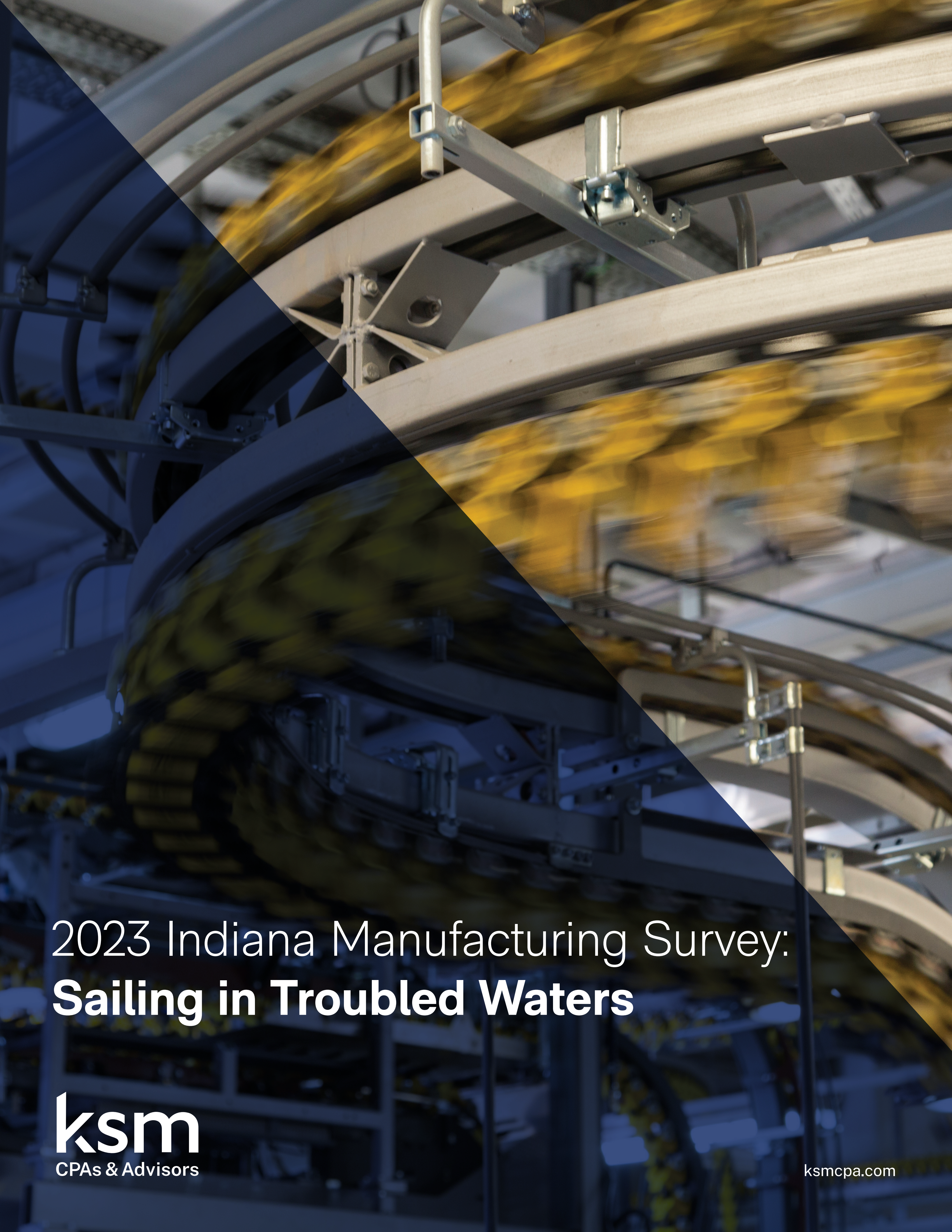

2023 Indiana Manufacturing Survey: **Sailing in Troubled Waters**

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Foreword

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Perhaps unsurprisingly, the responses to this year's annual Indiana Manufacturing Survey reflect a great deal of concern and uncertainty over current and future economic conditions that were storm clouds on the horizon a year ago. Last year's survey was the first of this post-pandemic era, and while the relief from just surviving was obvious, major recovery-related challenges were also evident, including how to meet surging demand, manage supply chain shortages, and how to attract new workers. The resulting inflationary pressure from higher costs and wages has led the federal government to raise interest rates to the point of tempting a recession – a risk that still looms as the question of whether inflation has been brought under control is still unanswered. Even if interest rates have peaked, for now, the lag effect of these higher rates remains a threat to future economic growth.

For these reasons, much of our analysis in this year's report focuses on comparing the 2023 findings to those from our last pre-pandemic report in 2019. The point of this comparison is to get a sense of how much of the uncertainty observed in this year's survey can be attributed to normal economic uncertainty (represented by the 2019 survey results), versus the specific economic conditions we find ourselves in now.

This year's survey finds that one in four (25%) respondents classified their organization's current financial performance as "challenged." In comparison, 18% described their performance as such in 2019. And only 30% classified their financial performance as "healthy" in this 2023 survey, versus 53% in 2019. This cautious outlook is corroborated by financial metrics that, for the first time in this annual survey's history, forecast a decrease in current year (2023) revenues (-2%), profit margins (-3%), and capital expenditures (-5%) relative to the prior year (2022). To gauge whether this decline is due more to the extraordinary strength of the 2022 recovery or tempered expectations about the future, we asked our 2023 survey participants if they believed that the U.S. economy would slip into a recession by next year. A clear majority (55%) of respondents replied "yes." Only 19% were optimistic enough to predict that a recession will be avoided in 2024.

Drilling down further into the results, not unexpectedly, maintaining margins in the presence of significant inflation is identified as the greatest challenge by 53% of this year's responding manufacturers. The remaining 47% are roughly evenly split in terms of viewing labor or supply chain shortages as their top challenges. Likewise, the impact of higher interest rates was another recurring theme in these 2023 survey results, with many Hoosier manufacturers indicating that they plan to invest less in new equipment and facilities (33%), while others reported that they are either revising down their plans for future growth (27%), reducing inventories (22%), or that they expect to lose sales (18%) as a result.

Despite the concerns and caution reflected in these 2023 survey results, reasons for optimism remain. Forty-one percent (41%) of respondents indicated that the number of manufacturing jobs at their organization are increasing, while just 19% reported they are decreasing. For those indicating that the number of jobs are increasing, 52% attributed this to increasing market share for their current products. Another 35% attributed job growth to the addition of new product lines, while 13% plan to relocate more jobs to Indiana from overseas. When asked about the effects of advanced technologies and automation on jobs, almost half (45%) of this year's respondents indicate that they expect the number of skilled jobs to increase, while just 12% anticipated that automation will reduce the number of positions in manufacturing. As one of the participants in this year's study remarked, their best decision in the past year was "investing in new manufacturing technology that allows us to run current products faster and new products at a more competitive price point."

As we move forward into what appears to be an increasingly uncertain economic future, it's worth reflecting backwards on the major trends that our ongoing survey has chronicled in Hoosier manufacturing over the last decade and a half. In the Great Recession years, most manufacturers were laser-focused on restoring financial stability and maintaining their market share. In the years immediately after the Great Recession, there was a surge in capital investments coupled with rising concerns over excessive regulations, taxes, and healthcare. Concerns over worker shortages and the skills gap also started to emerge at that point in time. Later in the previous decade, in the final few years before the COVID-19 pandemic struck, Hoosier manufacturers were not only concentrating their investments on advanced automation but also realizing the effects of decreased regulatory burdens. Then, when the pandemic hit, Indiana manufacturers rose to the challenge and helped lead our state's recovery into the post-pandemic "new normal."

The stage is now set for what looks to be yet another challenging but hopeful period in Indiana manufacturing history. These days, inflation persists, interest rates remain high, labor shortages endure, and recession is a very real possibility. Yet, once again, Hoosier manufacturers appear prepared to face these challenges in the months and years ahead. While we may be sailing in the troubled waters of economic uncertainty, we expect Indiana manufacturing to continue to prosper, even if those waters remain rough for a while yet.

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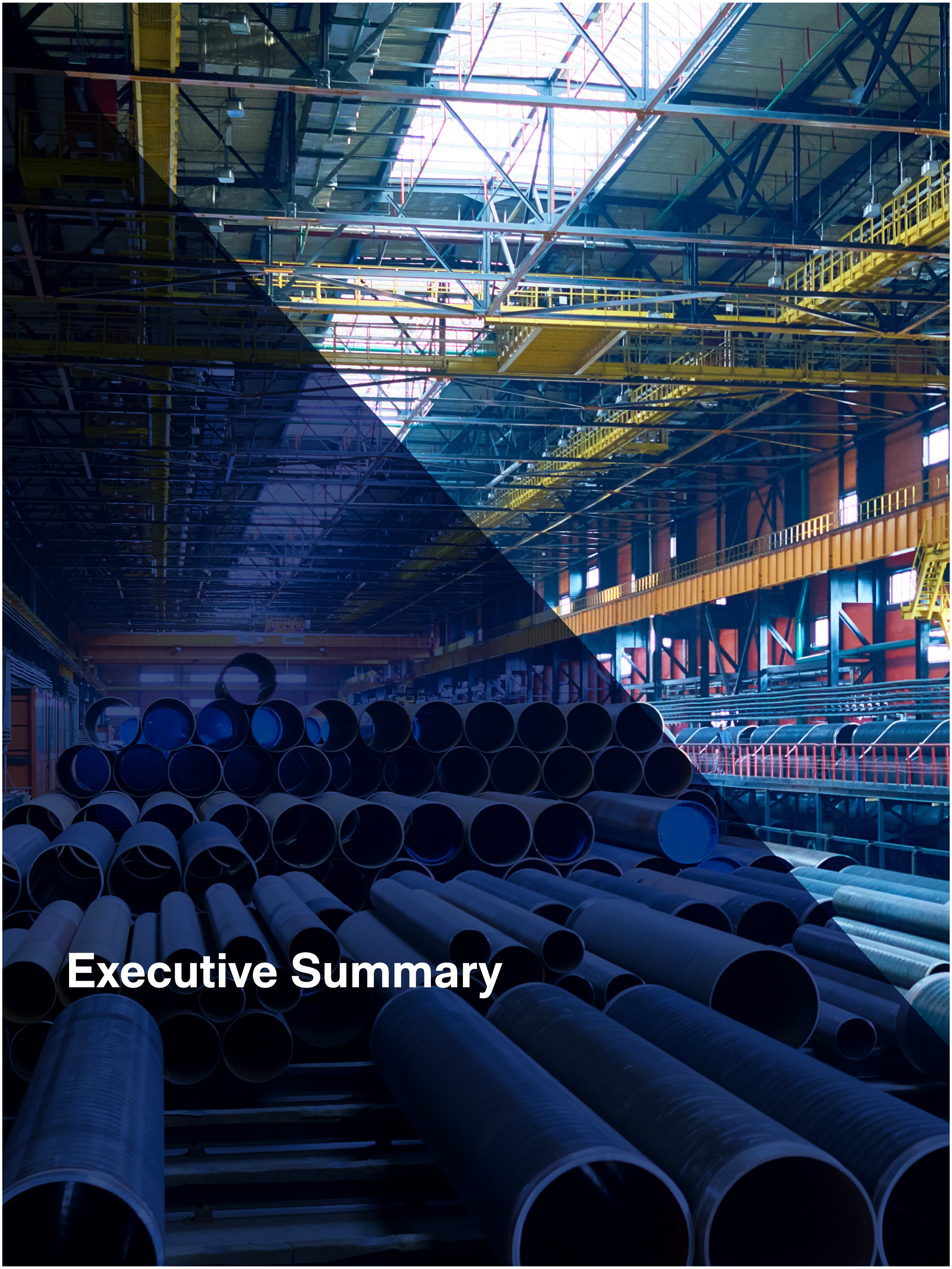

Executive Summary

Executive Summary

The results of the 2023 Indiana Manufacturing Survey indicate that the Hoosier manufacturing sector is in a relatively turbulent business environment overlaid with a possible economic slowdown in 2024. Key challenges range from persistent inflation and relatively high interest rates to the never-ending shortage of workers. Expectations for future growth rates in sales revenues, profit margins, and capital investment are currently all negative, at least in the near term. It is concerning that just 30% of 2023's respondents consider their businesses to be "healthy." Currently, inflation appears to be the leading challenge for a majority (53%) of respondents. Either labor or supply chain shortages are the top issues for the remaining 47%. Relatively high interest rates, in comparison to the past decade, exacerbate the challenges manufacturers currently confront. As a result, many Hoosier manufacturers are planning to invest less in new equipment and facilities (33%), revise downwards their future growth plans (27%), reduce inventories (22%), and, unfortunately, expect to lose sales (18%).

Challenges for 2023: Indiana Manufacturers

Much of the data in our 2023 manufacturing survey is not very heartening, with important topics from revenue, growth, and profitability to future investments and hiring no more than holding constant, at best. Important takeaways (and to-dos) include:

- **Brace for a recession in 2024.** A majority (55%) of respondents pessimistically believe that the U.S. economy will slip into a recession next year. Conversely, just 19% optimistically predict that we will somehow avoid a recession in 2024.

- **Invest in technology.** Investment in facilities, machinery, and information technologies are the top priority for 58% of respondents. When asked about the most powerful benefits of "smart" manufacturing technologies, the respondents said increased productivity (42%), better/faster decision-making (24%), and increased competitiveness (21%).

