

THE FUTURE OF WORK

PART THREE: Why Humans, AI Systems, and Robots Need to Get Along at Work – And Why it's So Hard to Do

SURVEY CONDUCTED BY:  IDG

Appian

Automate More. Code Less.

Executive Summary

The two previous reports in Appian's Future of Work Survey series looked at:

- Cultural disconnects within IT in meeting the digital transformation needs of the business
- The barriers to effective collaboration between IT and business leadership in meeting transformation goals, and
- The disappointing state of new application delivery in an age of soaring, business-driven application development requests.

Part three of the series looks specifically at “intelligent automation,” defined as the integration of emerging cognitive and robotic computing technologies into human-driven business processes and customer interactions. These technologies include artificial intelligence (AI), machine learning (ML), and robotic process automation (RPA). Two data sets of IT executive survey responses are brought to bear in looking at the business drivers, strategies, and pitfalls currently inhibiting more successful adoption of intelligent automation. The first data set was collected in the second half of 2018, and is complemented by a second set collected in January of 2019.

The results are consistent and clear. IT leaders all agree that effective intelligent automation holds enormous potential for the business:

- **86%** of executives surveyed say intelligent process integration will improve customer experience
- **92%** say it will make the employee experience more rewarding
- **69%** say it will lead to monetization of new revenue

It is equally clear that this potential is currently untapped by the majority of organizations across North America and Europe:

- **86%** of executives interviewed indicated that human work, AI systems, and robotic automation must be well-integrated by 2020
- Only **12%** of executives said their companies do this really well today

There is also general consensus on the root barriers to success:

- **89%** of respondents say their organizations struggle to adapt with technology
- **80%** say their organizations “fail to understand how artificial intelligence would change everything”
- **66%** have difficulty integrating existing IT investments and skills with demanding AI and RPA technology
- The need to change IT culture (**44%**) and application development practices (31%) were the next highest-ranked responses

Why Automation Keeps Marching Forward

Business automation is certainly not a new concept. But, the march of automation that began with the Industrial Revolution has hit an inflection point. This is due, in part, to the last decade's focus on cost-cutting in light of global economic uncertainty, and the somewhat more recent heightened customer expectations for stellar service at the heart of the digital transformation phenomenon. In addition, a renewed focus on business automation is currently being driven by the new business possibilities inherent in emerging enterprise technologies.

Cognitive computing services, including artificial intelligence (AI) and machine learning (ML), can accelerate better decision-making by analyzing massive data sets, and even self-adapting, to predict and direct the path of business workflows to optimal outcomes. The advent of robotic process automation means armies of bots, working non-stop, all day, every day to reach, read, and change data across back-end systems at speeds and accuracy levels simply not possible for human beings.

"Intelligent automation" is the new term for the elegant and seamless integration of these emerging technologies into the flow of human-driven business processes and customer interactions. From a macro standpoint, it's a very hot market that is expected to get a lot hotter. Enterprise investment in the intelligent automation market is estimated at \$12.4 billion today, and it is expected to reach \$232 billion by 2025.¹

Why such growth? Because mastering intelligent automation may well be the key to defining competitive advantage as the world moves through the business transformations required by the Digital Age.

This is certainly the impression given by IT leaders, who cited improved customer experience and improved employee experience — along with new revenue potential and improved customer satisfaction — as the key intelligent automation business drivers. (see figure 1)

The Business Urgency for Intelligent Automation

- **86%** say process integration will improve Customer Experience
- **92%** say process integration will make employment more rewarding
- **69%** say process integration will lead to monetization of new revenue
- **68%** say process integration will improve customer satisfaction

Figure 1: "What are the top business drivers for deployment of intelligent automation?"

