M&D REPORT 2019

TRANSFORMING FOR TOMORROW

SIKICH®

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27% OF EXECUTIVES **EXPECT A U.S. RECESSION** WITHIN THE NEXT 12 MONTHS

27%

$↓

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39%

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WHILE 37% SAID **SALES HAD FALLEN SHORT OF EXPECTATIONS**

37%

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TOP TWO STEPS COMPANIES ARE TAKING TO HELP ENSURE THEY HAVE THE TALENT REQUIRED

72%

Assessing the workforce to determine which additional skills will be needed

70%

Undertaking initiatives to enhance commitment and engagement

EXECUTIVE SUMMARY

Digital technologies—such as connected devices in the Industrial Internet of Things, artificial intelligence, and robotics, among others—continue to receive significant attention. These technologies are rewriting the rules of competition for industrial companies, while also increasing their vulnerability to the growing threat of cyber attacks and data breaches.

The impact of digital technologies will require industrial companies to make fundamental operational changes. Yet, Sikich's 2019 Manufacturing and Distribution Survey found that many companies have yet to implement these new technologies or take the steps required to enhance their cybersecurity. The fifth annual survey gathered the views of more than 300 executives in a variety of industrial sectors and from both mid-market and large companies.

Large companies have typically been the early adopters of new technologies, but these technologies are becoming competitive necessities for companies of all sizes. Our 2019 survey found that most mid-market companies have not yet implemented many new technologies, which can be challenging for companies with smaller technology budgets and IT departments.

Another theme that runs through our 2019 survey results is the critical role of access to talent. The ability to attract professionals with required skills was a top issue in a variety of areas including implementing new technologies, cybersecurity, supply chain, and fostering innovation. Given the historically tight labor market prevailing in 2019, industrial companies will need to employ creative approaches to securing talent and make talent management central to their strategic decision-making.

In 2019, industrial companies are competing in an environment of extraordinary upheaval and uncertainty. The industry's economic outlook is unclear with continuing trade tensions and the disruptive impact of digital technologies on business models and operations. We hope that this look at how industrial companies of all sizes are managing these issues will provide you with insights that can help your company address its competitive challenges.

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SOME OTHER **KEY FINDINGS** TO NOTE:

82% of companies are implementing on-the-job technical training to help develop employees

39% of executives consider establishing an innovative culture within the company extremely or very challenging

63% of executives reported that they are taking steps to prepare for a recession

Although companies are increasingly installing the latest technologies in an effort to boost efficiency and control costs while driving growth, our survey indicates that most are still in the early stages of this journey.

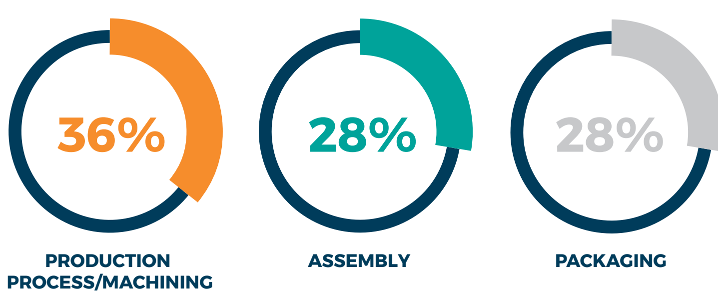
Automation of operations can reduce expenses by limiting the number of employees required, which can provide an important advantage in the current tight labor market. In addition, automating operations can boost speed and also improve quality by eliminating human errors. More than half of the companies participating in the survey reported they have at least ***some automation in production processes/machining*** (79%), ***assembly*** (64%), and ***packaging*** (60%).

However, most companies said they are still only using automation in a limited way. Only about one-third of companies or fewer reported they have ***extensively*** automated these areas. *(Figure 1)* To remain competitive, smaller companies will need to keep pace in automation with larger companies, which are roughly twice as likely to have ***extensively automated their production process/machining*** (56% vs. 31%), ***assembly*** (53% vs. 21%), and ***packing*** (45% vs. 23%).[1] Larger companies benefit from having larger capital budgets and more professionals to dedicate to automation initiatives.

FIGURE 1

EXTENT OF AUTOMATION

Percentage responding “Extensive Automation”



A variety of new technologies offers the opportunity to enhance many aspects of operations, from production to the supply chain. While roughly half of the companies reported using these technologies at least to some extent, about one-third said they are using them extensively. *(Figure 2)* Smaller companies should consider following the lead of larger companies, which are more aggressive in extensively implementing technologies such as in ***predictive maintenance of assets*** (61% vs. 27%), ***connectivity/Industrial Internet of Things*** (57% vs. 27%), and ***robotics*** (45% vs. 18%).