- **Hire and develop employees.** As one of this year's respondents commented, their best manufacturing decision in 2023 was "Hiring talent when opportunity arose, whether needed or not." Paralleling our previous studies' findings, relying on internal employee training and development programs was the majority response (63%). The second most popular approach was the use of overtime (19%) followed by the outsourcing of certain functions (9%).

- **Maintain profitability.** When asked what their businesses were currently doing to maintain profitability, respondents' top three solutions were passing cost increases onto customers by raising prices (23%), improving processes to reduce costs (23%), and implementing new technologies to reduce costs (20%). Others reported that they were working with suppliers to reduce costs (15%), delaying capital expenditures (12%), laying off or furloughing employees (5%), and reducing product size/quality to reduce costs (1%).

Challenges for 2023: Government Policy Makers

To help Hoosier manufacturers during these relatively unsettled economic times, promote growth, and foster job creation, government needs to work with the manufacturing sector in the following areas:

- **Fiscal policy:** When asked "How long do you think that inflationary upward cost and price pressures will last," respondents predicted on average 1.76 more years. Breaking down what forms of inflation are currently impacting each respondent's company, wage costs (19%) was the biggest driver of inflationary pressures followed by raw material (16%), energy (15%), capital (14%), insurance (13%), and commodity costs (10%). Government policies to help address any of these issues will not only help Hoosier manufacturing in immediate future, but they will better position Indiana manufacturers to be as competitive as possible in the second half of this decade.

- **Healthcare policy:** Healthcare has been a top concern of manufacturers for over a decade. In this year's survey we asked respondents what strategies their companies are using to limit the cost of healthcare. Twenty-one percent (21%) reported increasing employee cost share (deductibles/copays); 19% are incentivizing healthy behavior by employees; and 16% are investing in employee wellness programs. Investments in public health and related recreational initiatives such as parks and walking/biking trails could pay dividends in terms of a healthier Hoosier workforce in the years to come.

- **Workforce initiatives:** Forty-one (41%) of the respondents indicated that the number of manufacturing jobs at their companies was increasing. Correspondingly, a majority (52%) thought that manufacturing jobs at their companies would increase because market shares for their current products continue to grow. Reflecting favorably on Hoosier manufacturers' ability to innovate, a further 35% reported that their number of manufacturing jobs would increase because they are adding new product lines. While state and local government have made substantial investments and progress in terms of helping to address Indiana's "skills gap", further assistance in terms of recruiting talent into manufacturing as well as upskilling the existing workforce is warranted in upcoming legislative sessions.

To help Hoosier manufacturers during these relatively unsettled economic times, government needs to work with the manufacturing sector through fiscal policies, healthcare, and workforce initiatives.

I. Company Demographics

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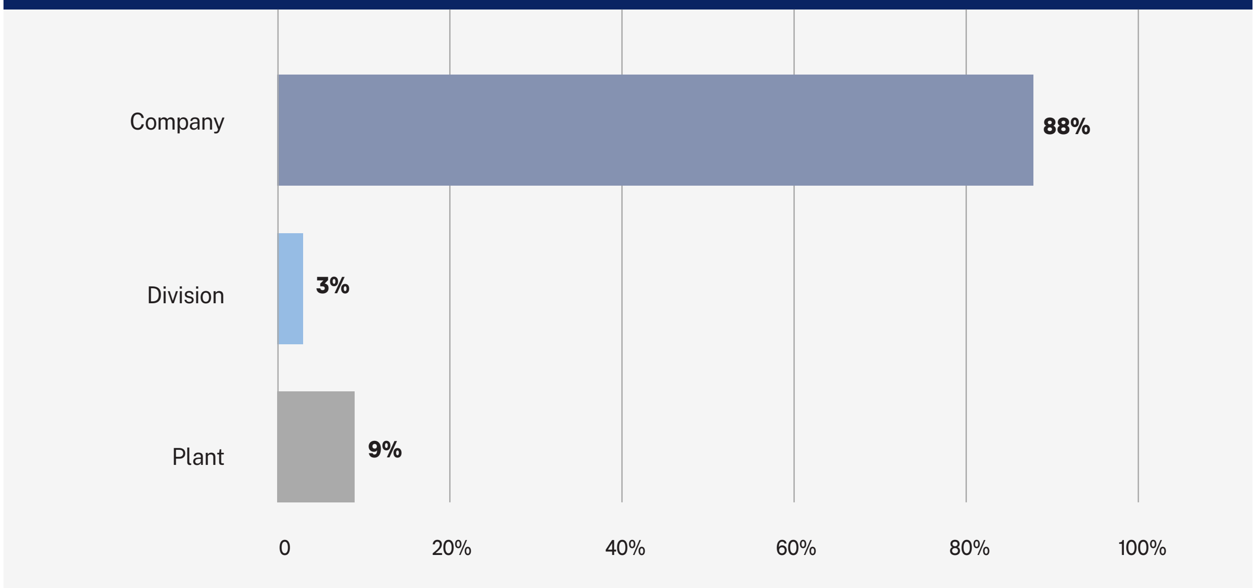
The majority of participants in the 2023 Indiana Manufacturing Survey were reporting for their organizations at the company level (88%), with the rest responding for divisions (3%) or individual plants (9%) within larger organizations. The average number of direct or full-time employees per respondent is 324, with the largest employing 6,000, while the average number of temporary workers is 24, and only 2 per respondent are contract workers.

Types of Organizational Units



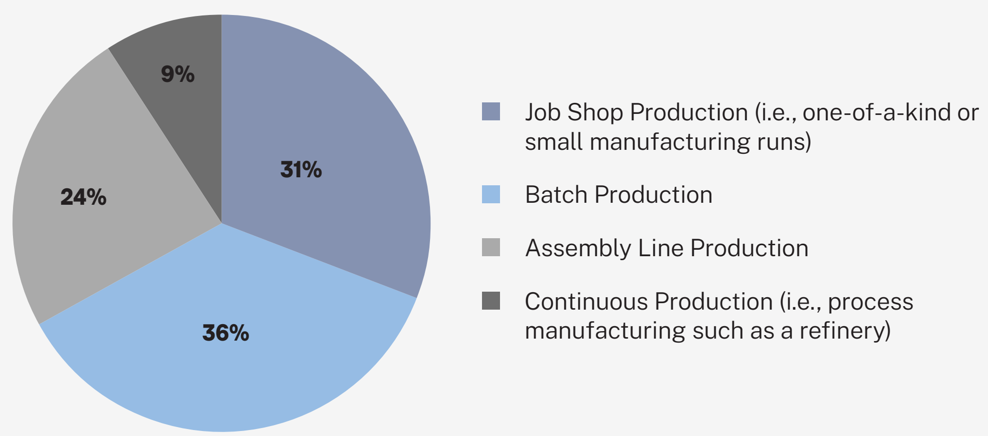
Number of Employees

	Direct/Full-Time Workers	Contract Workers	Temporary Workers
Mean	324	2	24
Maximum	6,000	40	750

> *"The best manufacturing decision we made in the past year has been hiring talent when the opportunity arose, whether needed or not."*

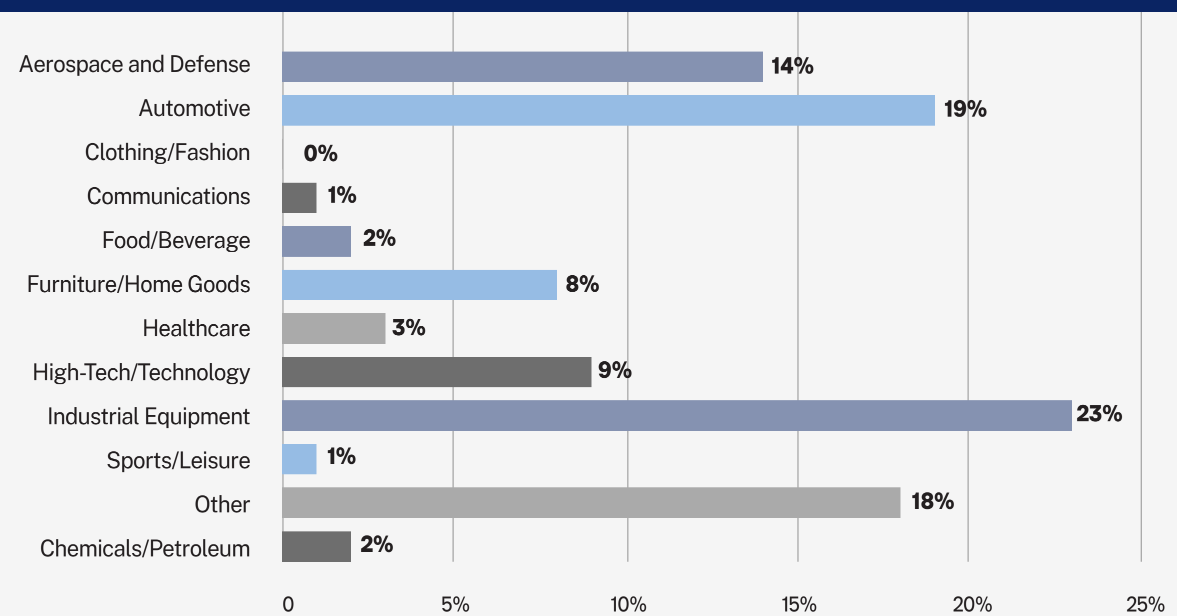
As for the production processes used by the respondents to the for 2023 survey, most use either batch (36%) or job shop production (31%). Similar to previous years' surveys, a smaller proportion of the respondents employ assembly lines (24%) or continuous production (9%).

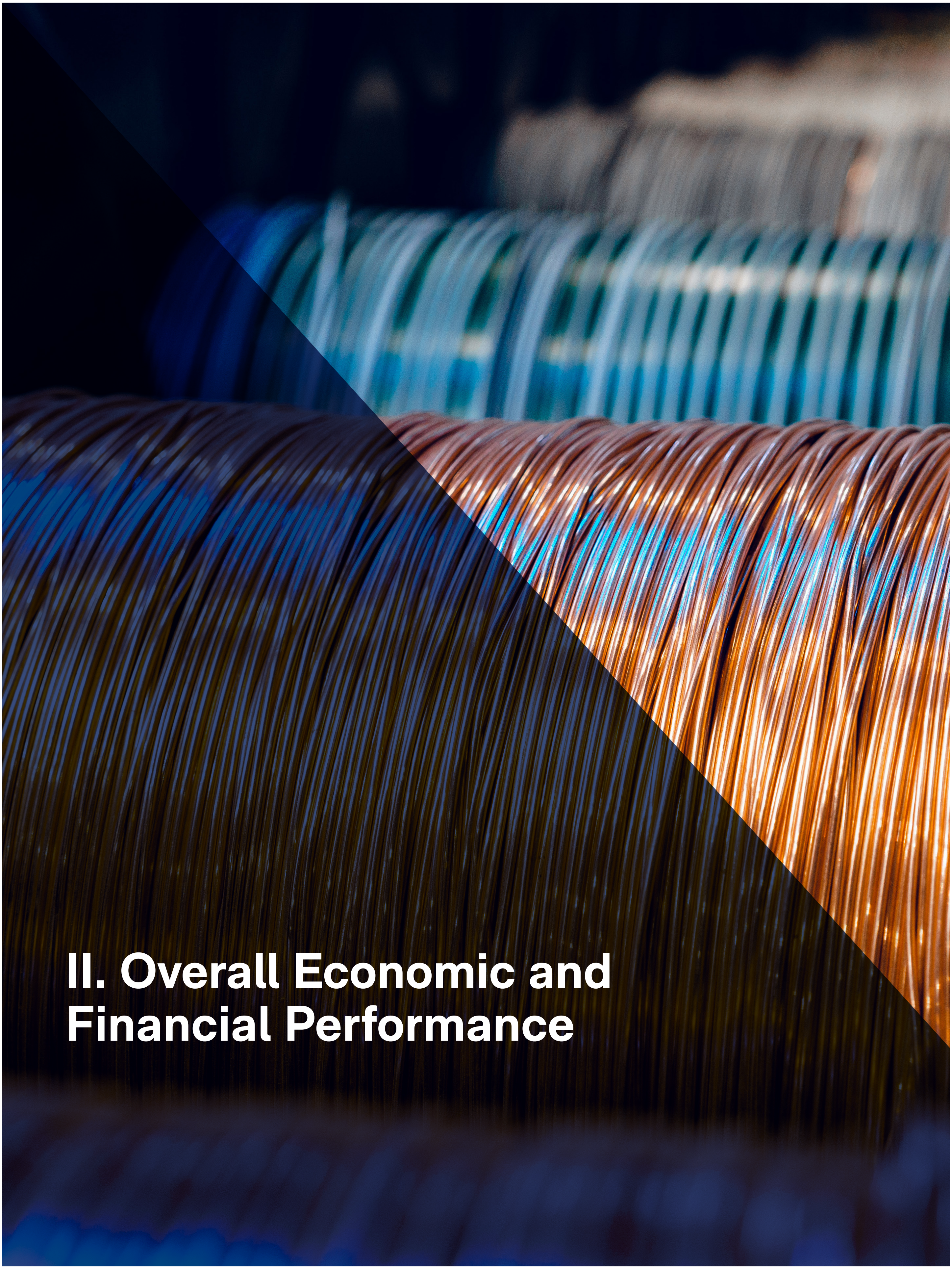
Types of Production Processes



As with our previous studies, the 2023 sample reflects a balanced assortment of Indiana's most significant manufacturing industries. The three largest industry groups represented by the survey respondents are automotive (19%), industrial equipment (23%), and aerospace and defense (14%). Another 22% of respondents are distributed between high-tech (9%), healthcare (3%), furniture/home goods (8%), and food/beverage (2%). Companies in the "other" category (18%) include agriculture, metals, and plastics-related manufacturing.