1. KPMG Advisory, "Ready, Set, Fail?: Avoiding setbacks in the intelligent automation race," https://advisory.kpmg.us/content/advisory/en/index/articles/2018/new-study-findings-read-ready-set-fail.html?utm_source=forbes&utm_medium=content&mid=m-00002211&utm_content=readysetfail&utm_campaign=c-00061249&cid=c-00061249

IA and the Four Goals of Transformation

Survey data shows that of the four most common goals for enterprise digital transformation programs, Improving Customer Experience (CXP) and achieving Operational Excellence are by far the most common. In comparison, Governance and Cost Reduction are much less of a priority:

Ultimate Business Purpose for Dx



Whether an organization's digital transformation strategy overall is focused on operational improvement or customer experience (CXP) improvement, the value of effective intelligent automation within that approach is fairly consistent. As expected, those with more of an operational focus put a premium on the improved efficiency of intelligent automation, while those in the CXP camp have greater focus on potential enhancements to the customer journey. (see figure 2)

Top Goals for Intelligent Automation (DX programs focused on Operational Efficiency vs. Customer Experience)

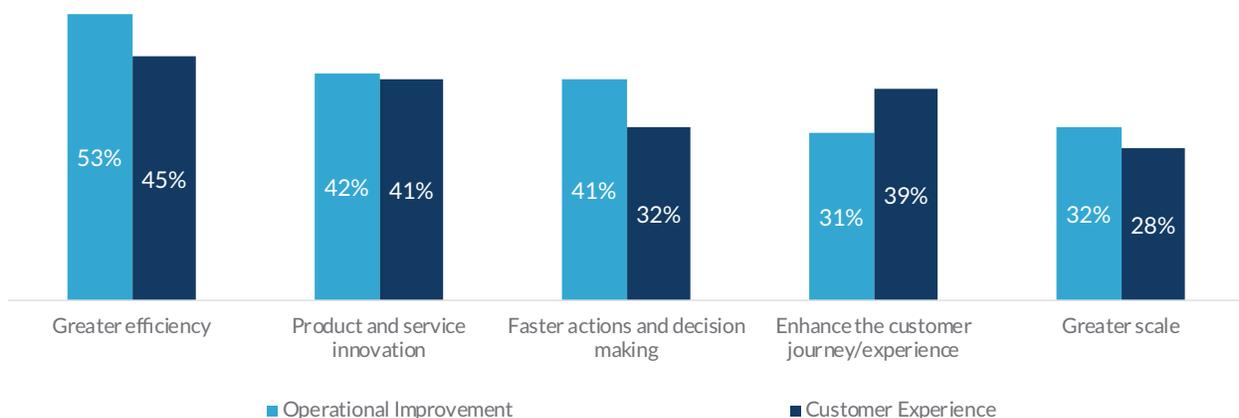


Figure 2: "What are your top goals for intelligent automation?"

Diving deeper into customer experience, 88% of respondents stated that they are dealing with an increasing volume of multi-channel customer business. Nowadays, a single customer may elect to engage with a company across any combination of web, mobile app, phone call, and offline/in-person interactions. The difficulty in managing multi-channel customer relationships is compounded by ever-rising customer expectations for immediate, efficient, and effective service (and even self-service).

AI systems, chatbots, and other forms of automated intelligence have a huge role to play here, and the need is enormous. **Fully 66% of executives surveyed said they need to provide customers with a better multi-channel buying experience.** (see figure 3)

66% of Executives Say They Needed a Better Multi-Channel Buying Experience

- **21%** lack a strategy for delivering integrated multi-channel customer experiences
- **26%** lack the systems to deliver integrated multi-channel customer experiences
- **22%** need to build or buy software to implement multi-channel customer experiences
- **19%** of executives said they currently provide customers an integrated multi-channel customer experience

(The last 12% said they just didn't care. That's the Luddite vote)

Figure 3: "Do you effectively provide customers with an integrated, multi-channel experiences? If not, why not?"

Don't Forget the Employee Experience

Organizations are increasingly looking at the tools they provide to employees not only through the lens of what value they deliver to customers, but what sort of work experience they create for the employees, themselves. Attracting and retaining top talent is a battleground, and employees come to new job opportunities with the same technology expectations they carry in their personal lives.

