

Manufacturing Commerce & Technology 2020

eCommerce, Mobility and Big Data's
Impact on the Manufacturing Industry

FOUR51
— ORDERCLOUD™ —

Table of Contents

Executive Summary	3
Planning for Manufacturing's Future	4
A Customer Centric Future	4
Our Research	6
Our Results	7
1. Many Manufacturers Do Not Have a Five-Year Plan	8
2. eCommerce Will Replace Sales Reps in Many B2B Buying Situations	10
<i>eCommerce: What You Need to Consider For Your Five-Year Plan</i>	12
3. The Internet of Things Will Increase The Demand for Mobility	13
<i>Mobility: What You Need to Consider For Your Five-Year Plan</i>	14
4. Big Data Provides the Greatest Opportunity for Manufacturers	15
<i>Why Big Data?</i>	16
<i>Big Data: What You Need to Consider For Your Five-Year Plan</i>	16
5. Of Potential Threats, Data Security Is The Biggest Concern	18
<i>Data Security: What You Need to Consider For Your Five-Year Plan</i>	
6. Technology Will Have a Significant Impact On The Manufacturing Workforce	20
<i>Future Workforce: What You Need to Consider For Your Five-Year Plan</i>	
Conclusion	22
Voice of the Manufacturer	23
Citations	25

Executive Summary

In January of 2016, we at Four51 conducted a study examining sales and order management methods, technology usage and areas of planned investment for North American manufacturers.

The study of 200 manufacturing leaders, primarily manager level and above, found that 54% of respondents currently utilize offline methods – sales representatives (33%), phone/call center (18%) and fax (3%) – as the primary means to manage customer orders. Twenty-five percent of manufacturers say they're still relying on fax for at least some of their orders.

This stands in contrast to the only 29% utilizing eCommerce as the primary order management method today with the majority (61%) using eCommerce for less than half of orders.

A full 45% of manufacturers aren't using eCommerce at all today, indicating a missed opportunity to tap this channel for sales and order management. Twenty-two percent of respondents don't have or don't know if they have a five-year business that contemplates the year 2020. Taken together, these data points raise concerns that North American manufacturers may be ill-prepared to adopt eCommerce and its benefits in the near future. More broadly, this indicates a blind spot in strategic planning for manufacturers who aren't thinking as far out as 2020 yet.

The need for a greater focus on mobile also surfaced in the research with nearly 38% of respondents noting they don't have or don't know if they have an eCommerce site that's optimized for mobile devices. Respondents did, however, indicate that they expect to invest more in mobile app strategies in the future, with 53% acknowledging plans to do so by 2020.

Respondents indicated that offline methods will fall from 54% to 34% as the primary means to manage customer orders by 2020. The percentage that envision eCommerce as the primary method will rise from 29% to 45%, and 56% believe more than half of their sales will be done via eCommerce by 2020.

Top areas for *future* technology investment by 2020 as noted by respondents showed similar results: Online commerce (42%), big data and data science (42%), mobile commerce (40%), digital payments (38%), the Internet of Things (35%) and predictive intelligence (31%).

Manufacturers must place significant importance on the customer relationship, digital business practices, and an IoT strategy to stay competitive throughout the next 5 years.

Planning For Manufacturing's Future

Manufacturing is changing, and the pace of change is accelerating. The latest set of disruptions - the internet, big data, modern APIs, mobile, robotics, 3D printing, and more - are all new change agents which you, as manufacturers, need to grapple with, and will need to conquer to move forward.

While you are dealing with the implications of all these existing changes, you also have to anticipate the next set of changes that are sure to come. Dealing with one big disruption is hard enough, but you are forced to deal with the effect of multiple, compounding technological advances occurring at once.

Futurist Gerd Leonhard delivered a keynote at KPMG's 2015 Robotics Innovation Symposium titled "The Digital Transformation of Business and Society: Challenges and Opportunities by 2020¹." Gerd's opinion is that "we are still vastly underestimating the sheer velocity of change."

He described our current pivot point of exponential change: a point in history where humanity will change more in the next twenty years than in the previous 300. Because of that, he encouraged the audience to look five years into the future. Future planning is so important that he urged his audience to spend 3 to 5 percent of their time focused on foresight. That is, to focus on what could be, instead of what is.

"In times of change the greatest danger is to act with yesterday's logic"

-Peter Drucker

To illustrate his point, Gerd shared that six years ago he advised a German auto company about the driverless car and the implications of a sharing economy. At the time, they laughed at him. Are they laughing now?

A Customer-Centric Future

Central to your plan as a manufacturer is, of course, your customer. Your customer is the catalyst for many of the technological changes you will be implementing.

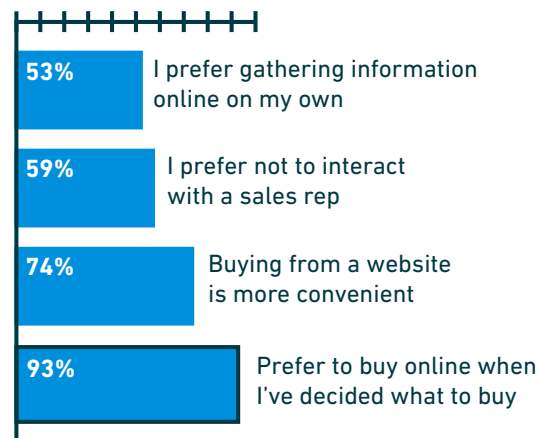
We have entered an era that Forrester calls the age of the customer. It is their theory that putting the focus on your customer now matters more than any other strategic imperative².