Industry Types





II. Overall Economic and Financial Performance

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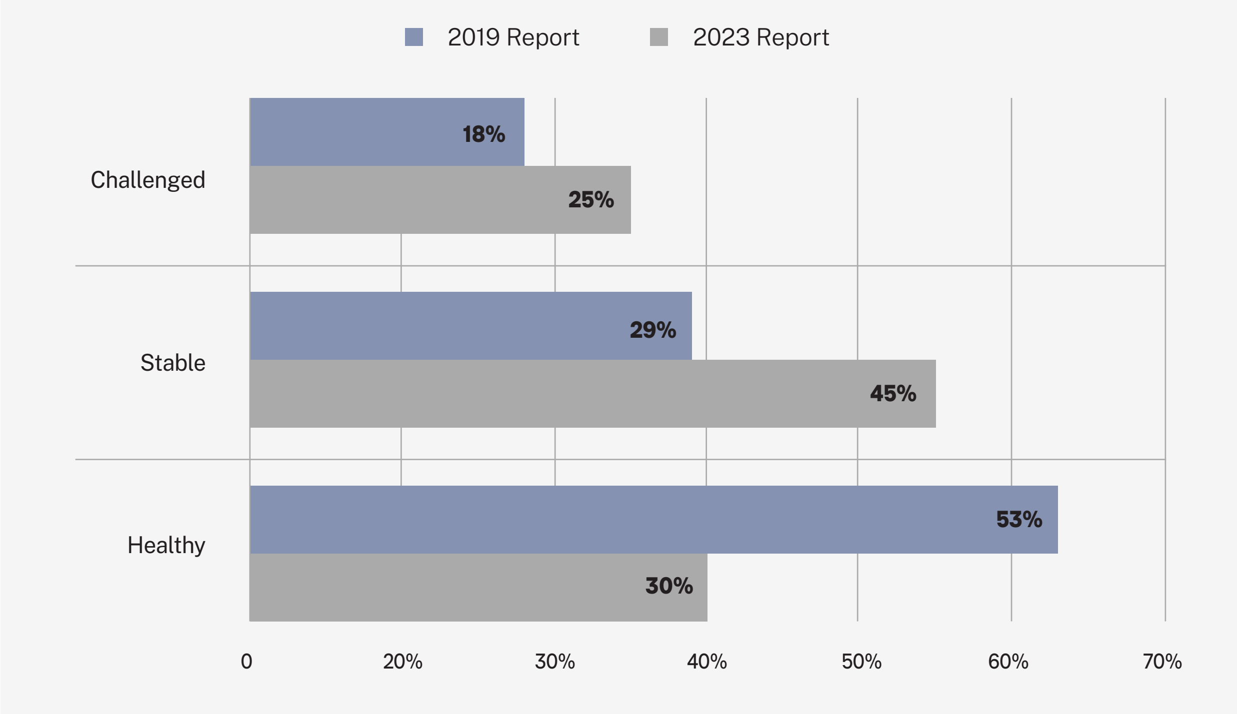
For more than a decade we have asked respondents to rate their overall financial performance over the past two years as either "healthy," "stable," or "challenged."

In 2023, 30% of the respondents described the financial performance of their organization as "healthy," while a plurality (45%) consider it "stable" (45%), and 25% describe their performance as "challenged." In comparison, these responses are not as strong as in the pre-pandemic years of 2018 and 2019, when a majority (53%) of respondents described their company's financial performance as "healthy," while 29% considered it "stable", and only 18% indicated their business was financially "challenged."

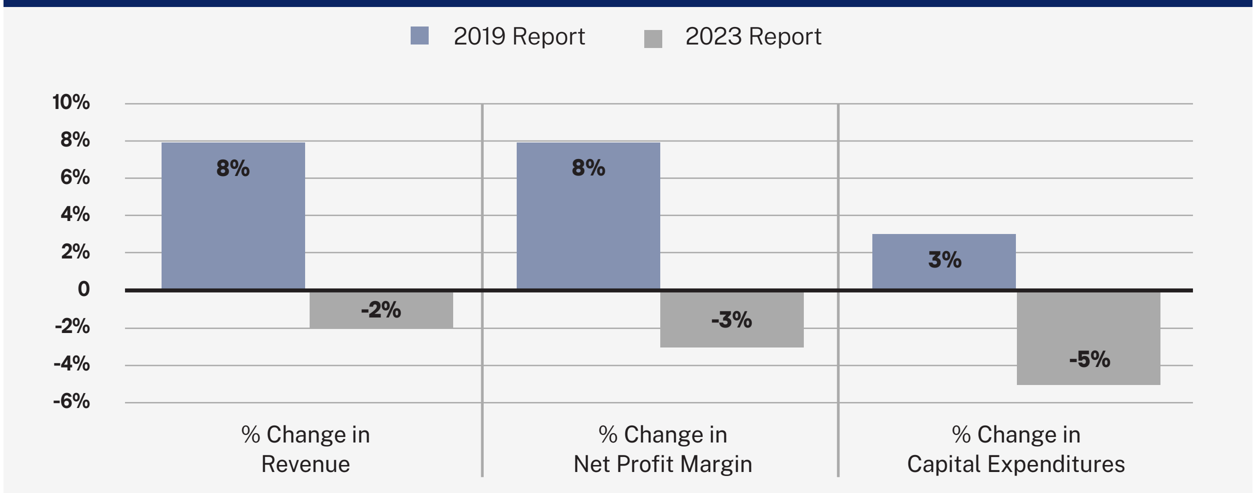
Pre- and Post Pandemic Financial Performance



These responses are still not as strong as in the pre-pandemic years of 2018 and 2019, when a majority of respondents described their company's financial performance as "healthy."

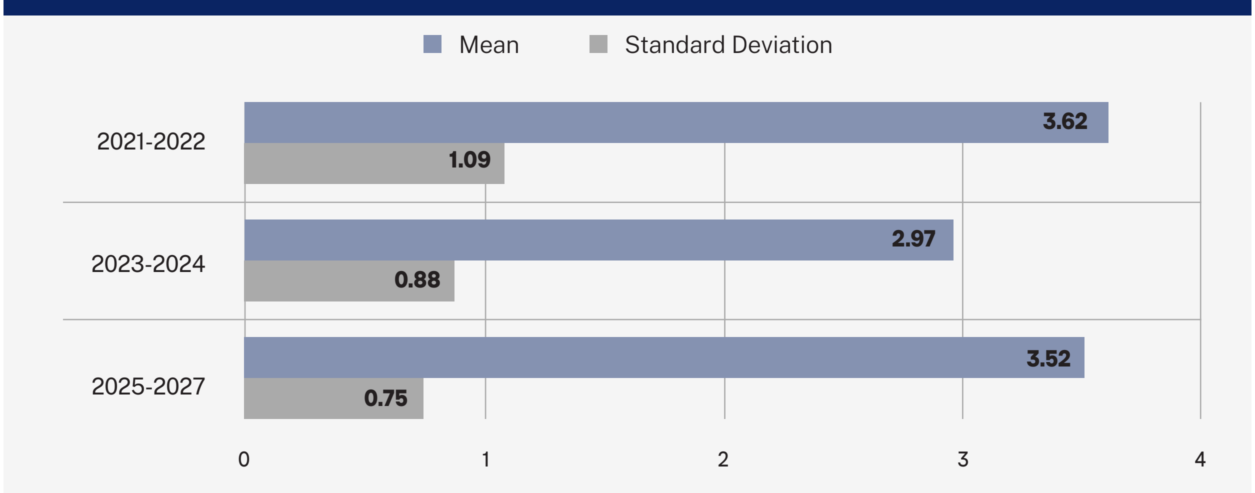
Three key financial metrics are trending down in 2023 from 2022. Expected revenue and profits are down 2% and 3%, respectively, while capital expenditures are expected to be down 5% in 2023. In contrast, expected pre-pandemic growth, from 2018 to 2019, was up 8% in revenue and profits, while capital expenditures were up to 3% in 2019. The current downward trend could reflect a plateauing of the post-pandemic recovery, or it could reflect expectations of an impending recession.

Percentage Change in Financial Metrics, Pre- and Post-Pandemic



We also asked survey respondents to assess, on a scale of 1–5, the past, current, and expected future growth of the markets their organizations sell into, with 5 = "growing rapidly," 4 = "growing slowly," 3 = "no growth," 2 = "declining slowly," and 1 = "declining rapidly." The results indicate that, on average, growth was modest over the previous two years (2021-2022) with a mean response of 3.62 and a standard deviation of 1.09. Little to no growth is expected this year and next (2023-2024) with a mean response of 2.97 and a standard deviation of 0.88, while growth is expected to return to more modest levels in the subsequent three to five years (2025-2027), as indicated by a mean response of 3.52 and a standard deviation of 0.75.

Expected Growth in Markets, Past, Current, and Future (2021–2027)



III. Manufacturers' Perspectives on the U.S. Economy

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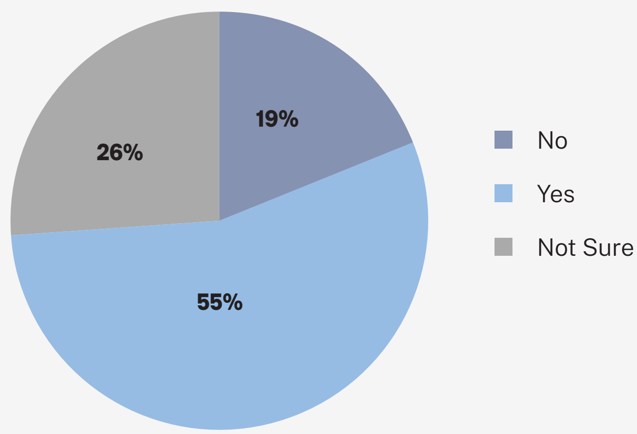
In this 2023 survey, we asked respondents "How confident are you in the U.S. economy?" Respondents rated their confidence levels on a scale of 1–5, with 5 = "very confident," 3 = "somewhat confident," and 1 = "not confident." The average reply was 2.72, with a standard deviation of one, suggesting that the typical Hoosier manufacturer currently has some confidence in future prospects for the U.S. economy, but this confidence is weak. Building on this, we then asked survey participants, "Do you think the U.S. economy will experience a recession in 2024?" Interestingly, the majority (55%) replied "yes," while 19% responded "no," and the remaining 26% indicated they are "not sure." The 55% expecting the U.S. economy to experience a recession in 2024 also indicated that, on average, they expect the anticipated recession would last three to four (3.6) quarters, with a standard deviation of one quarter.

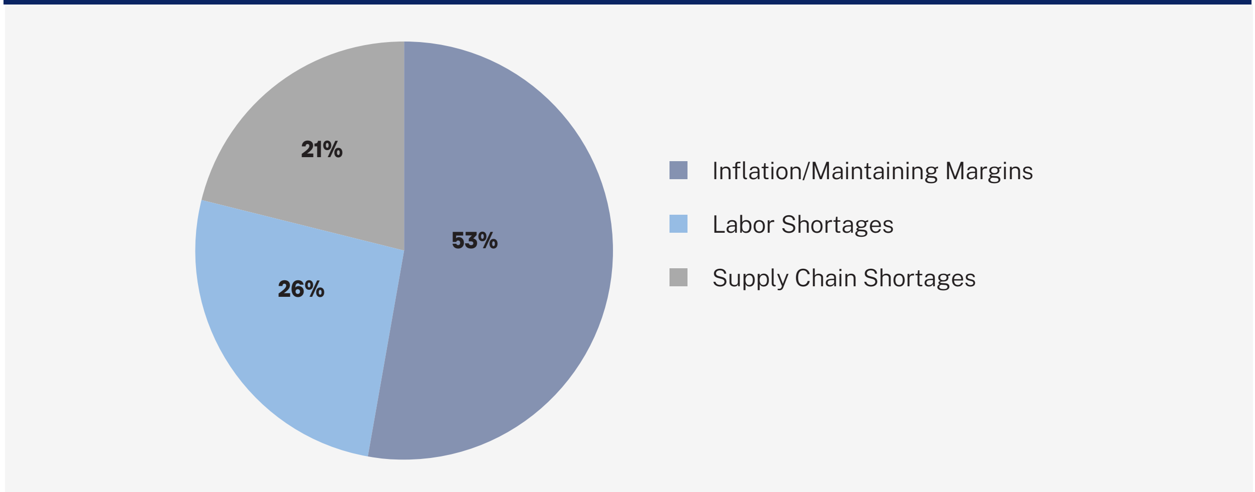
Will U.S. Economy Experience a Recession in 2024?