That's why, according to Future of Work survey data, 91% of executives believe improving process automation is important-to-extremely-important for the goal of providing a more rewarding and productive employee experience. Further, the integration people, AI systems and robots is seen as critical to talent recruitment, retention and satisfaction. (see Figure 4)

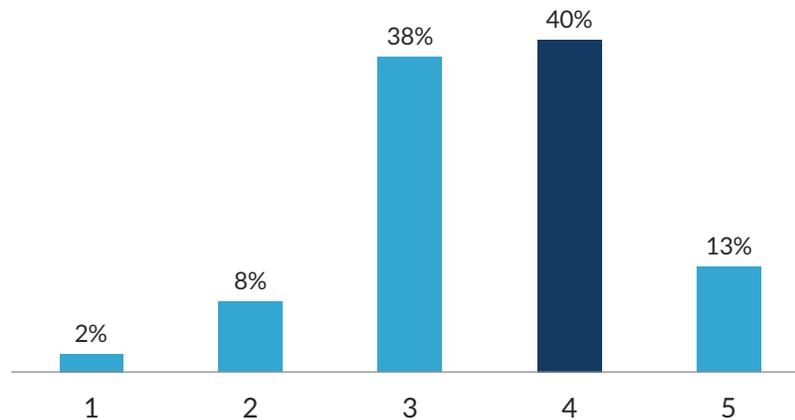


Figure 4: "On a scale of 1 to 5 – (with 1 being not important and 5 being very important – how important is improving process automation to the goal of providing a more rewarding and productive employee experience in 2019?"

Unfortunately, This is not the case in the vast majority of workplaces today. Two out of three survey respondents say the technology employees have at home is better than what they are forced to use at work. (see Figure 5)

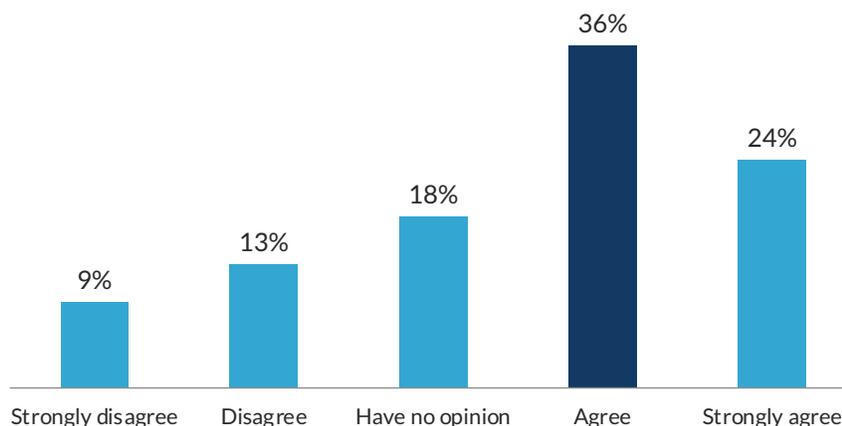


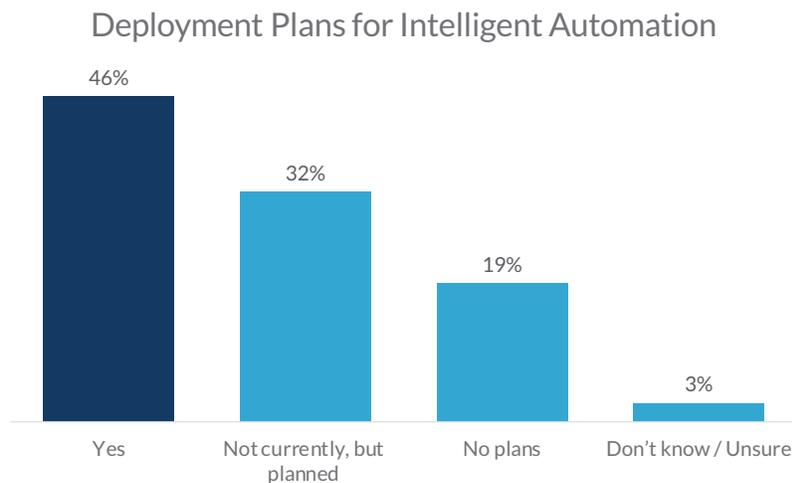
Figure 5: "Please give your reaction to the following statement: Our employees believe that much of the technology they use in their personal lives is better than what they have to use at work."