While the benefits offered by the latest technologies are enticing, companies face numerous challenges in realizing them. Roughly 40% of executives surveyed cited ***integration of IT systems, lack of technical expertise/skills, security concerns, time required to see benefits,*** and ***funding/cost*** as extremely or very challenging when it comes to using, or planning to use, the latest technologies. *(Figure 3)* In accessing technical expertise and addressing security, companies often find that the most cost-effective approach is to supplement their internal resources by partnering with specialized vendors.

A "SMART" OPERATIONAL PROCESS DOESN'T NECESSARILY MEAN IT NEEDS TO BE FULLY MACHINE AUTOMATED. **HOWEVER, IT DOES REQUIRE A COMPANY'S COMMITMENT TO PURSUE OPTIMIZATION THROUGH THE USE OF DIGITIZATION AND CONNECTIVITY.**

FIGURE 2

EXTENT OF TECHNOLOGY USE

Percentage responding
"Use Extensively"

34%
PREDICTIVE MAINTENANCE OF ASSETS

34%
CONNECTIVITY/ INDUSTRIAL INTERNET OF THINGS

32%
INTEGRATED END-TO-END SUPPLY CHAIN PLANNING

PREDICTIVE ANALYTICS/BIG DATA	32%
PREDICTIVE MAINTENANCE OF PRODUCTS	28%
DIGITAL TWIN OF PRODUCTS AND MANUFACTURING LINE	25%
ROBOTICS	24%
3D PRINTING/ADDITIVE MANUFACTURING	23%
AUGMENTED/VIRTUAL REALITY SOLUTIONS	20%

FIGURE 3

CHALLENGES IN USING, OR PLANNING TO USE, THE LATEST TECHNOLOGIES

Percentage responding
"Extremely Challenging or Very Challenging"

TOP RATED ITEMS

40%
INTEGRATION OF IT SYSTEMS

39%
LACK OF TECHNICAL EXPERTISE/SKILLS

39%
SECURITY CONCERNS

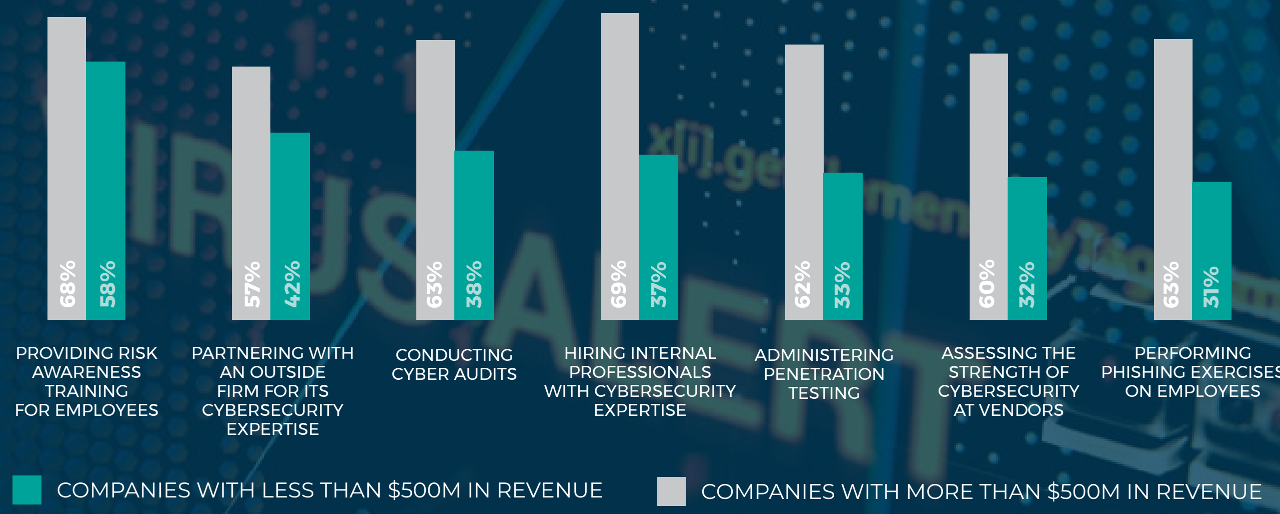
39%
TIME REQUIRED TO SEE BENEFITS

39%
FUNDING/COST

CYBERSECURITY IS NO LONGER ABOUT PREPARING FOR A HYPOTHETICAL EVENT. **INSTEAD, IT'S ABOUT DEFENDING AGAINST ATTACKS THAT ARE SURE TO COME.**