If you want to thrive today, you need to create an experience the customer wants, not force your customer to adapt to the experience you want them to have. Forward thinking manufacturers understand this and are investing in the concept of Digital Self-Service.

Digital Self-Service gives customers what they want, and what they want is the ability to research and buy products online. However, their desire does not stop there. In fact, Gartner predicts that by 2020, customers will manage 85 percent of their relationship with the enterprise without interacting with a human.

That relationship with manufacturers might include the ability to customize parts, manage delivery timetables, and request and schedule field service calls. In some cases, it could even add the capability to download a file from your website, and print a part on demand.

Self-service B2B eCommerce rivals full-service B2B commerce in importance



*Death Of A (B2B) Salesman, Forrester Research, Inc., April 13, 2015
Internet Retailer Q1 2015, US B2B Buyer Channel Preferences Online Survey*



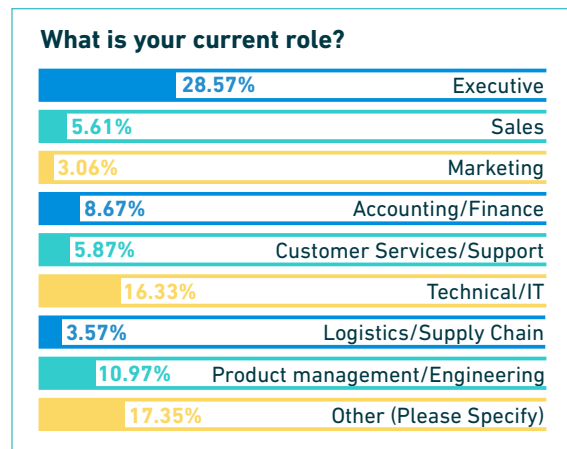
Our Research

Given that we are now experiencing a pivotal point of exponential change, we at Four51 wanted to understand how manufacturers are dealing with and planning for technological advances.

In January 2016 we surveyed North American manufacturers about their future planning and their thoughts on the impact technology has on their organization. We received a total of 415 partial responses and 200 complete responses.

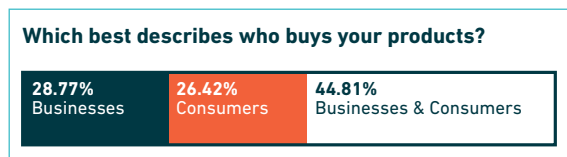
- Respondents had at least 250 employees working at their organization, with over 60 percent of respondents at a manufacturer with more than 1,000 employees.
- Their role spanned a variety of departments and specialties, with the top three responses being Executive, Technical/IT, and Product Management/Engineering. Respondents were required to be at the manager level or above. (Figure 1)
- 30 percent of respondents were at a manufacturer with an annual revenue of over \$1 billion, and 73 percent of respondents were from a manufacturer with an annual revenue of over \$50 million. (Figure 4)
- The majority of respondents sell or distribute their products via a B2B or B2B2C channel. (Figure 2)
- 36 percent of respondents do not have or don't know if they have a website that is mobile responsive. (Figure 3)

Figure 1



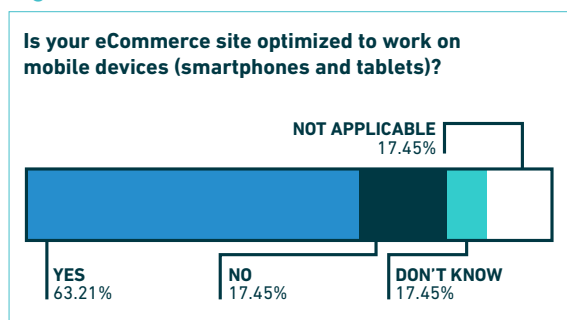
Four51 Manufacturing 2020 Survey, 2016.

Figure 2



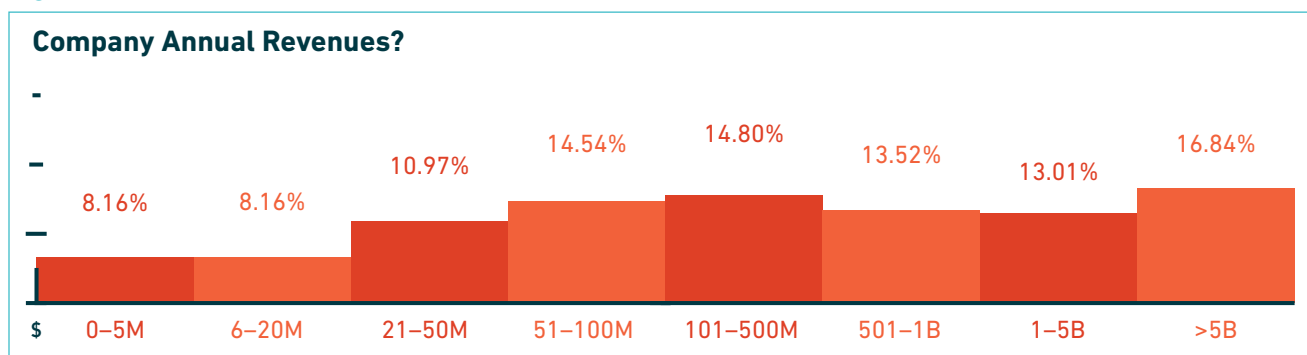
Four51 Manufacturing 2020 Survey, 2016.