> *The government has juiced inflation and is now hammering it down with interest rates.*

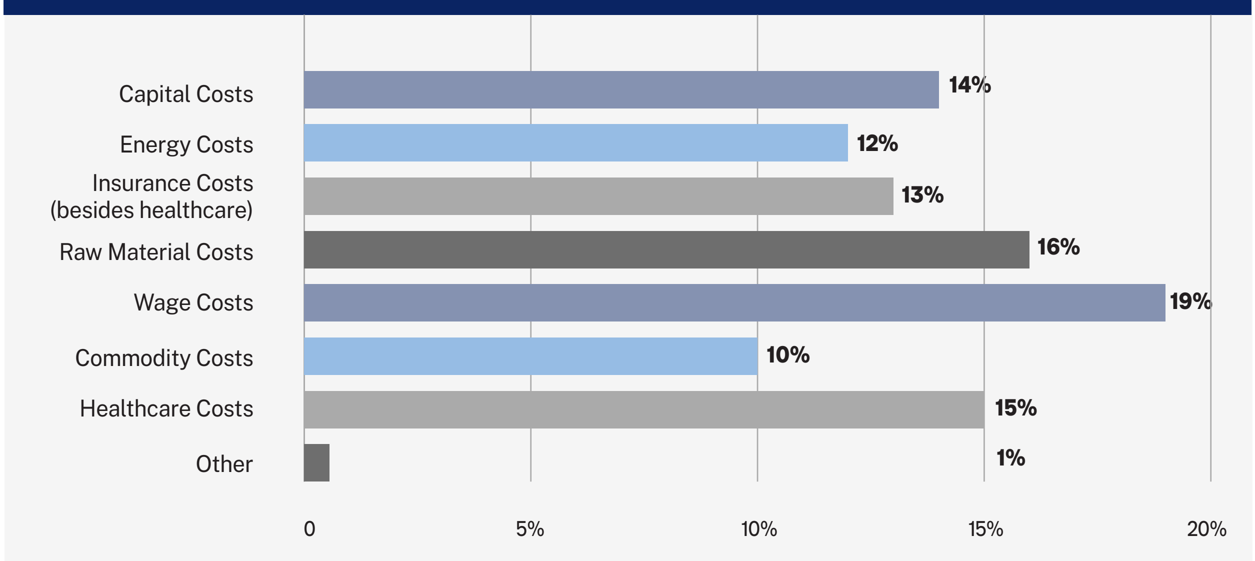
To assess the implications of current economic conditions for responding firms, we asked, "Please rank the following three issues, from 1–3, in terms of the challenge they present to your company. A majority (53%) replied "Inflation /maintaining margins" represents their biggest challenge, followed by "Labor shortages" (26%) and then "Supply chain shortages" (21%).

Greatest Challenge



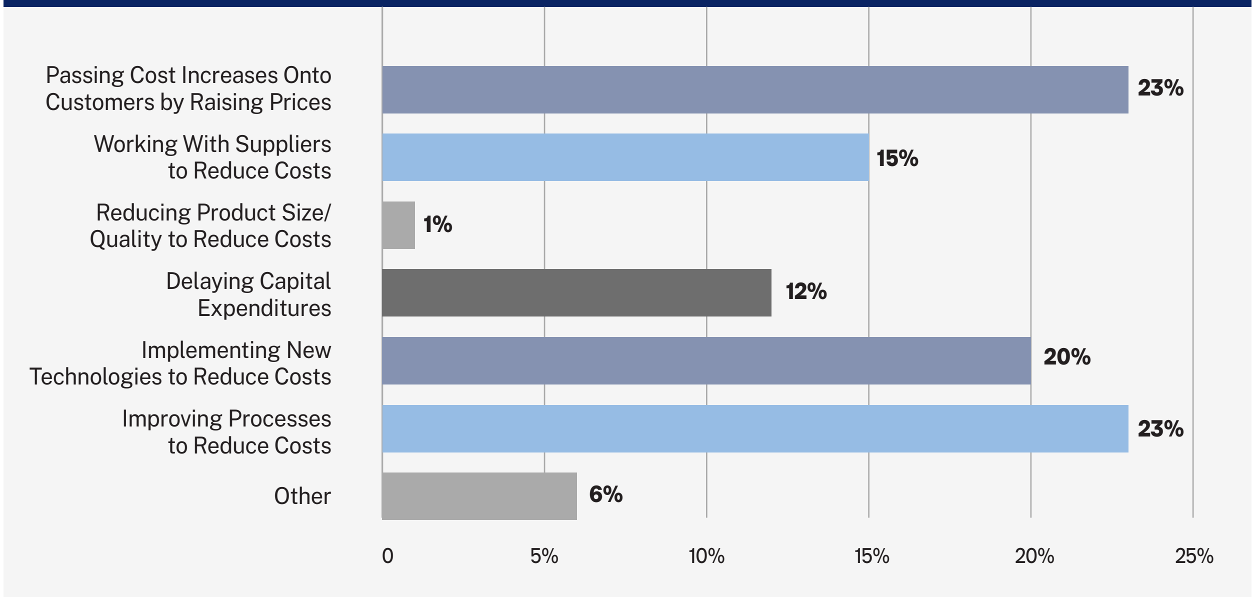
Following up on this "biggest challenge", we asked, "How long do you think that inflationary upward cost and price pressures will last?" The average response was 1.76 more years, with a standard deviation of 1.09 years. Breaking this down into what categories, or types, of inflation are currently impacting responding companies the most, we find that wage costs (19%) are the biggest driver of inflationary pressures, followed by raw material (16%), energy (12%), capital costs (14%), insurance (13%), and commodity costs (10%).

Drivers of Inflationary Pressures



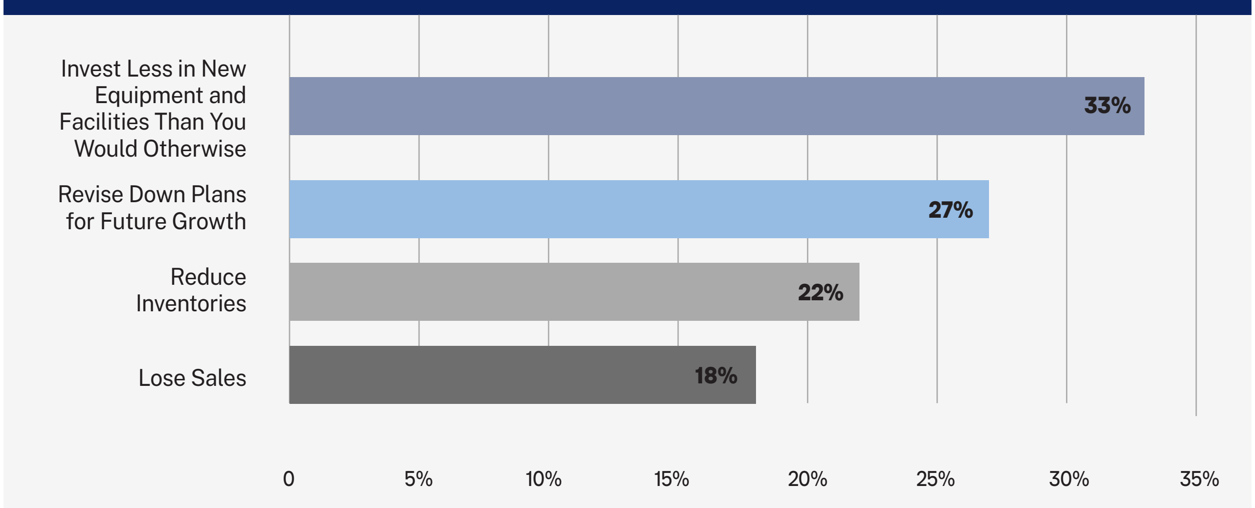
When asked what their businesses are currently doing to maintain profitability, the top responses were "passing cost increases onto customers by raising prices" (23%) and "improving processes to reduce costs" (23%), followed closely by "implementing new technologies to reduce costs" (20%). Others reported they are "working with suppliers to reduce costs" (15%) and "delaying capital expenditures" (12%). Less popular options for maintaining profitability included "reducing product size/quality to lower costs" (1%), or, as it is popularly termed in the media, "shrinkflation."

Solutions to Inflationary Pressures



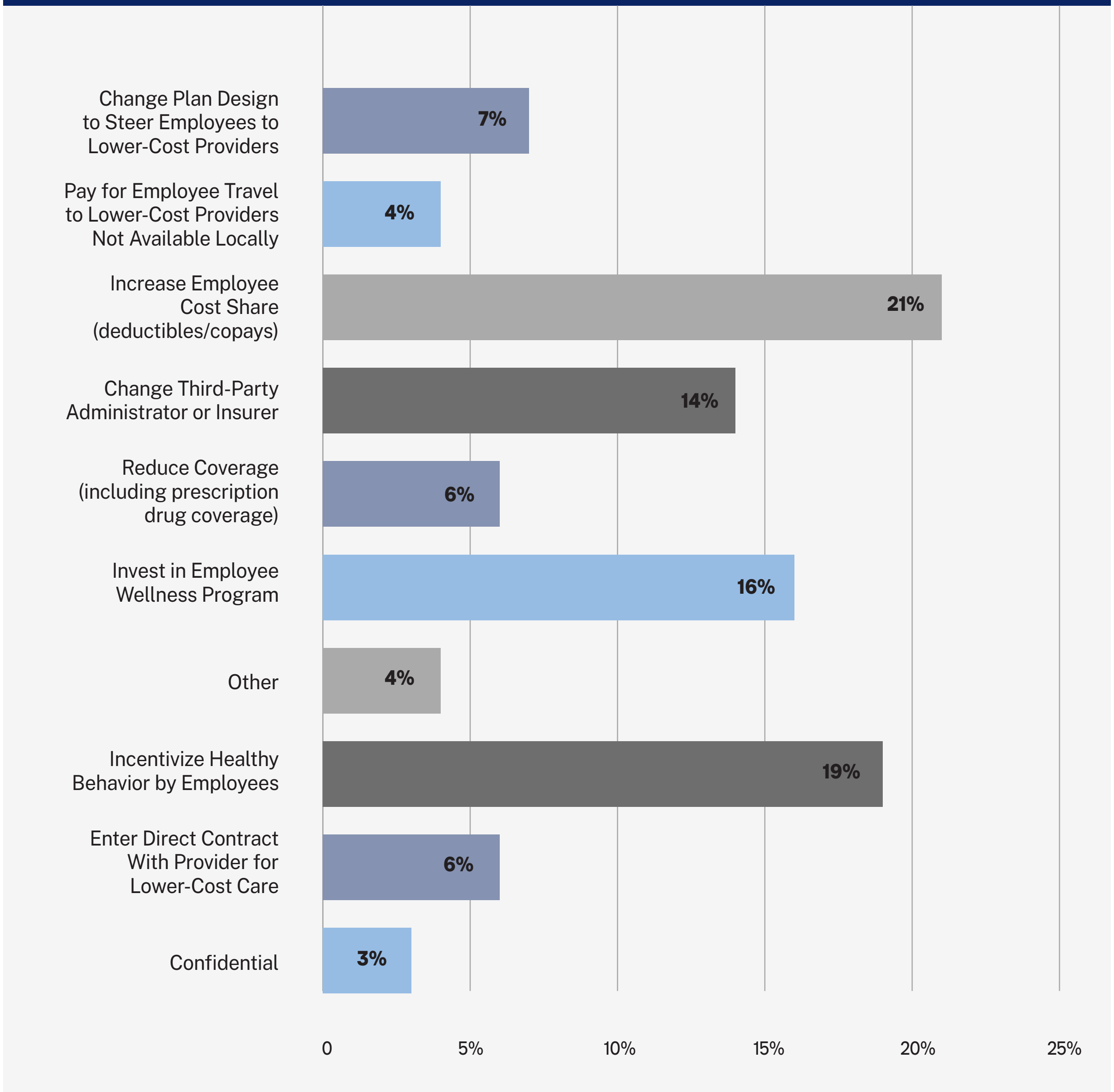
Now that inflation has forced the Federal Reserve to tighten monetary policy, we asked respondents how the resulting higher interest rates were impacting their organizations. Thirty-three percent (33%) replied they are investing less in new equipment and facilities than they would have otherwise. Likewise, 27% reported that they are revising down plans for future growth, 22% are cutting inventories, and 18% are experiencing reduced sales.

The Impact of Higher Interest Rates on Manufacturers



We also asked respondents what strategies their companies have adopted to manage the cost of providing healthcare benefits. Twenty-one percent (21%) have increased the employee cost share (deductibles/copays), while, interestingly, in a close second, 19% are now incentivizing healthy behavior by employees. Other commonly reported solutions include investing in employee wellness programs (16%) and changing their organization's third-party administrator or insurer (14%).

Manufacturers' Healthcare Cost Containment Strategies



IV. Manufacturing Regulatory and Workforce Issues

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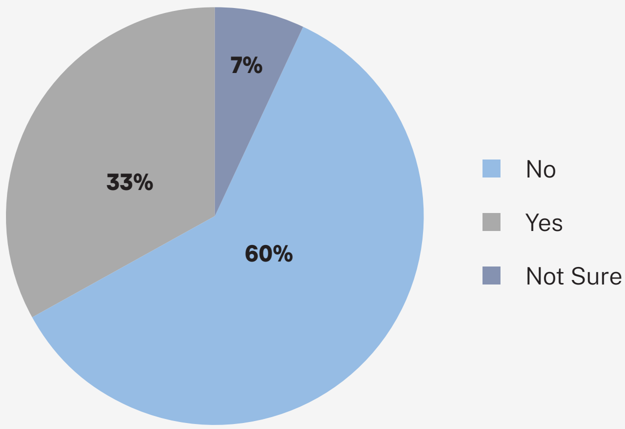
Given the recent emphasis on environmental, social, and governance (ESG) issues, we added a new question to the 2023 survey asking respondents if their company has such a policy/statement. Thirty-three (33%) percent reported "yes," while 60% replied "no."