FIGURE 5

ACTIONS TAKEN TO ENHANCE CYBERSECURITY

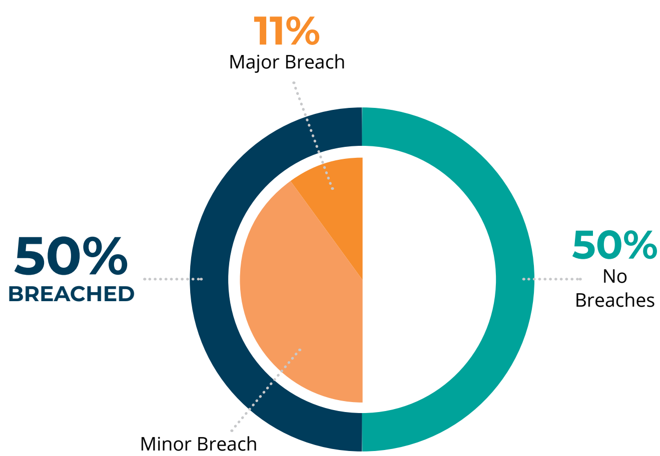


COMBATING GROWING **CYBERSECURITY THREATS**

Cybercrime—such as that involving ransomware, malware, and phishing attacks—is a growing threat to industrial companies of all sizes. Half of the companies surveyed reported that they were aware of a data breach or cyber attack involving their computer systems or networks over the previous 12 months, including 11% that had experienced a major intrusion. *(Figure 4)* Cybersecurity is no longer a concept used to prepare for a hypothetical event. Instead, it's a mindset that needs to be adopted to defend against attacks that are sure to come.

Despite the prevalence of such attacks, 54% of executives said they are extremely or very confident in the ability of their companies to prevent or minimize data breaches or cyber attacks. Executives at larger companies are even more confident, with 74% saying that they are "extremely or very confident in cybersecurity at their companies," compared to 49% among those at companies with less than $500 million in revenue. This disparity may be due to great spending on cybersecurity by these companies.

FIGURE 4
OCCURENCE OF BREACHES/ATTACKS
over the last 12 months



Larger companies are more likely than smaller companies to have taken actions designed to enhance cybersecurity, such as ***conducting cyber audits*** (63% vs. 38%), ***hiring internal professionals with cybersecurity expertise*** (69% vs. 37%), and ***performing phishing exercises on employees*** (63% vs. 31%). *(Figure 5)* Carrying out phishing exercises on employees is the technique used least often, both by companies overall and by smaller companies, despite the fact that, according to the Verizon Data Breach Report, most cyber incidents begin with an employee clicking on a link or opening a file sent by an attacker.

Among larger companies, only 45% reported that a single executive is responsible for managing cybersecurity as their sole or primary responsibility. This figure was just 14% among smaller companies. Having a single executive with cybersecurity as their sole or primary responsibility, rather than having it be one among several responsibilities, can ensure that cybersecurity receives the concentrated attention that it demands. However, this can prove difficult at mid-market companies that typically have smaller IT departments. In these companies where resources aren't readily available it may make more sense to look at outsourcing the entire cybersecurity program.