Figure 3



Four51 Manufacturing 2020 Survey, 2016.

Figure 4



Four51 Manufacturing 2020 Survey, 2016.

Our Results

Based on the survey responses, we discovered six key insights, which we will cover in considerable depth. The report not only shares the challenges manufacturers face but also offers advice on how to address those challenges.

1. Many Manufacturers Do Not Have a Five-Year Plan

Almost a quarter of our survey respondents said they do not have, or do not know if their organization has a five-year business plan that contemplates the year 2020.

2. eCommerce Will Replace Sales Reps In Many B2B Buying Situations

Forty-five percent of manufacturers surveyed believe eCommerce will be the top way they manage orders in 2020, which represents a 56 percent positive change toward eCommerce. The shift comes at the expense primarily of the sales and call centers, which show a 39 percent decline and 32 percent decline, respectively.

3. The Internet of Things Will Increase the Demand For Mobility

Forty-two percent of manufacturers are currently using mobile apps to manage their business with a 23 percent increase in investment in mobile app strategies through 2020.

Over the next five years, this interconnectivity through the growth of Internet of Things will extend throughout the plant and to customers as well. Mobile devices will be a key in how this technology communicates with the manufacturing workforce and with customers.

4. Big Data Provides the Greatest Opportunity For Manufacturers

Forty-two percent of manufacturers are already investing in big data and data science and that same percentage plans to continue to invest through 2020. This corresponds with the fact that our survey participants felt that big data provided the greatest opportunity for their business.

5. Of Potential Threats, Data Security Is the Biggest Concern

The flip side to the benefits of all the data technology brings us, is the concern about the ability to secure it. It was the biggest concern of our survey respondents. As manufacturing becomes more connected to the Internet, security concerns will continue to increase.

6. Technology Will Have a Significant Impact On the Manufacturing Workforce

It is undeniable that much of the technology we have discussed here if implemented will reduce the number of people required to perform certain roles. However, a more technically advanced manufacturing business requires a different skill set in employees.

Throughout this paper, we will take a deeper look at each of these six key learnings that we believe manufacturers will need to take into account if they are to remain relevant and successful in 2020.

1

Many Manufacturers Do Not Have a Five-Year Plan

In a 2011 speech, Federal Reserve Chairman Ben Bernanke said, “We will be more likely to promote innovative activity if we are able to measure it more effectively and document its role in economic growth.”

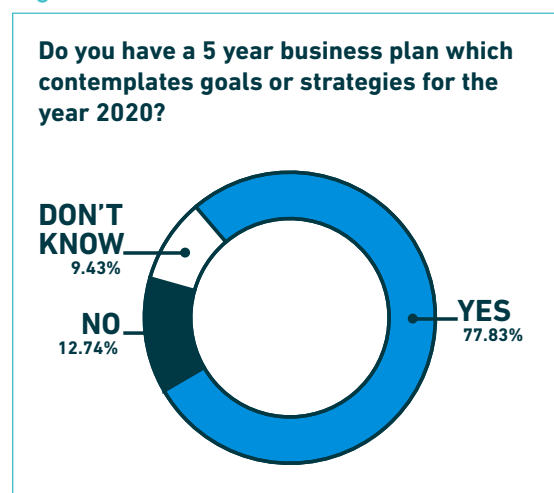
This desire to understand the economic effect of R&D on our economy spurred the U.S. Bureau of Economic Analysis to begin categorizing R&D as an investment rather than an expense.

When asked if they have a five-year business plan that contemplates goals or strategies for the year 2020, 22 percent of U.S. manufacturers said they did not have, or do not know if their organization has a five-year business plan that contemplates the year 2020. (Figure 5)

Not only that but over a quarter of respondents were spending less than 5 percent of their budget in R&D, or they did not know how much was being invested. (Figure 6)

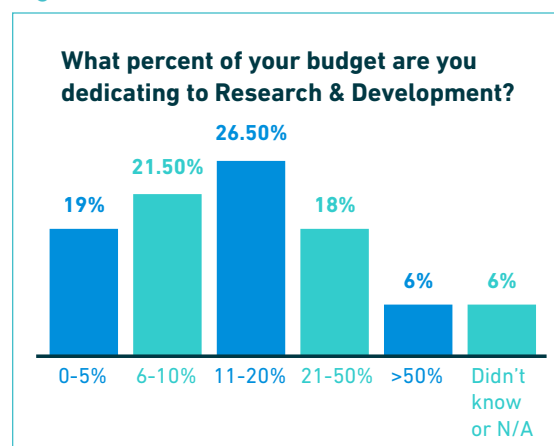
It is unlikely that those organizations without a five-year plan, do not understand the importance of having one. So, what then is the problem? What is stopping them from planning? What is preventing them from investing money into R&D despite its importance?

Figure 5



Four51 Manufacturing 2020 Survey, 2016.

Figure 6



Four51 Manufacturing 2020 Survey, 2016.



The current pace of change in today's changing technological landscape is astronomical. There is no doubt that many of the technological advances represent an opportunity for manufacturers. In the survey, this enthusiasm was expressed through their interest in technology such as mobile, eCommerce, the Internet of Things (IoT), big data, and artificial intelligence. (Figure 7) However, with the good comes the bad.

Despite this enthusiasm, manufacturers also see some of their biggest threats resulting from this same technology. (Figure 8) With all this connectivity comes the risk of malicious hacking and data theft. There is also a large need for workforce readiness and the ability to deal with this technology, not to mention what to do with the workforce that is displaced.