IA is Good for Ops, Good for Customers, Good for Employees... So, What's the Hold-up?

Appian's Future of Work Survey data shows conclusively that IT leaders around the globe believe that integrating the work of humans, AI systems, and robots will:

1. Make operations more efficient
2. Improve the multi-channel customer experience
3. Make work better for employees

In light of this, it is shocking to see that less than half (46%) of organizations have any form of intelligent automation deployed:



While there are deployments of emerging automation technologies, a lack of strategy and clear alignment to business goals are resulting in siloed deployments and overwhelmed internal application development teams. Machine learning technology is by far the most commonly deployed of these. The major drop-off in the types of technologies that are planned suggests a lot of confusion in organizations as to how to focus their priorities. (see Figure 6)

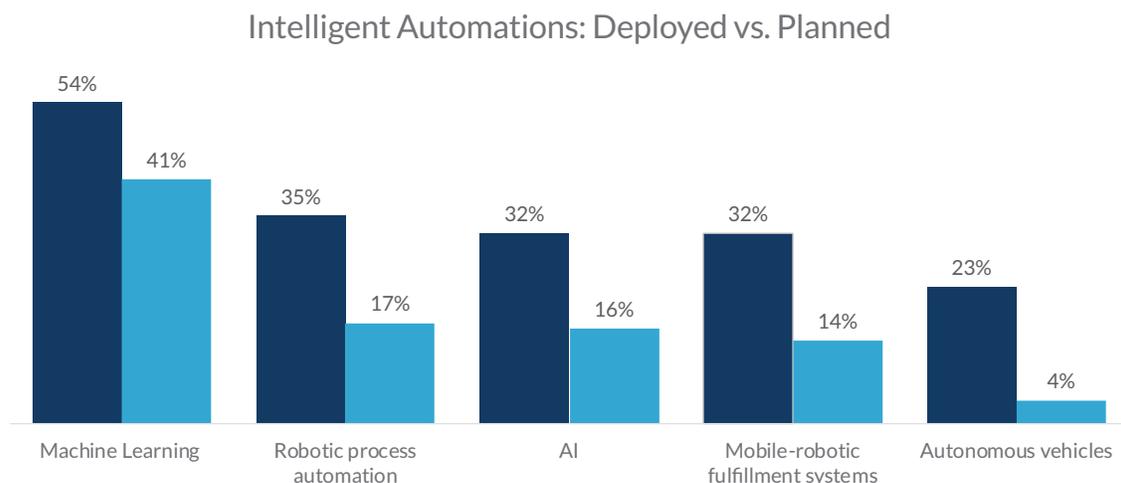


Figure 6: "What types of intelligent automation systems have you deployed at your organization? What types of intelligent automation systems will you deploy at your organization?"

Company size does seem to matter for intelligent automation deployment. Of that 46% of companies that have deployed intelligent automation, **fully 50% of them boast IT staffs in excess of 20,000 employees.**

This result aligns with the issues respondents cited as their biggest problems in realizing true business transformation. “Adapting with technology” was the #2 response for both Operational Excellence and CXP transformation programs (88% and 89%, respectively). And for CXP programs, understanding “how artificial intelligence would change everything” is close behind (80%). (see Figure 7)