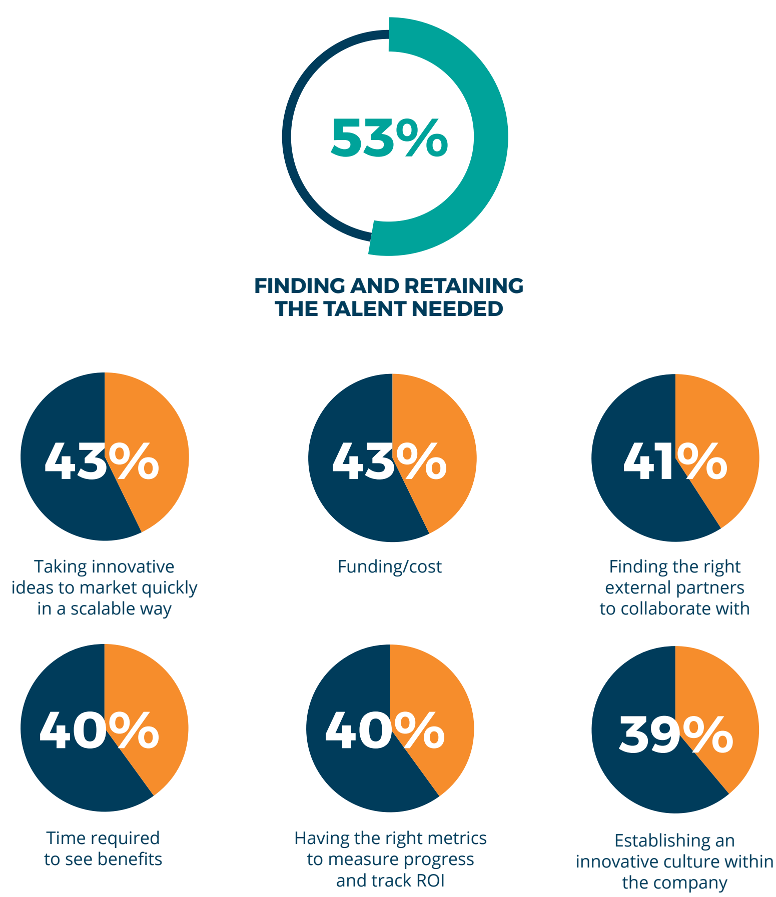
ACCESS TO TALENT PRESENTS THE TOP **CHALLENGE TO FOSTERING INNOVATION**

Innovation has become a top priority for industrial companies of all sizes in their efforts to respond to customer requirements regarding cost, quality, and timely delivery. Fostering innovation can also help companies respond nimbly to disruptive technology-driven change in the industry.

Executives said their companies face a variety of challenges in fostering innovation, with talent leading the list of obstacles. More than half (53%) of executives said that finding and retaining the talent needed is a major impediment to innovation. Around 40% of respondents said ***taking innovative ideas to market quickly in a scalable way, funding/cost, finding the right external partners, having the right metrics, time required to see benefits,*** and ***establishing an innovative culture*** stood in the way of fostering innovation. *(Figure 6)*

Executives at larger companies are more likely than their counterparts at smaller companies to say that these issues are extremely or very challenging. For example, 61% of the executives at larger companies consider ***funding/cost*** to be extremely or very challenging in fostering innovation compared to 38% among those at smaller companies. Since larger companies more often employ the latest technologies, they may be more aware of the challenges in creating a culture of innovation.

FIGURE 6
CHALLENGES IN FOSTERING INNOVATION
Percentage responding
"Extremely Challenging or Very Challenging"



IT CONTINUES TO BE IMPORTANT FOR INDUSTRY LEADERS TO **EMBRACE INNOVATION, MODERNIZE THEIR BUSINESS TECHNOLOGIES AND IMPLEMENT CREATIVE TALENT ACQUISITION STRATEGIES.**

FIGURE 8

GREATEST CONCERNS REGARDING SUPPLY CHAIN OVER THE NEXT YEAR

Ranked among the top three concerns

47% CONTROLLING OR REDUCING COST

46% ATTRACTING AND RETAINING QUALIFIED WORKERS

MEETING CUSTOMER SERVICE REQUIREMENTS	39%
MANUFACTURING CAPABILITIES	35%
ACCURATE ORDER FULFILLMENT & ON-TIME SHIPPING	33%
INVENTORY MANAGEMENT	31%
STORAGE CAPACITIES	20%
SUPPLIER MANAGEMENT	19%
TRANSPORTATION MANAGEMENT	16%
RETURNS AND REVERSE LOGISTICS	13%

FEW MID-MARKET COMPANIES ARE ENGAGED IN DIGITAL **TRANSFORMATION OF THE SUPPLY CHAIN**

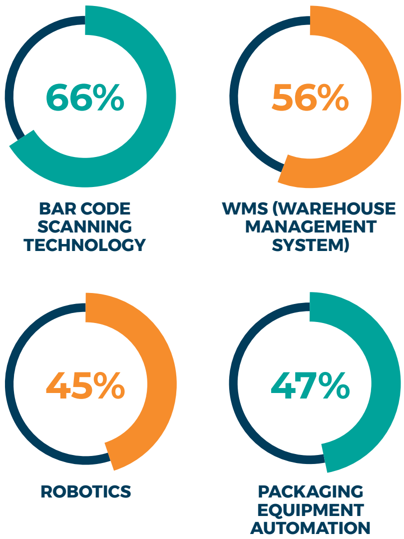
New technologies hold the promise of increasing the efficiency of today's ever more complex supply chains. When executives were asked whether their companies used specific supply chain technologies, however, only ***bar code scanning technology*** (66%) and ***WMS (Warehouse Management System)*** (56%) were cited by more than half the companies. *(Figure 7)* The next most often used technologies were ***robotics*** (45%) and ***packaging equipment automation*** (47%).