Implementation costs are also a concern. Budget is an issue whether you are trying to adapt legacy systems, or are starting over with new hardware and software. Nevertheless, it is because of the significant opportunities and potential threats that we must plan for the future.

Figure 7



Four51 Manufacturing 2020 Survey, 2016.

Figure 8



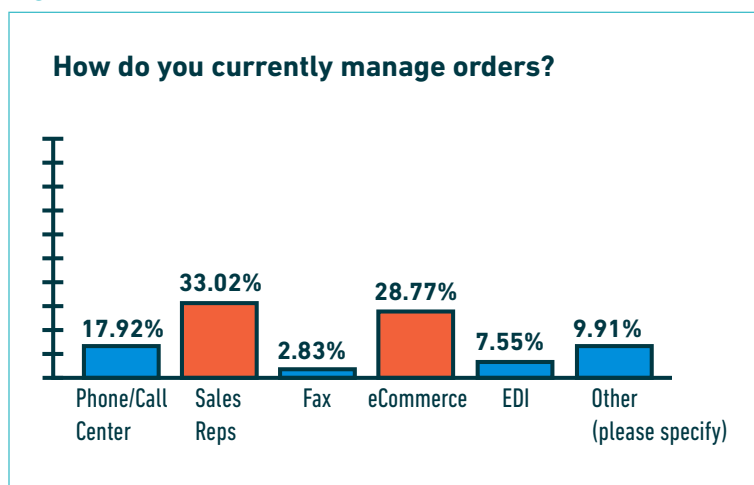
Four51 Manufacturing 2020 Survey, 2016.

2

eCommerce Will Replace Sales Reps In Many B2B Buying Situations

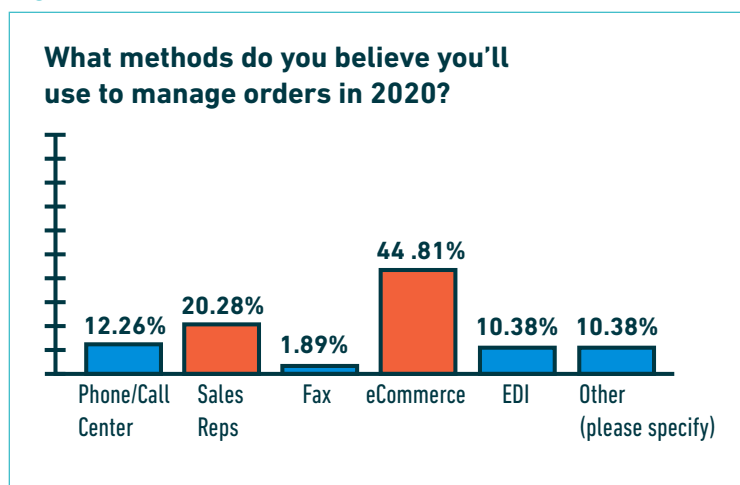
In order to understand the future, you need to understand the past and present. That's why we set out to learn how orders are currently being managed by manufacturers, and how they think the orders will be managed in 2020. Forty-five percent of manufacturers surveyed believe eCommerce will be the top way they manage orders in 2020 (Figure 10), which represents a 56 percent positive change toward eCommerce. The shift comes at the expense primarily of the sales and call centers, which show a 39 percent decline and 32 percent decline, respectively.

Figure 9



Four51 Manufacturing 2020 Survey, 2016.

Figure 10



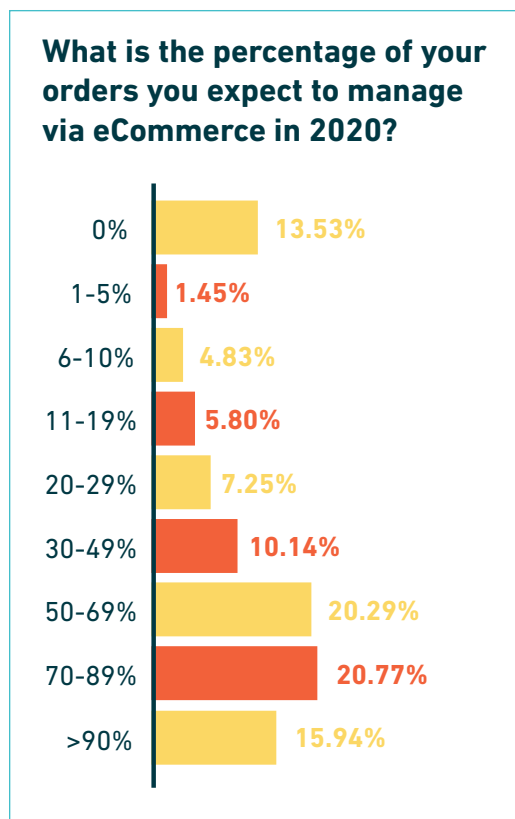
Four51 Manufacturing 2020 Survey, 2016.

Only 75 percent of manufacturers reported selling direct. The remaining 25 percent are often hesitant due to two decelerators for enterprise eCommerce adoption, according to Forrester research: (1) concerns about channel conflict, and (2) no explicit eCommerce or C-level leadership³.

In fact, over 2.8 percent of manufacturers are still relying on Fax for some of their orders today (Figure 9), and 1.9 percent still expect it to be the top way they manage orders in 2020. A small number for sure, but still mind-boggling that this remains an adopted strategy at all.