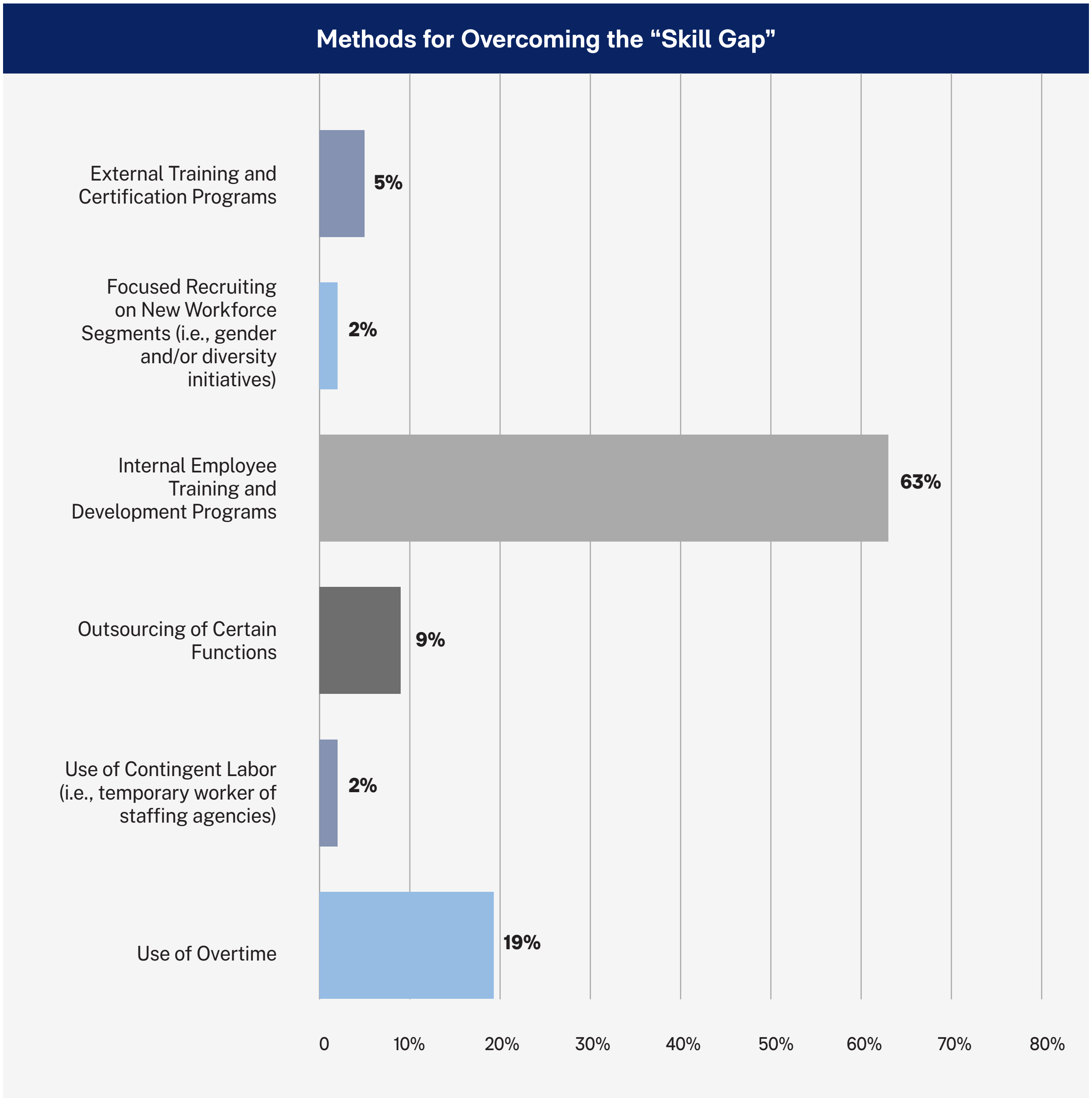
Environmental, Social, and Governance (ESG) Policy/Statement In-Place?



As in prior surveys, this year's survey included an optional open-ended question, inquiring as to what regulatory issue is having the biggest negative impact on respondents' businesses. Representative responses include:

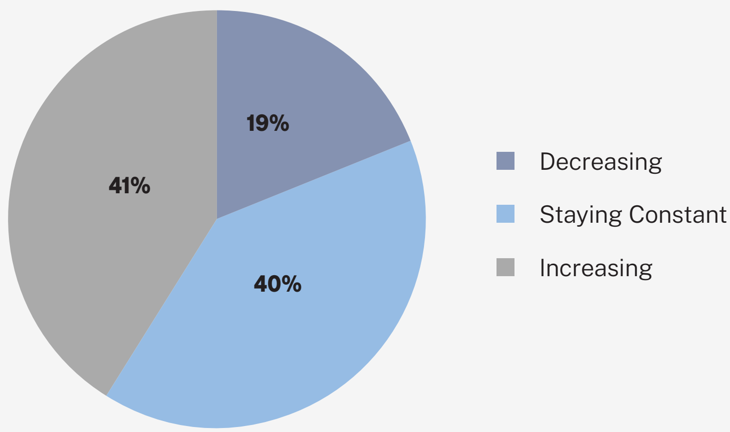
- *"EPA is impacting our automotive customers regarding MPG requirements."*
- *"Too many regulations to count."*
- *"Potential OSHA-tightening requirements."*
- *"Rapidly increasing interest rates."*
- *"Banning the internal combustion engines."*
- *"The government has juiced inflation and is now hammering it down with interest rates."*
- *"Employment restrictions due to broader HR regulations."*
- *"Burden on private business to make up cost differential at healthcare facilities. More and more time spent on compliance issues."*

The Indiana Manufacturing Survey has also historically tracked labor conditions and related skills gaps in manufacturing. Accordingly, we asked respondents what approaches they are currently using to address existing skills gaps. Similar to the findings of our previous surveys, a majority (63%) responded that they are relying on "internal employee training and development programs." The second most common approach has been the use of overtime (19%), followed by the outsourcing of certain functions (9%).



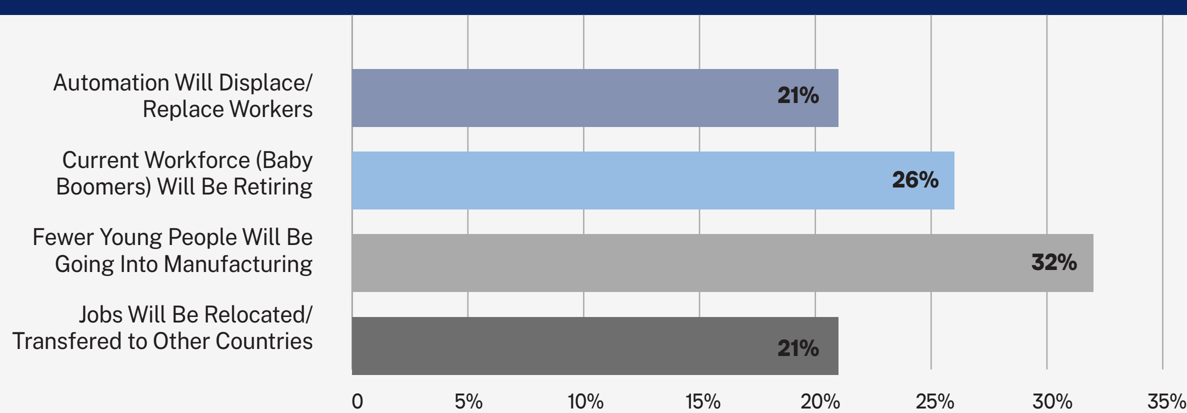
Likewise, in prior surveys we reported on whether or not jobs in manufacturing are increasing, declining, or remaining relatively constant in terms of employment levels. In 2023, 41% of respondents indicated that the number of manufacturing jobs at their company are increasing; 40% said that the numbers are holding constant; while 19% replied that the numbers are decreasing. For benchmarking purposes, we found a similar pattern in our 2019 survey with 48% reporting the numbers of manufacturing jobs at their organization were increasing, 42% said they were staying constant, while 9% replied that the numbers were decreasing.

How are Manufacturing Jobs in Your Business Changing?



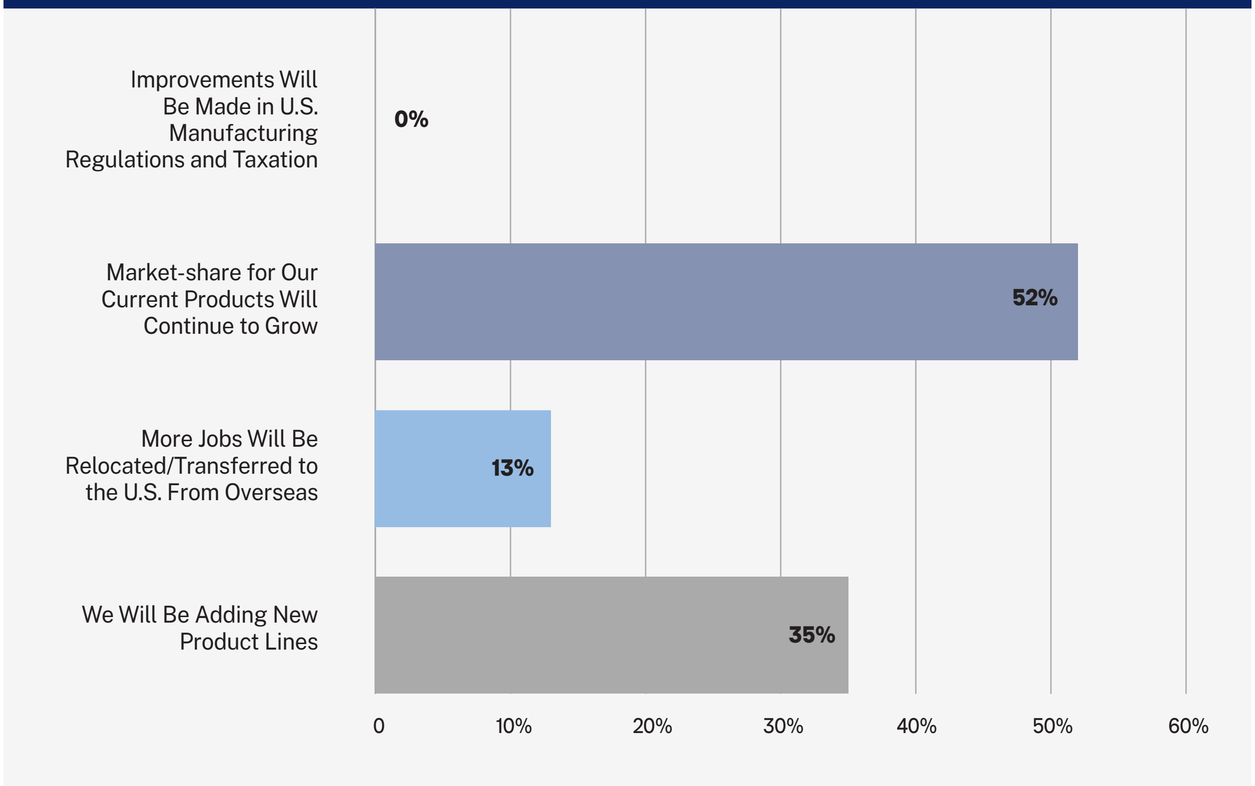
For the respondents that reported a decreasing number of jobs, we followed up by asking about the reason(s) why. In 2023, 32% replied that fewer young people are willing to pursue jobs in manufacturing, while 26% stated that many members of their workforce (i.e., Baby Boomers) are retiring faster than they can be replaced. Automation appears to be taking up part of the slack with 21% of respondents indicating it is displacing/replacing workers, while another 21% indicate that jobs are being relocated/transferred. Interestingly, in our 2019 pre-pandemic survey, half (50%) of those anticipating job losses attributed it to jobs transferred to other countries, while none thought jobs would be lost due to automation, and 33% expected a decrease due to retiring Baby Boomers.

Reasons for Decreasing Manufacturing Jobs in 2023



Of the respondents observing an increasing number of jobs in manufacturing, we also asked, "Why?" A slight majority (52%) indicate that manufacturing jobs at their companies are increasing because they expect the market shares of their current products to continue to grow. Reflecting favorably on Hoosier manufacturers' ability to innovate, 35% expect manufacturing jobs at their companies to increase because they will soon be adding new product lines. Only 13% expect manufacturing jobs at their companies to increase because more jobs will be relocated/transferred here from overseas, while none (0%) anticipate future job growth as a result of improvements in U.S. manufacturing regulations and taxation, apparently because such improvements are not expected. In contrast, our 2019 survey results found that 21% of respondents believed that regulatory improvements would increase manufacturing jobs, while 38% attributed job growth to increasing market share, and 36% anticipated more jobs because they planned to add new product lines.