Larger companies are much more likely than smaller companies to use various technologies such as ***TMS (Transportation Management System)*** (74% vs. 38%) and ***voice recognition technology*** (66% vs. 28%).

In our experience, some mid-market companies do not implement digital technologies in their supply chains due to a belief that this would require an expensive and time consuming business transformation. But digital transformation isn't an all-or-nothing proposition. Instead, it is an iterative process.

A company should begin by identifying its manual (paper-based) processes, which can range from the creation of maintenance checklists and spare parts inventory management to more complex activities like setting up machines and monitoring production lines. The company can then select a few of these processes and ask itself how it could use digital technologies, such as document scanning or electronic templates, to gain the benefits of easily accessible information and real-time reporting.

FIGURE 7
USE OF SUPPLY CHAIN TECHNOLOGIES



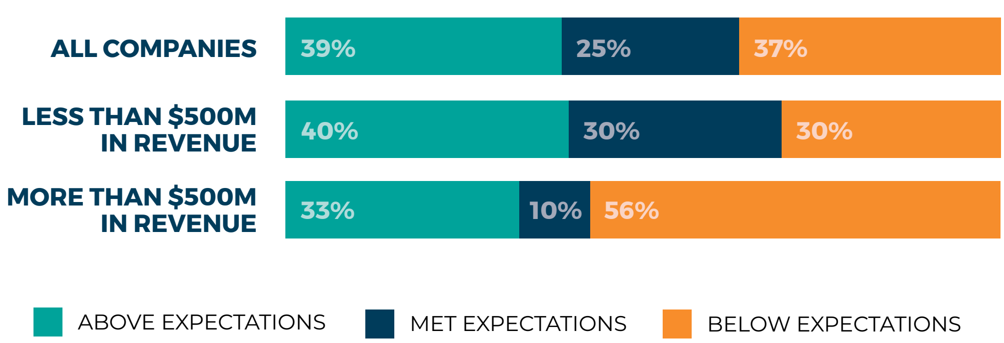
As a company successfully digitizes a few of its processes, it can start to adopt more extensive machine automation and become comfortable with data generated by connected IoT devices. At this point, it should develop a medium and long-term plan for digitizing the supply chain. As part of this planning process, the company should consider what types of data it wants to digitize and whether mobile devices and mobile apps in use at the company provide adequate value.

When it came to the issues that companies are most concerned about regarding their supply chains, two stood out. *(Figure 8)* Increasing operating efficiency is an important priority for industrial companies, and ***controlling or reducing costs*** was cited by 47% of executives as being one of their top three concerns regarding their supply chains. Securing talent was cited next most often, with 46% of executives ranking ***attracting and retaining qualified workers*** as one of their top concerns.

The rise of Amazon and other e-commerce companies has revolutionized how many companies sell and deliver their products. In the survey, 49% of the companies reported that they use e-commerce to sell their products.

However, companies were roughly evenly split on whether their e-commerce sales results have met their expectations, with 39% reporting that ***sales had exceeded their expectations***, while 37% said they had ***fallen short of expectations***. *(Figure 9)* Larger companies were more likely than smaller companies to report that their ***e-commerce sales had lagged expectations*** (56% vs. 30%).

FIGURE 9
E-COMMERCE SALES RESULTS COMPARED TO EXPECTATIONS
Base = Companies that sell through e-commerce



Operational challenges can pose obstacles to success in e-commerce. 40% of the executives reported that their ***companies faced significant operational challenges in selling through e-commerce companies***, comprised of 19% who said their ***operational issues have persisted since the beginning*** and 21% who said they ***did not have operational problems in the beginning but do have them now***. A likely explanation for these operational difficulties is the need to put in place new business to process smaller orders quicker. An additional 28% of executives reported their companies had ***operational challenges when they first began to sell through e-commerce companies but have been able to resolve them***.