Similarly, 13.5 percent of manufacturers do not expect to manage any of their orders via eCommerce in 2020 (Figure 11). This is shocking especially in light of the fact that Frost & Sullivan analysts find that global B2B eCommerce will reach \$6.7 Trillion USD by 2020⁴.

Figure 11



It seems that manufacturers of today are failing to see the opportunity and potential that technology can offer for the near future.

Manufacturers who insist on staying entrenched in a distributor system will see a negative impact and loss of opportunity if they do not implement an eCommerce system. In fact, 47% of the B2B companies surveyed by Forrester said they believe profitability per online order is increasing.

A new UPS Industrial Buying Dynamics study shows us that 64 percent of buyers already bought direct from the manufacturer, and 30 percent planned to consider doing so⁵. When you add to that the fact that The Economist shows that millennials now account for the largest chunk of the workforce, these digital natives will demand change.

UPS Marketing Manager Simon Bhadra says, “Ninety-nine percent [of Millennials] say they already buy direct or would consider buying direct from a manufacturer.” Bhadra adds, “and 85 percent would shift spending for a more user-friendly website, compared with 72 percent of buyers overall.”

Four51 Manufacturing 2020 Survey, 2016.

“Automation is our business’ biggest opportunity between now and 2020. We have the opportunity to provide automated but somewhat customized experiences to our customers.”

eCommerce: What You Need To Consider For Your Five-Year Plan

To get the most from an eCommerce system, it must be customized to the needs of the manufacturer. Online purchasing systems must make it easy for customers to find the right product. In a world where the difference between options is hard to determine, online part ordering can be tricky. Manufacturers like Grainger include Live Chat with their system so that customers can show a rep a picture of the part they are looking to replace when they are not sure which part to order⁶.

By integrating your eCommerce system with your ERP and other back-end systems, you end up with a much more efficient system. Your customers can place their own orders and choose shipping options. A Digital Self-Service system eliminates any transcription errors. It also frees up your sales reps and customer

service reps time to do work that is more meaningful. Customer service reps can focus on resolving customer service issues. Sales reps can focus on sales that are more complex and bringing in new customers. Your system should also benefit the customer by remembering what they have purchased in the past. This historical data helps ensure they are ordering the right parts, even when the original purchaser is no longer with the company.

“45% of manufacturers say eCommerce will be their top sales channel by 2020.”

Four51 Manufacturing 2020 Survey, 2016

3

The Internet of Things Will Increase the Demand For Mobility

41.5 percent of manufacturers are currently using mobile apps to manage their business, and that investment is expected to grow through 2020. In fact, we will see a 23.5 percent increase in investment in mobile app strategies.

The Internet of Things (IoT) is not entirely new to manufacturing. Let's take RFID Tags and sensors for example. They are currently being used to track items from the assembly line to warehousing and through shipping. As the prices for sensors continue to drop, we will begin to see them used in production as well. These sensors will communicate with your plant supervisors' mobile devices indicating when it is time for maintenance, or when a machine could be a danger to the employee operating it.

That communication via a mobile device eliminates the need for an employee to pick up the phone or walk clear across the plant to alert a manager to a problem. Taking it a step further, the machine, armed with connectivity and API's, can order its own replacement parts.

This real-time communication is particularly advantageous when you are managing inventory, equipment, and people across multiple manufacturing facilities. Mobile is all about communicating anytime anywhere.

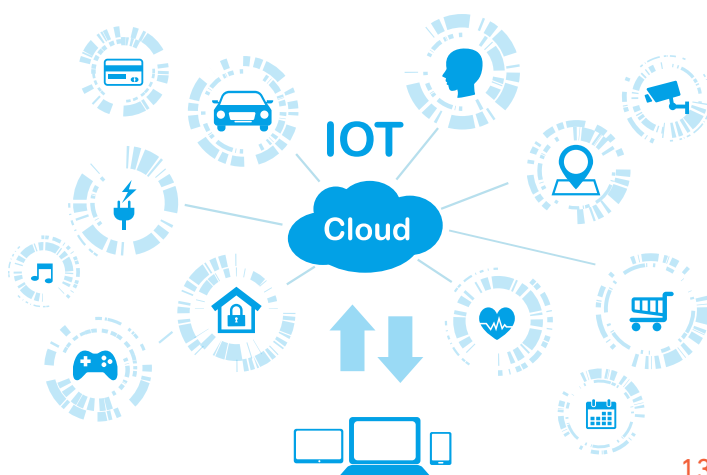
When sensors are added to the products you produce and ship to customers, you increase its value through Digital Self-Service. It eliminates the need for the customer to call customer service to reorder parts or schedule a field service call. Instead, your customer service rep could proactively notify the customer when their machine needs servicing. Even better than that,

the equipment itself could tell the customer as well as customer or field service that a call has already been placed, parts have been ordered and are being shipped, and a field service call has been arranged.

Customers concerned about the delivery of an order they placed could easily see the status of their order from assembly line through shipping.

Sales reps can also benefit from a connected mobile world. Reps can get the information a customer is looking for as soon as it is requested whether it be a relevant case study, a spec sheet, national or state regulations and codes, or an installation "how to" video.

Reps would have the ability to give an accurate quote on the spot because the up-to-date price of materials, inventory, and shipping schedules and rates would be integrated into the system. Sales reps would be alerted to a shortage of materials needed might interfere with the customer's timeline. Alternatively, reps could also inform procurement when a substantial order is on the horizon.