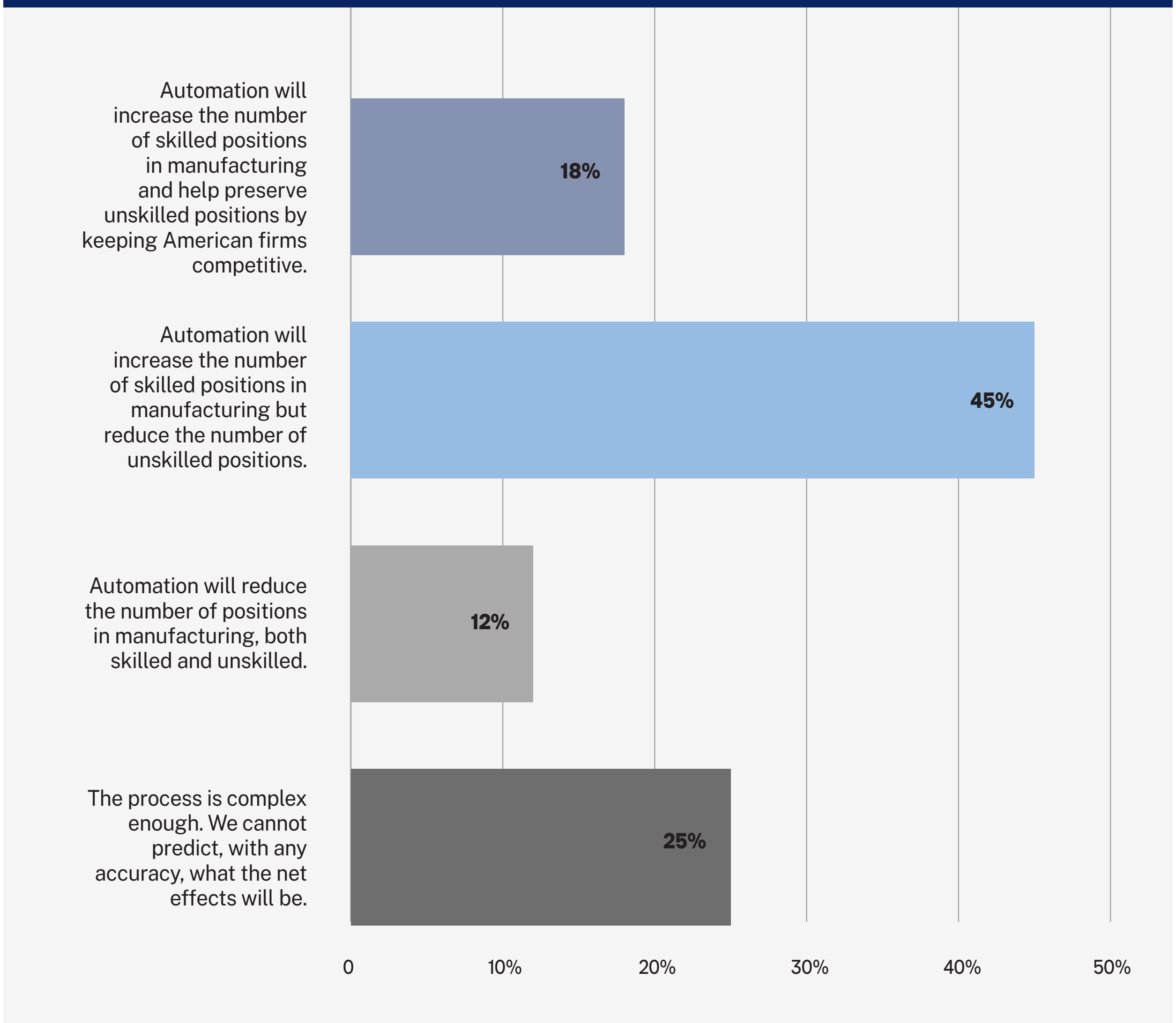
Reasons for Increasing Manufacturing Jobs in 2023



Reflecting favorably on Hoosier manufacturers' ability to innovate, 35% expect manufacturing jobs at their companies to increase because they will soon be adding new product lines.

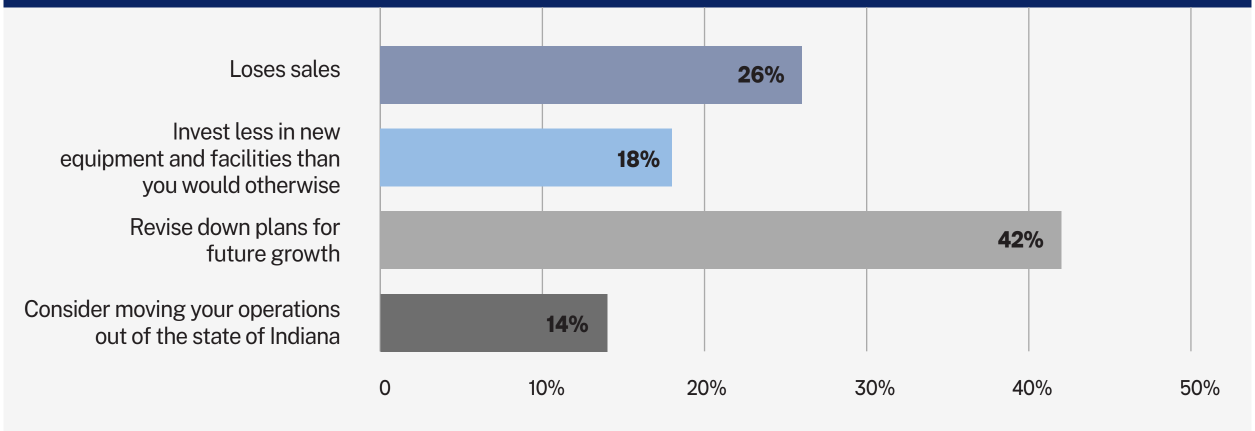
As in our other pre-pandemic surveys, we once again asked our 2023 respondents to describe their views on the more widespread use of automation in terms of the effects on the numbers and skill levels of jobs in manufacturing. Not surprisingly, a plurality (45%) indicate that automation will increase the number of skilled positions but reduce the number of unskilled positions in manufacturing. Only 12% expect automation to reduce the number of both skilled and unskilled positions in manufacturing. These results are a little more optimistic in terms of job growth/retention than found in our 2019 survey, in which 33% of respondents thought that automation would increase the number of skilled positions in manufacturing, while reducing the number of unskilled positions, and 19% anticipated that automation would reduce both the number of skilled positions and unskilled positions in manufacturing.

Effect of Automation on the Number and Skill Level of Jobs in Manufacturing



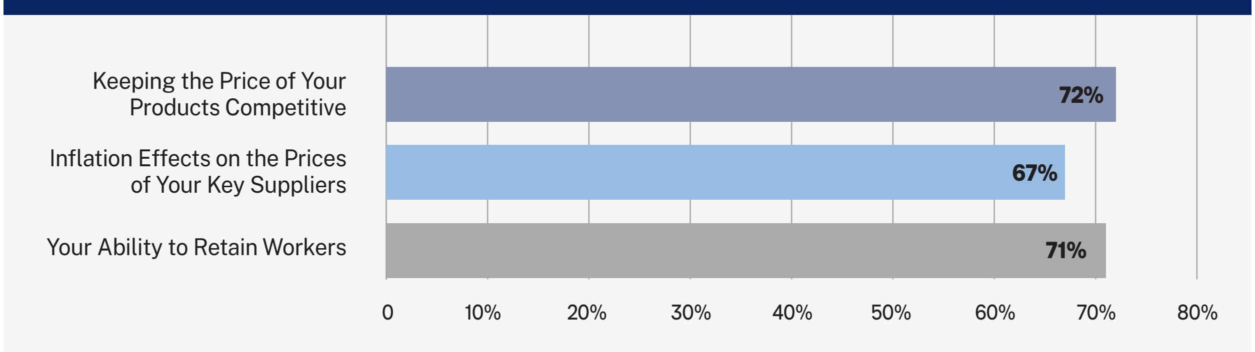
We repeated another question from our pre-pandemic surveys regarding shortages of qualified labor. In a rather alarming result in terms of Indiana's future economic prospects, 42% of respondents report that labor shortages are forcing them to revise down their future growth plans. Equally worrying, 26% report lost sales, 18% said they will invest less in new equipment and facilities, and 14% indicated that the skilled-labor shortage is forcing them to consider moving operations out of Indiana. These results are roughly similar to those found in 2019 survey, in which 43% reported that they were losing sales because of labor shortages, 32% had to revise down their plans for future growth, and 20% were investing less in new equipment and facilities, while 5% were considering moving their operations out of Indiana due to the shortage of qualified workers.

Implications of Indiana's Labor Shortage



New for this 2023 survey, we asked how much of a concern is upward pressure on wages and "wage-push" inflation in terms of the three issues below. Concern is measured here on a scale of 0–100, with 0 = "no concern," 50 = "moderate concern," and 100 = "major concern." The mean responses are close across all three issues, indicating each one represent a serious concern, with 72% for "keeping the price of your products competitive," 71% for "your ability to retain workers," and 67% for "inflation effects on the prices of your key suppliers."