COMPETING FOR TALENT IN A **TIGHT LABOR MARKET**

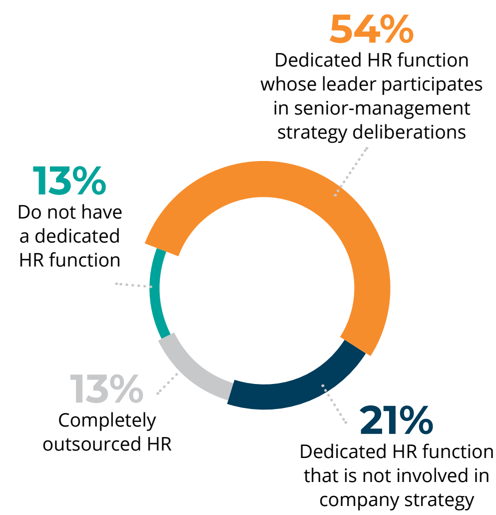
Industrial companies face a fierce battle for talent in an exceptionally tight labor market. In April 2019, the U.S. unemployment rate dropped to 3.6%, the lowest rate in 50 years. At the end of January 2019, there were 7.6 million open positions but only 6.5 million people were in the job market—a gap of more than one million.[2]

Despite the tough competition to attract and retain talent, 46% of executives said they are ***extremely or very confident that their company would be able to obtain the talent required to support their business strategies over the next two years***. This number rose to 68% among executives at larger companies.

The survey suggests that many companies are recognizing the strategic importance of the HR function and talent management. Fifty-four percent of executives reported that their companies have a ***dedicated HR function whose leader participates in senior-management strategy deliberations***. *(Figure 10)* In contrast, 21% said their companies have a ***dedicated HR function that is not involved in company strategy,*** while 13% said they ***do not have a dedicated HR function***, which suggests that individual business units and functions manage HR independently. Only 13% of executives said their companies ***completely outsource HR to a third-party service provider.*** Completely outsourcing HR is more common among larger companies (30%) than among smaller companies (8%).

FIGURE 10

MANAGEMENT OF HR



Companies reported taking a variety of steps designed to ensure they have the talent required to support their business strategies, with the most common steps being ***assessing the workforce to determine which additional skills will be needed*** (72%), ***undertaking initiatives to enhance the commitment and engagement*** (70%), and ***clarifying and communicating the value proposition for employees*** (69%). *(Figure 11)*

One approach that is being used more often by larger companies is workforce analytics. Workforce analytics is a combination of software and methodology that applies statistical models to worker-related data, allowing enterprise leaders to optimize Human Resource Management (HRM). Overall, 55% of companies said they are ***implementing workforce analytics***. The figure among larger companies is 81% compared to 48% among smaller companies.

FIGURE 11

STEPS COMPANY IS TAKING TO HELP ENSURE IT HAS THE TALENT REQUIRED

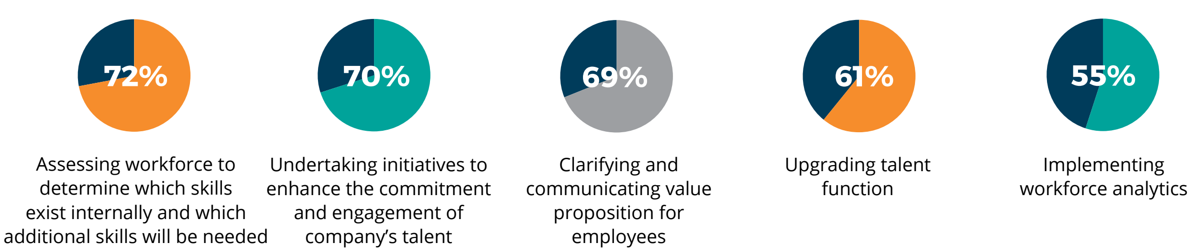


FIGURE 12

LIKELIHOOD THAT THE U.S. ECONOMY WILL ENTER A RECESSION DURING THE NEXT 12 MONTHS

Percentage responding "Extremely or Very Likely"

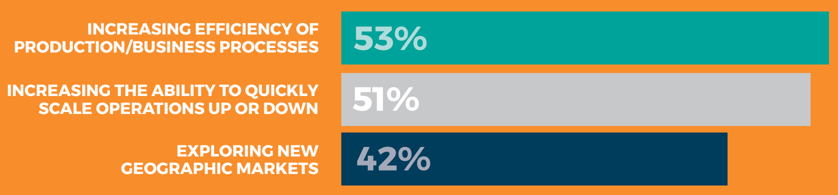
ALL COMPANIES	27%
LESS THAN $500M	21%
$500M+	49%