Mobility: What You Need To Consider For Your Five-Year Plan

When implementing mobile solutions, you need to consider where you will get the highest return. Does customer satisfaction have to be a top priority, or is factory safety your biggest priority. In some situations, the squeaky wheel does need to get the grease first.

Whatever scenario you decide to attack first, you have to consider not just the cost of the software, but hardware as well. Even if you are implementing a mobile solution for in-house operations, data security is an issue, and it is likely you will find having employees use their own devices is not an option.

You also must plan for training on the new systems, as well as communicating the fact these new applications exist, how they are to be used, and their benefits. That training and communication requires a significant amount of resources.



“By 2020, 90% of the world’s population over six years old will have a mobile phone.”

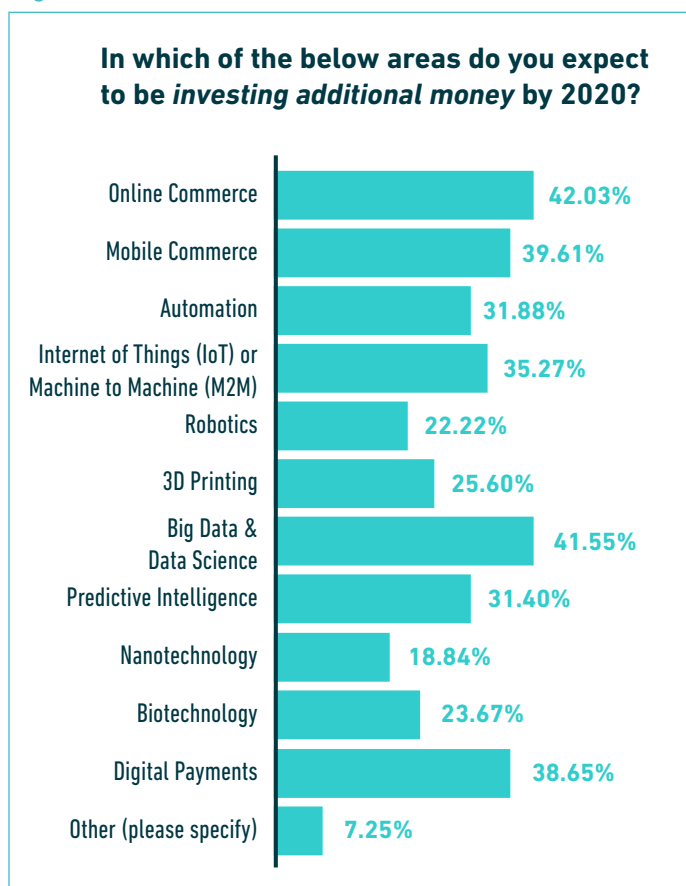
-Vox Media

4

Big Data Provides the Greatest Opportunity for Manufacturers

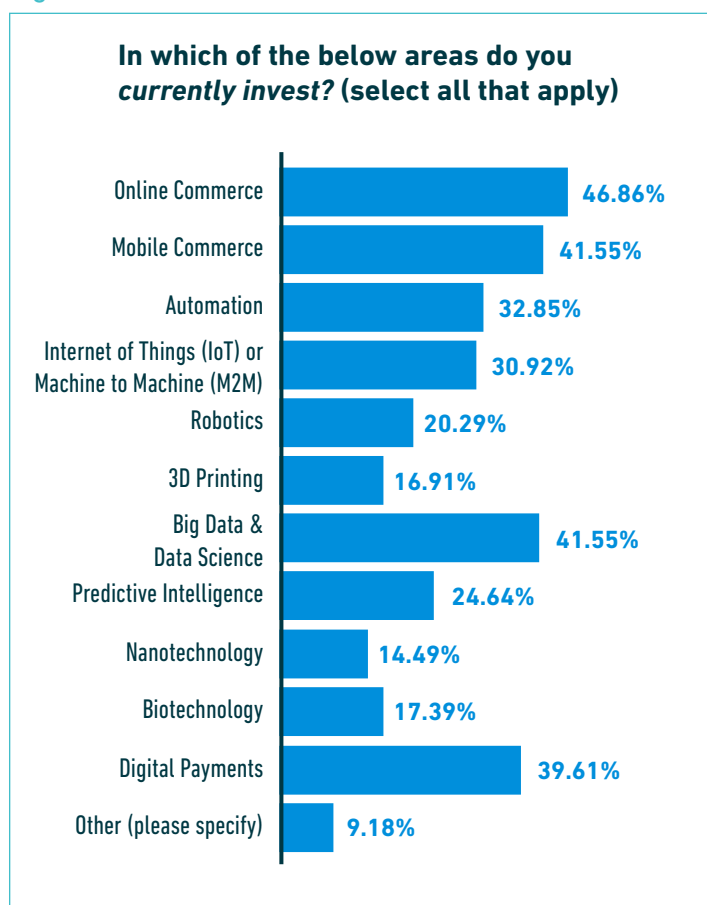
When asked what areas of technology are currently being invested in, 42 percent of manufacturers said they are already investing in big data and data science (Figure 13). That same percentage plans to continue to invest in big data and data science through 2020 (Figure 12).

Figure 12



Four51 Manufacturing 2020 Survey, 2016.

Figure 13



Four51 Manufacturing 2020 Survey, 2016.

That spending was only superseded currently by investment in online commerce and mobile commerce. However, we found that big data spending will have a slight edge over online and mobile commerce leading up to 2020. That runs parallel to the fact that many of our survey participants felt that big data provided the greatest opportunity for their business now through 2020.

Why Big Data?