Inflation's Impacts on Hoosier Manufacturers

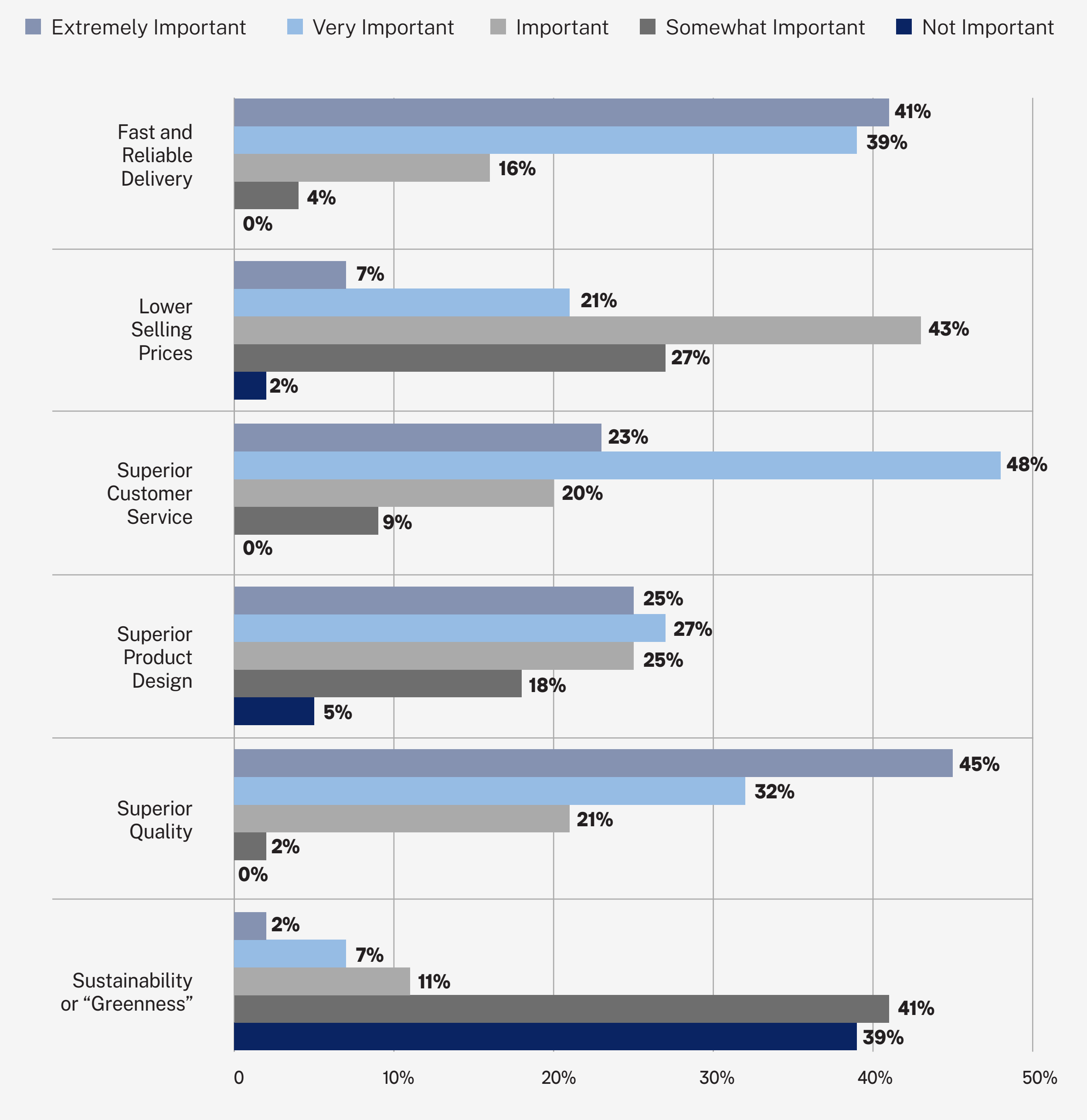


V. Industry 4.0 Issues

V. Industry 4.0 Issues

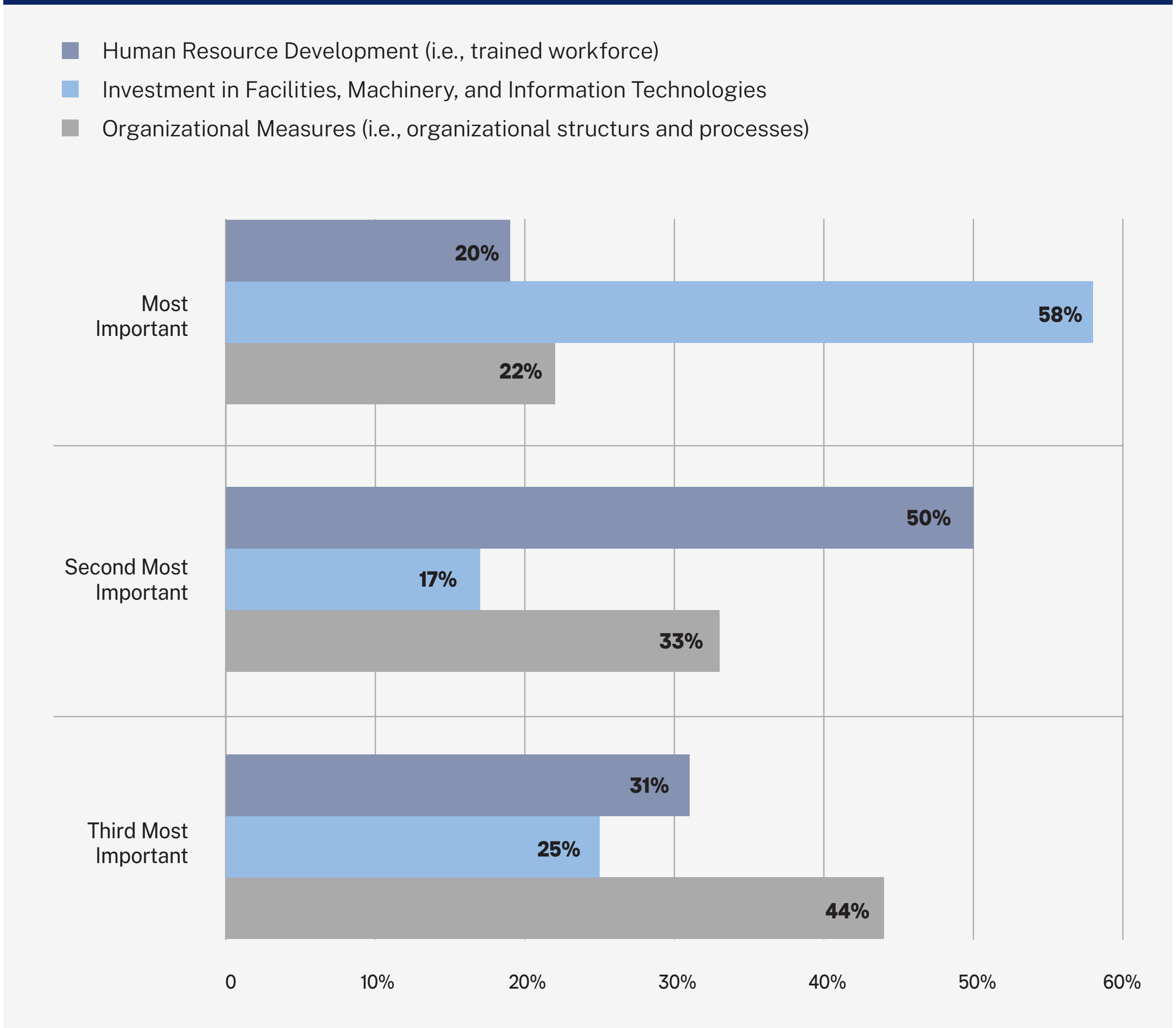
Every manufacturer makes important strategic decisions in terms of how to win customers' orders based upon the competitive priorities of delivery, price, service, design, and quality. The relative importance of these strategies has remained highly constant across the decade and a half of our ongoing study. Overall, superior quality, fast, and reliable delivery, product design, and superior customer service rank most important. Similarly, lower selling prices have remained relatively less-important capabilities.

How to Win Orders: Importance of Competitive Priorities



In our surveys dating back to the Great Recession, we have tracked the major areas of concern for manufacturing in terms of modernization. In 2019, investment in facilities, machinery, and information technologies were rated the top priority for 48% of Hoosier manufacturers, while human resource development was most important to 32% of the respondents, and organizational-related activities, including modernizing structures and processes, was the main priority for 20% of manufacturers. In 2023, a similar pattern emerges with investment in facilities, machinery, and information technologies the top priority for 58%, followed by organizational-related activities as the top priority for 22%, and human resource development for 20% of respondents.

How to Win Orders: Importance of Competitive Priorities



We asked Indiana manufacturers what they believe to be their best and worst manufacturing decisions made in the past year. A variety of representative comments, shown below, relate to modernizing manufacturing operations and reference not only technologies, but also organizational structures, processes, and human resources.

Best Manufacturing Decisions in the Past Year

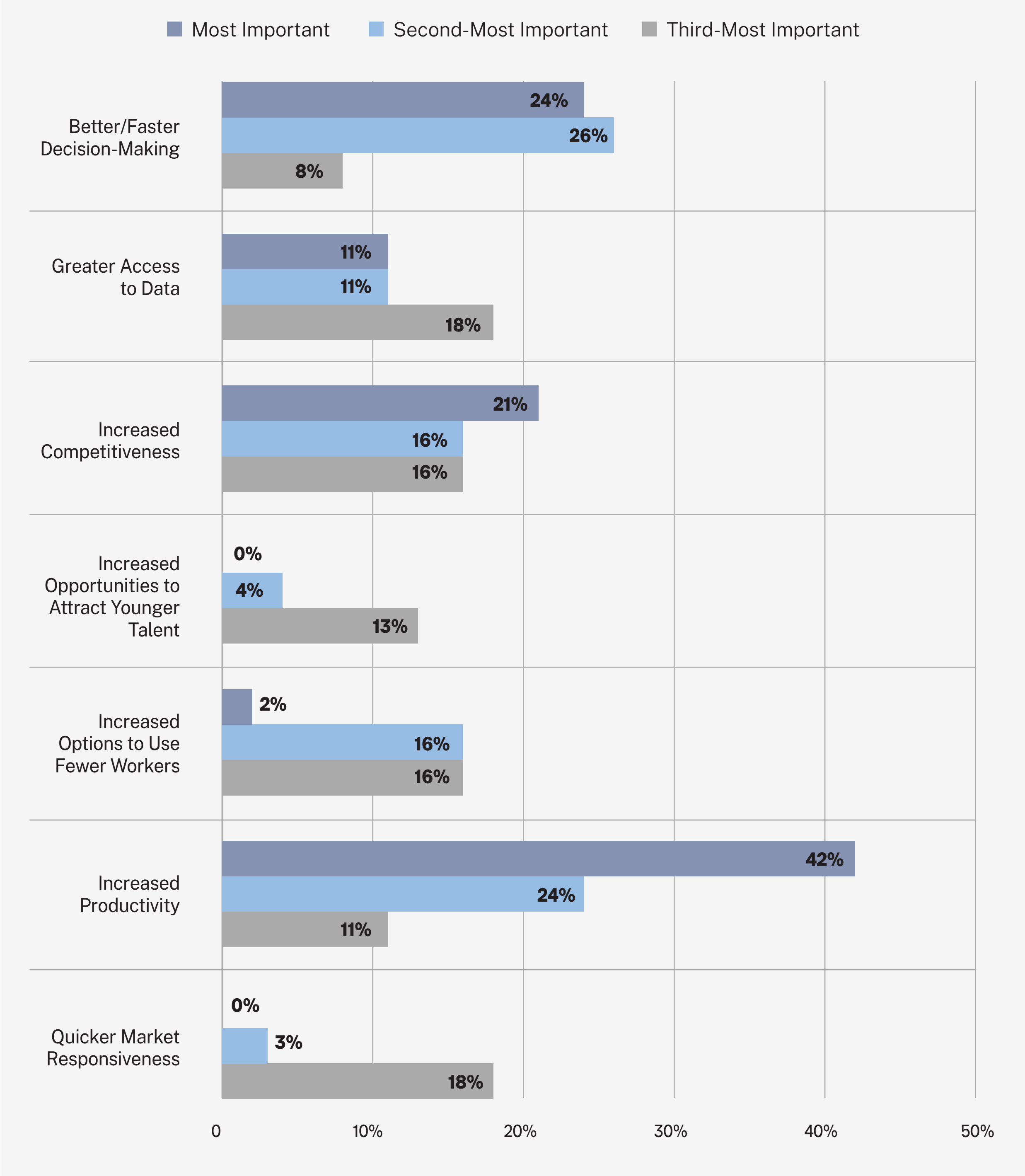
- *"Successful hiring initiatives and pay raises to retain workers."*
- *"Bringing more production in-house."*
- *"Increased use of smart automation technology."*
- *"Hiring talent when the opportunity arose, whether needed or not."*
- *"Investing in new manufacturing technology that allows us to run current products faster and new products at a more competitive price point."*
- *"Partnering with the best customers to improve products and processes."*
- *"Investment in more automation to eliminate labor."*
- *"Completely rework our distribution model."*
- *"A large investment in cap ex versus prior years for updated machines."*
- *"Better layout of manufacturing flow."*

Worst Manufacturing Decisions in the Past Year

- *"Not working to hire earlier before we needed it."*
- *"Not moving to automation fast enough."*
- *"Continuing work with less-than-adequate returns."*
- *"Delaying buying new equipment."*
- *"Failing to stay ahead of near-catastrophic healthcare costs."*
- *"Delaying passing cost increases along to customers."*
- *"Not upgrading our staff fast enough."*
- *"Delaying AI in our processes."*
- *"Letting workers do what they want because we were too scared if we reprimanded them, they would leave. But allowing them to do whatever created a bad culture that we are now cleaning up."*
- *"Moved a process domestically and should have remained overseas."*
- *"Not investing in robot/cobots for the factory."*

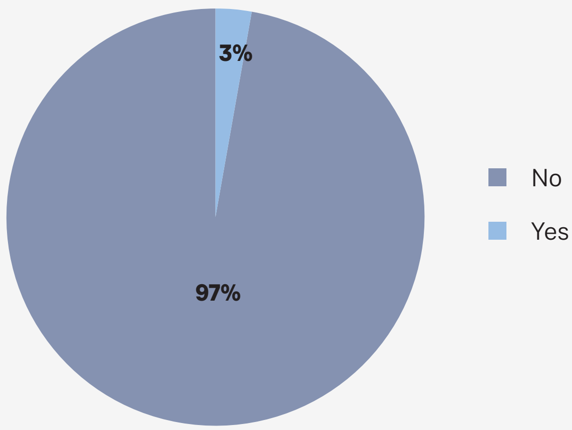
Drilling down into the topic of automation, we asked respondents to rank the most powerful benefits that digital technology or "smart" manufacturing delivers to their industry. Not surprisingly, increased productivity (42%) was ranked first, followed by better/faster decision-making (24%), and then increased competitiveness (21%).

Benefits of Digital Technology/"Smart" Manufacturing



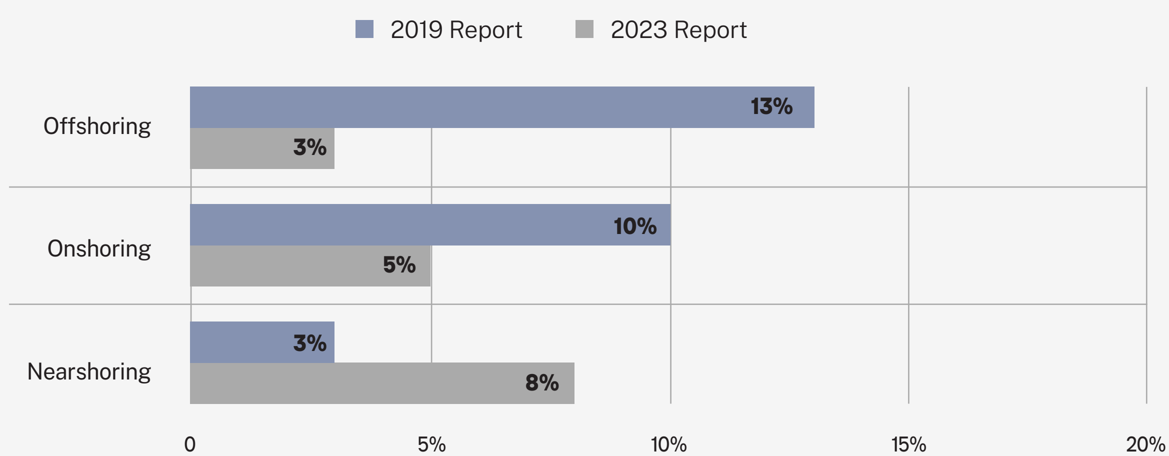
When asked about plans to open a new manufacturing facility in Indiana in the next two years, only 3% responded "yes" in 2023, far short of the 17% that responded "yes" to this question in our 2019 pre-pandemic survey.

Opening a New Manufacturing Facility in Indiana in the Next Two Years?



In recent surveys, we have asked respondents if they plan to "onshore" any manufacturing back to the U.S., "nearshore" it to Canada or Mexico, or, alternatively, relocate or "offshore" any production outside the country. In the 2019 survey, 13% indicated an intention to offshore some manufacturing, while 10% intended to onshore and 3% intended to nearshore. In 2023, only 3% indicate an intention to offshore some manufacturing, while 5% plan to onshore, and 8% intend to nearshore.