OPTIMISTIC ON ECONOMIC OUTLOOK, **BUT DOUBTS AT LARGER COMPANIES**

In June 2019, the U.S. economic expansion became the longest on record, and there has been much speculation whether the economy will continue to expand in the coming year or instead enter a recession. The executives surveyed have a positive economic outlook, with only 27% believing that it is ***extremely or very likely that the U.S. economy will enter a recession over the next 12 months***. *(Figure 12)* However, executives at larger companies are significantly less optimistic, with 49% expecting a ***recession in the coming year***.

Nonetheless, 63% of executives reported that their companies are hedging their bets by taking steps to prepare for the possibility of a recession. The most common steps companies are taking relate to improving operations: ***increasing the efficiency of production/business processes to reduce costs*** (53%) and ***increasing the ability to quickly scale operations up or down*** (51%). *(Figure 13)* Many executives said their companies are also looking to diversify their revenue sources by ***exploring new geographic markets*** (42%).

FIGURE 13
STEPS BEING TAKEN TO PREPARE FOR A RECESSION
Base = Companies taking steps to prepare



EASY ACCESS TO FINANCING

Executives said their companies find few difficulties in securing the financing needed for operational improvements or business expansion. Seventy-three percent of executives said it is ***easy for their companies to obtain the financing they require,*** including 43% saying it is "very easy." Executives at larger companies are even more positive, with 58% saying it is ***very easy for their companies to obtain financing*** compared to 39% of executives at smaller companies.

Private equity is investing in many of the private companies surveyed. Thirty-five percent of these private company respondents reported that they have received an investment from a private equity firm. This number includes 24% of companies where a private equity firm has majority ownership and 11% where a private equity firm has a minority position. Private equity "funding" vs. investment may become a more important source of financing in the near term. The strong economic outlook has created a high demand for quality opportunities, with private equity firms willing to pay a premium. For their part, private companies will need to have realistic expectations on sales terms and financing.

EXECUTIVES DIVIDED ON THE IMPACT OF TRADE DEVELOPMENTS

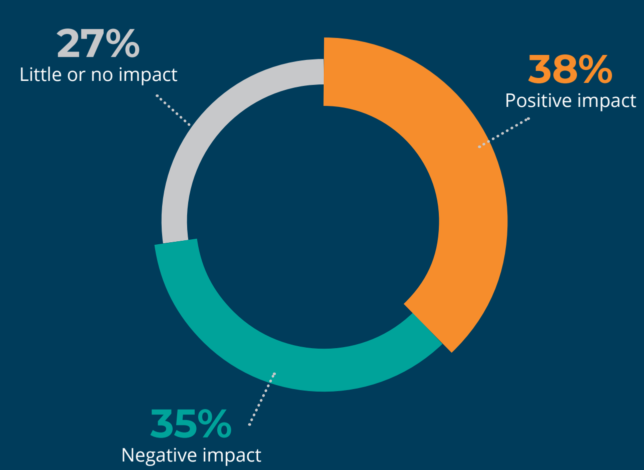
The introduction by the United States of tariffs on steel and aluminum from a number of countries and the continuing U.S. trade negotiations with China, Canada, Mexico, and other countries generated mixed reactions from the executives surveyed. In the survey, executives are fairly evenly divided on this issue, with 38% expecting ***a positive impact on their companies from these trade developments*** and 35% expecting a negative impact. *(Figure 14)*

Executives at larger companies (45%) were more likely than those at smaller companies (36%) to anticipate that ***recent trade developments would have a positive impact on their companies***. In addition, 51% of executives at companies with operations outside the U.S. said they expect these developments to have a positive impact on their organizations. However, only 25% of the respondents from companies with no foreign operations expect a positive impact.

How are companies responding to the current trade developments? The action cited most often was ***manufacturing more products, or components, in the United States*** (45%). However, a substantial portion of companies are looking to diversify procurement by ***sourcing purchased materials from new countries*** (36%) and ***sourcing raw materials from new countries*** (33%).

FIGURE 14

EXPECTED IMPACT OF TRADE DEVELOPMENTS ON COMPANY'S BUSINESS



MANY COMPANIES LACK SUCCESSION PLANS

Succession planning presents a major issue confronting private companies. Thirty-one percent of the private companies participating in the survey reported that ***they do not have an exit plan in place***.