The term “big data” can be traced as far back as the 1990s. As the Internet grew, so did the hype around big data. Many companies and analysts claimed it was the answer to everything. A few questioned, to what end?

As access to more and more data became available to companies who bought into the whole idea of bigger is better, they suddenly began to understand Richard W. Hamming's, mathematician and pioneer computer scientist, mantra, “the purpose of computing is insight, not numbers.”

Data is excellent at uncovering correlations. What data is not good at is determining complex causations. If you do not understand this, you run the risk of making snap decisions based on the false correlation.

As the website Spurious Correlations shows us, even though data suggests an apparent correlation between the increase in the number of computer scientist doctorates awarded and the rise in revenue generated by arcades, we certainly cannot assume that we are seeing more computer scientists because of video games in arcades⁷.

Big Data: What You Need To Consider For Your Five-Year Plan

Manufacturers who want to benefit from the interconnectivity of systems and processes and the big data they will have access to, need to plan for the analysis of that data. You simply won't have the same access to ordering data if you avoid moving your commerce operations online.

You want to work with technology vendors who know your industry, but also understand that your organization is unique. At the very least, their solution should deliver data that is relevant to you in a format that is easy to comprehend.

At first, data's job was to tell us what had already taken place. But the future of data science will hinge on advanced analytics—specifically using predictive analytics and real-time analytics in pursuit of business goals, such as improving the customer experience, improving products and services, and reducing costs and churn.

As we plan for the future, it is important to remember that data can only do so much. Data can inform us, but only if we consider it carefully and alongside our intelligence, insight, and even gut.

How to Improve Experience Using Big Data

With B2B eCommerce, you'll have access to better data around how you can improve your relationship with your customers, buyers, vendors and suppliers; cross-sell and up-sell more efficiently, increasing your revenue; adapt the buying experience based on users' behaviors.

1. Dig for Ways to Improve your Relationship with your Customers:

With B2B eCommerce, you can pay better attention to your power users. Power users are those individuals who come back to your site more than other users—especially in B2B eCommerce, these are the most important customers for your business. Along with their frequent visits, they are probably also influencing others within their organization (and others!) to check out your storefront. Use this information to your benefit by rewarding these Power Users. Send them a discount, a free product, or a promo code for free shipping (choose the reward based on their activity on your site) to thank them.

You could also consider creating a B2B commerce site that would help facilitate a loyalty program. Reward your power users by giving them access to a digital library of rewards that they can access as they rack up points from recurring purchases, for example. These types of interactions will leave your users feeling appreciated. They won't expect it and they will tell people about it, boosting your site's clout even more!

2. Product Recommendations:

Based off of products specific users are viewing on your site, you can make recommendations for other products you think would interest them. This can be done in a variety of ways: send personalized recommendations to power users or set up a "Products Like This" feature on your site (see our demo site for an example) to showcase other products you think the users would like based on what they are shopping for. Show customers that you are watching, listening and trying to make their shopping experience better and easier.

3. Behavior Response Plan:

Pay attention to your customers' behavior on the site and you'll start to develop strategies that will keep them on your site longer, get them buying more, and leave them feeling more satisfied than they would otherwise. For example, if you notice that more and more users are leaving their carts abandoned, set-up an automatic email for these users' letting them know what they left in their cart.

By looking at customer data over time, you can learn a lot about them and think of many other customer experience enhancements like these. Use this information in the right way and you'll find that you can create solid, valuable relationships with customers, and ultimately boost your bottom line because of it!

5

Of Potential Threats, Data Security Is the Biggest Concern

When asked which technological change(s) are the biggest threat to manufacturers, data security topped the list. As the products we make become more connected via the IoT, privacy and security concerns will continue to increase.

SCM World's recent field survey of smart manufacturing and the Internet of Things finds that "while one in five today admit their factory operations are offline completely, this will drop to near zero in five years⁸."

Data breaches have always been a concern for manufacturers. Their biggest concern up until recently was protecting intellectual property and patents. As more and more manufacturers are moving towards automation and inter-connectivity, there is even more at stake. The risk of theft of corporate data still exists, but now we add the danger of theft of customer data as well. Safety becomes an issue if our systems provide a door for malicious hackers to commandeer our products or equipment.

Manufacturers who think they can manage this risk on their own, are incredibly naive. It could be a costly decision at best. How companies choose to walk to the line between the benefits of the IoT and privacy and security is a crucial part of their planning.

"To adequately prepare for 2020, we need to allocate the largest percentage of our budget to electronic and mobile commerce, and the related security matters."

"...we predict that businesses will start realising that security sitting outside of the IT department isn't something they should be worried about, but in fact represents a positive change in how security is now being seen more as a business challenge rather than an IT one⁹."

-Rob Norris, director of enterprise and cyber security UK&I, Fujitsu

Data Security: What You Need To Consider For Your Five-Year Plan

It is impossible to eliminate or prevent all data security threats. You can, however, plan to keep your data as secure as possible. You can also plan what steps you will take in the event of a malicious attack.

Much has been written about the benefits of Cloud/SaaS solutions have over on-premise solutions from a security standpoint. Wieland Alge, VP and GM of EMEAR at Barracuda Networks is quoted by Information Age as saying, "Almost all of the massive data breaches we've seen of late were within traditional on-premise IT."

Some breaches can be attributed to human error--an employee doing something they should not have done. Others are a result of malevolent intentions--an employee gains access to internal data with the purpose to do harm. A situation that would be far more difficult to achieve without physical access to the data or the people who control it.