2023 Offshoring, Onshoring, and Nearshoring



Appendix: Benchmarking Indiana's Manufacturing

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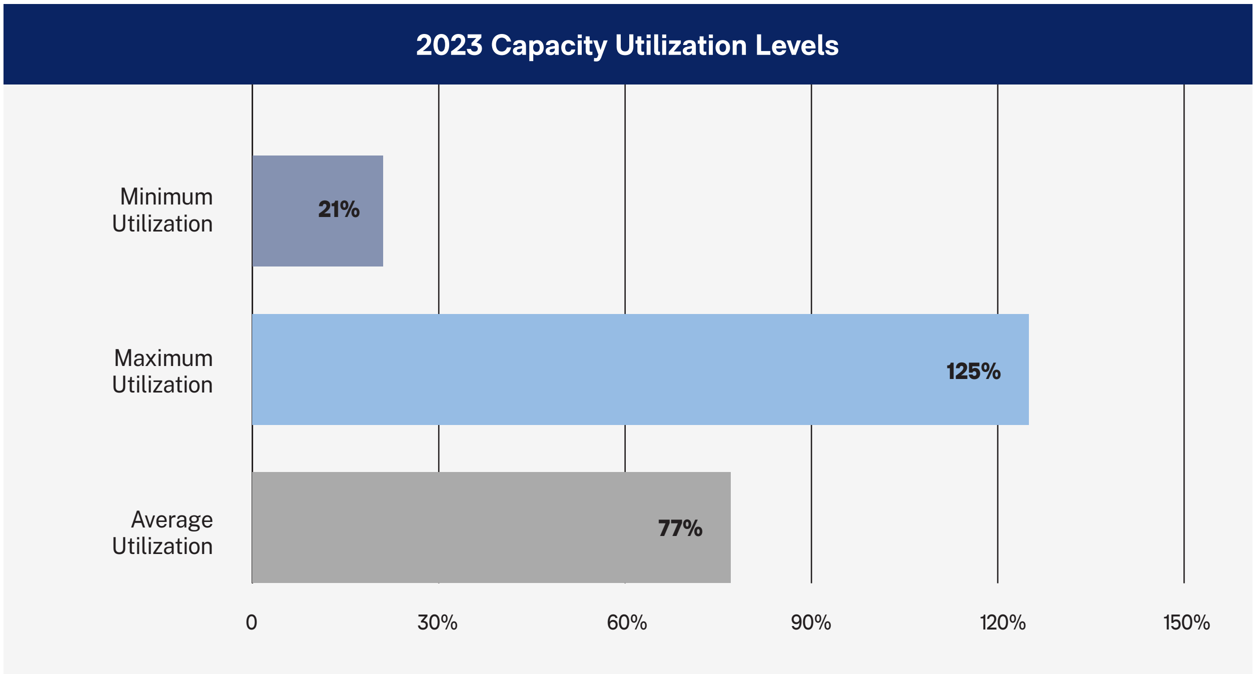
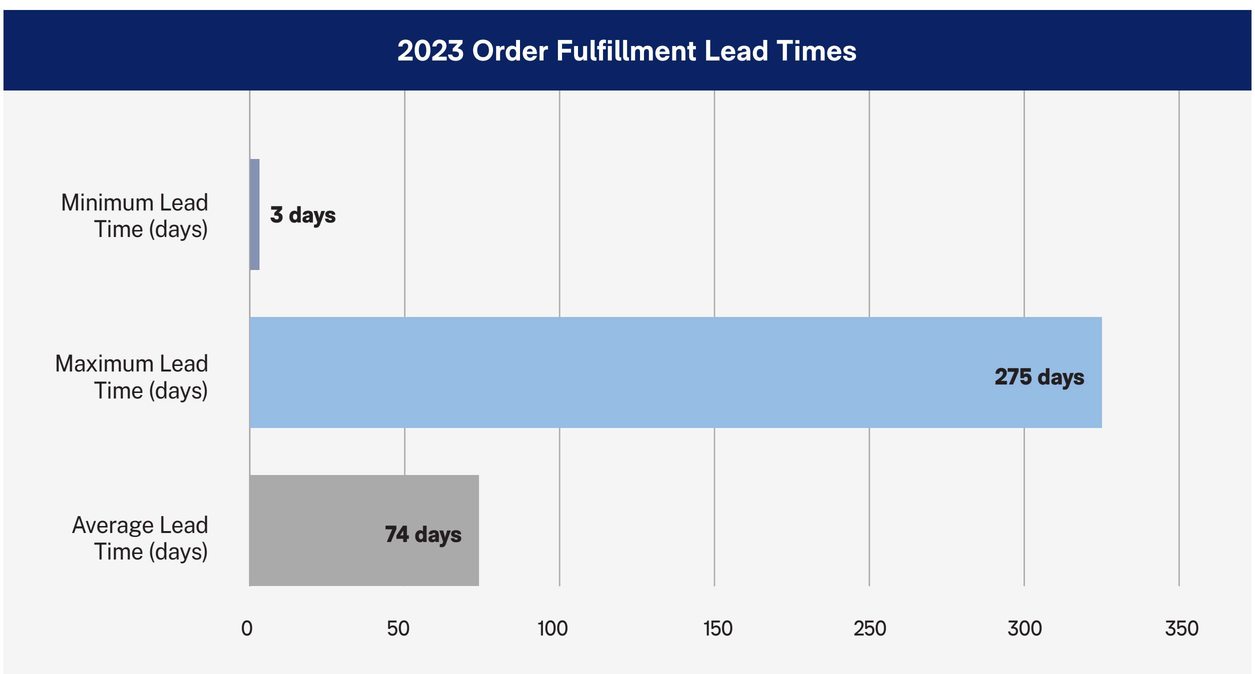
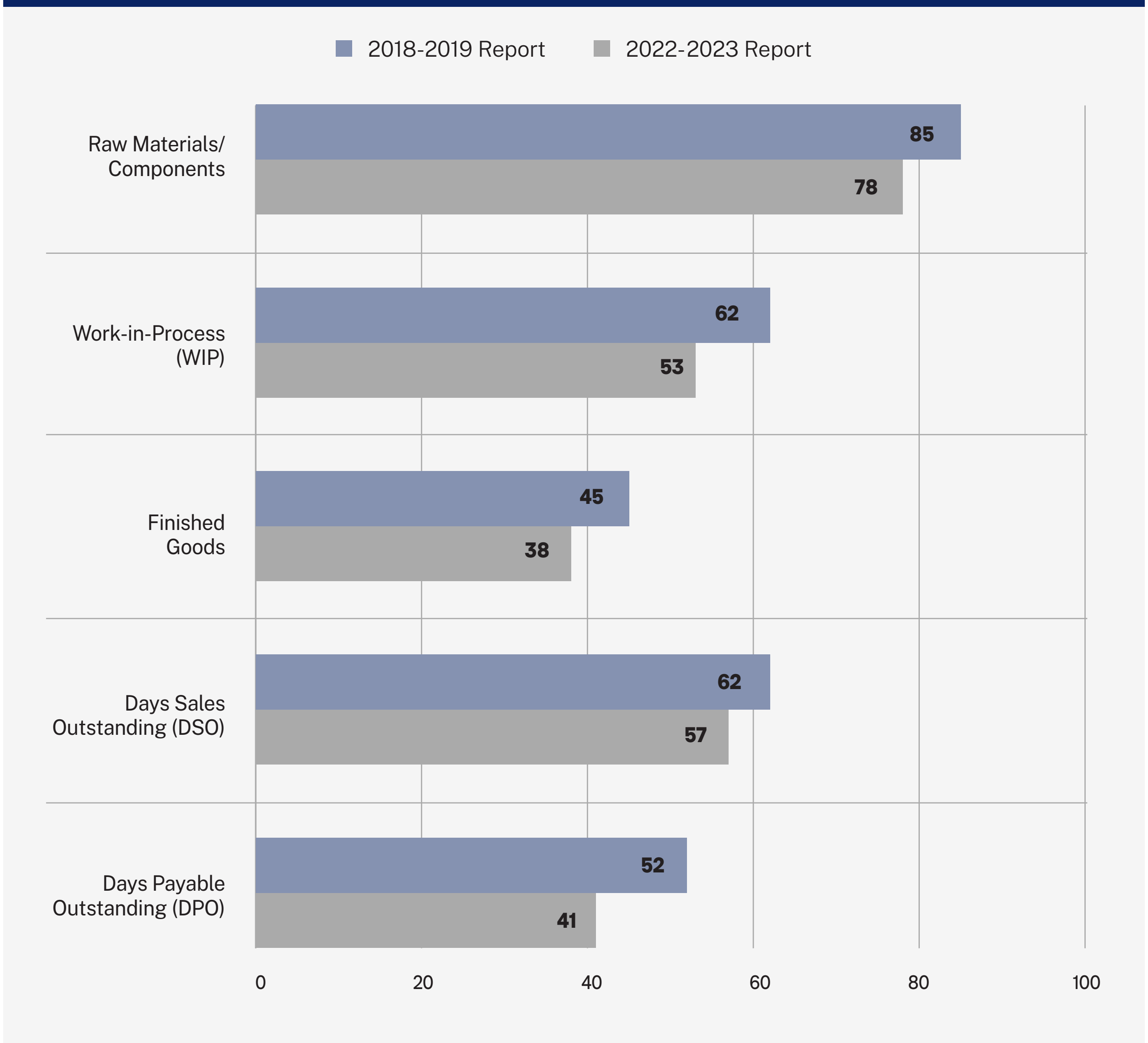




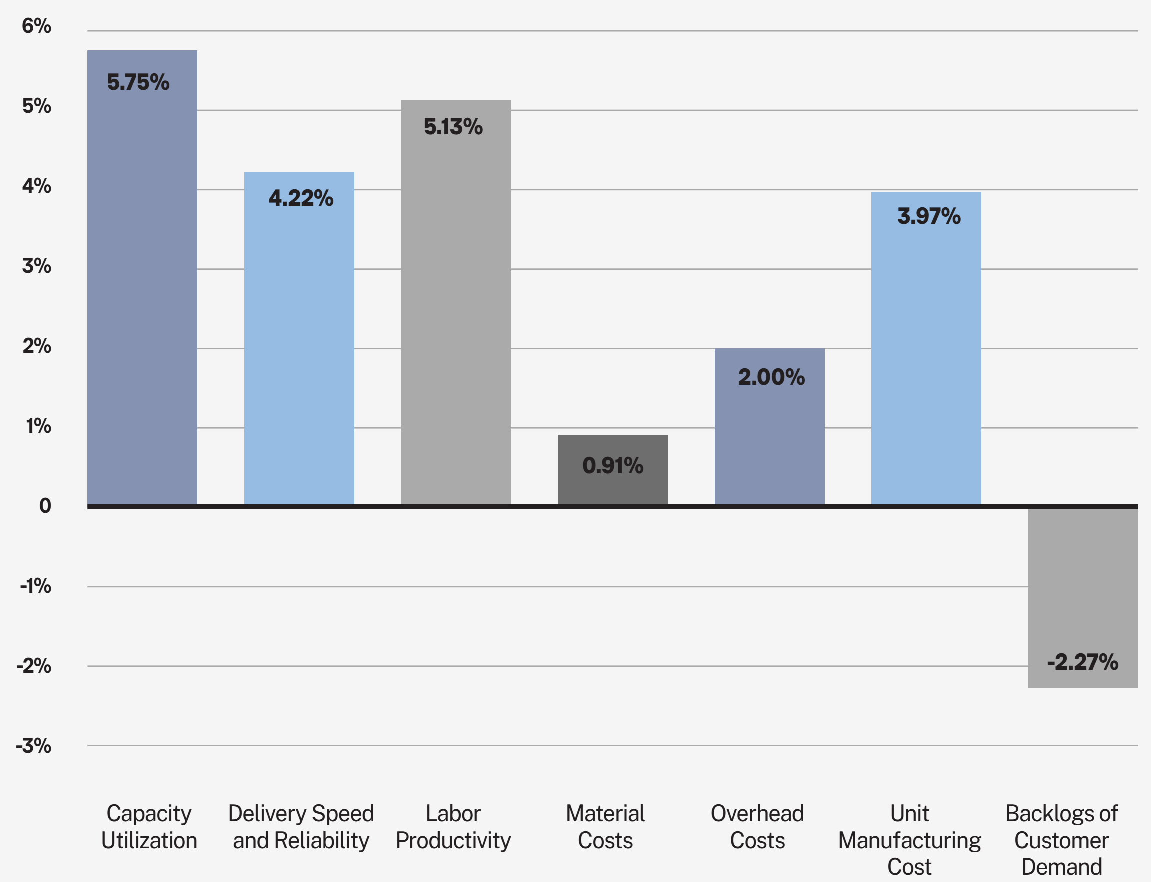
In terms of working capital management, the mean days of raw material and work-in-progress inventory in our post-Great Recession/pre-pandemic 2019 data were 85 and 62 days, respectively. In the same way, days of finished goods inventories were 45, while Days Sales Outstanding (DSO) and Days Payable Outstanding (DPO) were 62 and 52 days respectively. In 2023's "new normal" manufacturing, the average organization has 78, 53, and 38 days respectively of raw material, work-in-progress, and finished goods inventories. Correspondingly, in 2023 DSO and DPO have reduced to 57 and 41 days respectively. We speculate that tighter credit, higher rates, as well as concerns over a potential recession in the not-too-distant future could be motivating many Hoosier manufacturers to be careful and conservative in terms of their inventories as well as cash-flow metrics related to DSO and DPO.

Working Capital and Cash Flow Metrics (Mean)



In 2023, we once again surveyed participants about percent changes in operational performance versus the previous year (2022). Capacity utilization (5.75%), labor productivity (5.13%), and delivery speed and reliability (4.22%) all exhibited nice year-over-year improvements. Likewise, customer demand backlogs decreased by -2.27%. Not surprisingly, materials (.91%), overhead (2%), and unit manufacturing costs (3.97%) all moderately increased, in all likelihood due to inflationary pressures.

Operational Performance Metrics



> *"Investing in new manufacturing technology has allowed us to run current products faster and new products at a more competitive price point."*

About Katz, Sapper & Miller

Founded in 1942, Katz, Sapper & Miller (KSM) is the largest Indianapolis-based CPA firm. Today, an employee owned company with 54 partners and more than 500 employees, 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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D.B.A. Boston University 1998

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.

Professor Steve Jones
Ph.D. Purdue University 1989

Dr. Jones' research interests are in financial management and corporate strategy, including how financial decision making interacts with capital market conditions. He has 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. His research has won numerous awards, including best paper from the Financial Management Association International. He teaches courses in financial management, financial markets and investment analysis, and he has won numerous teaching awards, including the school's Lilly MBA Teaching Excellence Award.

For more information regarding Indiana University's Kelley School of Business at IUPUI, please visit kelley.iupui.edu.

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