Given its importance, why do so many private companies lack exit plans? More than 65% said the ***owner has no immediate plans to retire or exit the business***. *(Figure 15)* However, many transactions are not planned. For example, a prospective buyer may approach an owner with an appealing offer unexpectedly. Without a proper succession plan already in place, the owner may fail to properly assess the offer and end up leaving a significant amount of money on the table.

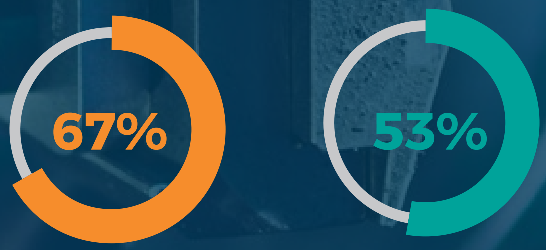
Other issues cited by executives indicate that many companies realize succession planning is important but keep putting it off to deal with more immediate concerns. For example, 53% said ***other priorities are more pressing***, 35% said they ***don't have time to put a plan together*** and 30% admit to ***avoiding difficult decisions***.

FIGURE 15

MOST IMPORTANT REASONS COMPANY DOES NOT HAVE A SUCCESSION PLAN IN PLACE

Base = Private companies that do not have a succession plan

TOP RATED ITEMS



OWNER HAS NO IMMEDIATE PLANS TO RETIRE OR EXIT BUSINESS

OTHER PRIORITIES ARE MORE PRESSING

PROFILE OF RESPONDENTS

The Sikich 2019 Manufacturing and Distribution Survey gathered responses from 310 companies through an online survey conducted in April 2019. The companies that participated in the survey were from a wide range of industrial sectors, with the greatest concentrations in wholesale/distribution (18%), industrial equipment (14%), metal fabrication (10%), apparel/footwear/textiles (6%), transportation (6%), chemicals/petroleum (5%), aerospace & defense (5%), and food/beverage (5%).

The companies represented a range of sizes as measured both by annual revenues and by number of employees. *(Figures 16 and 17)*

FIGURE 16
ANNUAL REVENUES

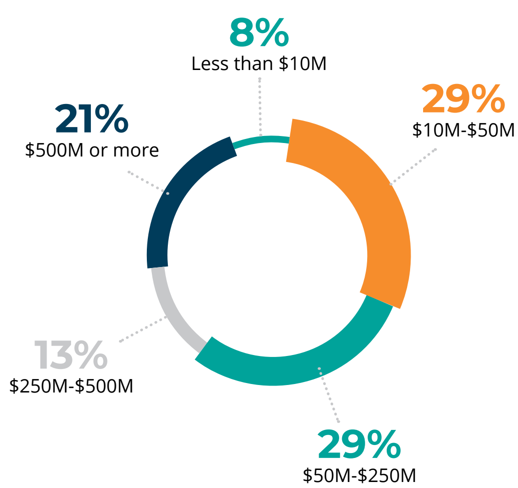
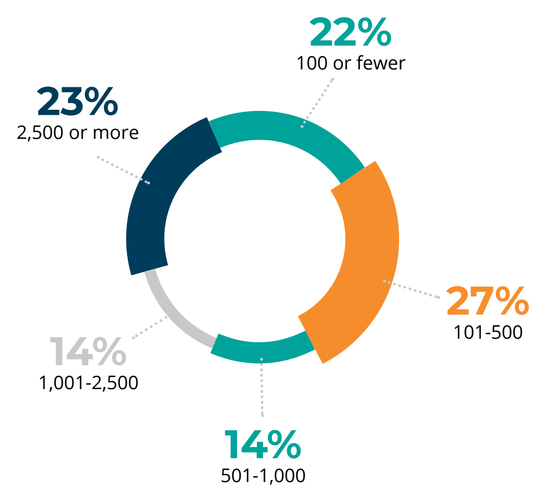


FIGURE 17
EMPLOYEES WORLDWIDE



Percentages as they appear in some charts may not equal 100% due to rounding.

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[1]In this report, "larger companies" refers to companies with annual revenues of $500 million or greater and "smaller companies" refers to companies with annual revenues of less than $500 million.

[2]Alexia Fernández Campbell, "The US is experiencing a widespread worker shortage. Here's why.," Vox, March 18, 2019, https://www.vox.com/2019/3/18/18270916/labor-shortage-workers-us

ABOUT SIKICH

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