CIO.com recently addressed myths that surround cloud security or the lack thereof. Leo Reiter, CTO, Nimbix explained the security expertise that cloud providers have access to. "Cloud providers live, eat, and breathe network security while most other organizations don't usually list it as one of their core competencies," said Reiter.

Because of this, manufacturers are turning to Cloud/SaaS service providers to create custom solutions for many of their processes including eCommerce, inventory management, and distribution. Data security is not simply one aspect among many in their business that these vendors must monitor. It is a top priority for these providers. Still, you do not just want to hand over this responsibility without thought.

"The expanded use of cloud services presents our biggest opportunity today."

6

Technology Will Have a Significant Impact on the Manufacturing Workforce

When asked, “If you could change one thing to better prepare your business for 2020, what would it be?” the most common response was around an investment in people.

It is undeniable that much of the technology we have discussed here if implemented, will reduce the number of people required to perform certain roles. eCommerce systems and fulfillment centers will reduce the number of sales reps and distributors who currently do the job. In fact, Forrester’s “Death Of A (B2B) Salesman” report estimates that a million B2B sales people will be replaced by the year 2020¹⁰.

In addition, robotics will decrease the number of unskilled workers as computerized automation replaces what was once manual.

However, a more technically advanced manufacturing business requires a different skill set in employees. Manufacturing companies either will have to retrain employees whose jobs have been replaced by technology, or they will have to recruit new employees.

Manufacturing Day creators, including employers and industry associations across North America, predict 3.5 million manufacturing jobs will open in the next decade, and a growing skills gap could leave 2 million of them unfilled¹¹.

Figure 14



Four51 Manufacturing 2020 Survey, 2016.

Future Workforce: What You Need to Consider For Your Five-Year Plan

Manufacturers who are planning for a future that includes more technology must also plan to make significant investments in their current and future workforce. An investment not only in money but also in time developing the necessary skills, or hiring for the appropriate skill. An investment that includes both their current workforce and future employees decades out.

As Digital Self-Service and eCommerce systems become the norm, sales reps that are simply order takers will no longer be needed. Instead, manufacturers will look for reps with consultative selling skills to bring in new clients and managing complex sales.

Commenting on his company's research, Tom Bouchier, Fanuc's UK managing director said: "Manufacturers need to start placing more emphasis on investment in people. New technologies, including the Internet of Things and smart factories, are changing the nature of the workforce and businesses need to consider how to retain and attract talent in order to evolve¹²."

It is not enough to train future generations for jobs in manufacturing; we must also show students at a young age that manufacturing is an exciting and profitable industry to enter. Those new employees who join your company in 2020 could very well be high school students in your community. A mentoring program would be an important investment to include in your five-year plan.

Aside from creating a strong hiring plan to account for changes in your technology stack, you'll also want to make sure you are selecting the right technology platform for your business. If you don't want to spend people resource costs on server hosting, make sure you explore cloud-based options that require less inhouse resources. Also consider the partner network of a prospective technology partner, who could potentially serve as extra arms and legs when it comes to business strategy, change management and implementation plan, instead of hiring a whole new workforce to manage that.

"We, as manufacturers need more proactive approaches and strategies to educate senior management about today's realities and the threats to our business if we don't adapt."

Conclusion

It's clear that eCommerce, mobility and big data will all play a big role in the state of manufacturing by 2020. But that change is happening fast. If you are to get ahead of it and be ready for the future, you need to do so today. You can get started by considering three main things: (1) the Customer Relationship; (2) Digital Business Practices; and (3) the Internet of Things.

The Customer Relationship

How are you planning to adapt your ordering and customer relationship process to prepare for 2020? The US B2B industry is over twice the size of B2C and worth \$780 billion in the United States alone¹³. It is expected to grow to over \$1 trillion by 2020. Manufacturers who are slow to the game run the risk of losing business to their competitors - competitors who provide a faster, easier, and better way to order their parts and products, and a way to respond to today's changing buyer persona.

Digital Business Practices

Implementing digital business practices requires a significant investment in resources. Manufacturers who put off integrating digital strategies for much longer will see themselves falling farther and farther behind as legacy systems become outdated and irrelevant. Get started today so you don't fall too far behind.

IoT and Physical Products

To deliver a digital customer experience, you have to start thinking about the products you sell and how you manufacture them. You need to take steps toward integrating an IoT strategy today if your customers are to reap the benefits of a smarter product tomorrow.

Voice of the Manufacturer

Which technological change(s) provide the biggest opportunity for your business between now and 2020?

"The rise of mobile websites, mobile purchases and mobile connectivity."

"Customer self-service."

"Automation. The ability to provide automated but somewhat customized experiences to customers is our biggest opportunity."

"The expanded use of cloud services is our biggest opportunity as manufacturers."

If you could change one thing to better prepare your business for 2020, what would it be?

"We need more proactive approaches and strategies to education senior management to today's realities, and the threats to our business if we don't adapt."

"More investment in research and development"

"Allocation of a biggest budget to electronic and mobile commerce, and related security matters."

"Adapting the culture in which we operate to better respond to millennials' behaviors and needs."



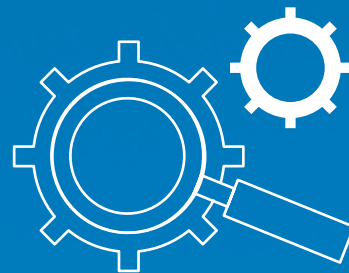
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