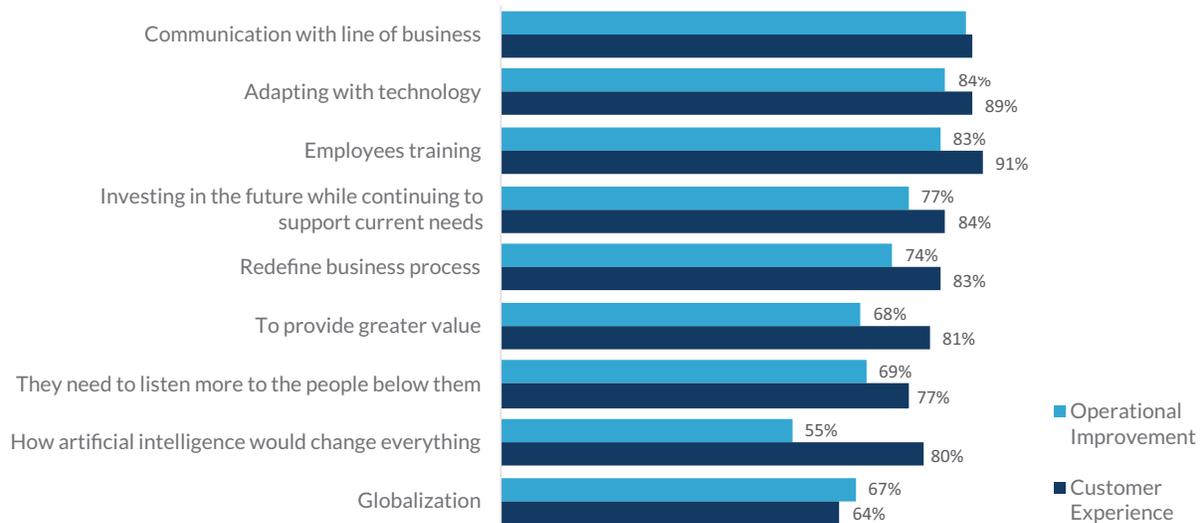
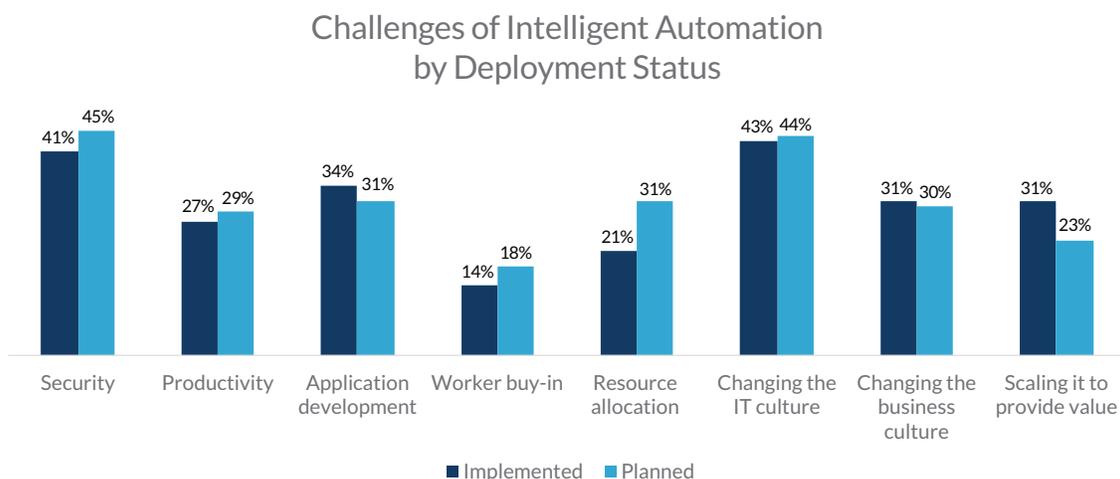


Figure 7: “What issues are you encountering as your IT culture evolves in the face of Digital Transformation?”

When this question was asked specifically in relation to intelligent automation, **66% of respondents stated that they “have difficulty integrating existing IT investments and skills with demanding AI and RPA technology.”** Additional IA-specific roadblocks include Security, Changing IT Culture, and Application Development-related issues:



Conclusion

The enormous business potential in the intelligent automation of end-to-end business processes involving humans, AI systems, and bots is clear to IT leadership. These technologies, deployed in coherent concert across the organization, can positively impact operational efficiency, the customer experience, and employee engagement.

While siloed deployments of intelligent automation's component technologies are underway, the roadblocks to successful implementation are considerable. The technologies are, simply put, too difficult to use for all but the largest of IT teams. The related IT culture transformation issues that must accompany business transformation further hinder adoption.

Clearly, all of this harbingers a need to "level the playing field" for all companies in how they can access and make profitable use of intelligent automation and its component parts. What's required is a new approach to IT/business collaboration and application development that can dramatically reduce the learning curve so that organizations of all types can unleash the value of intelligent automation.

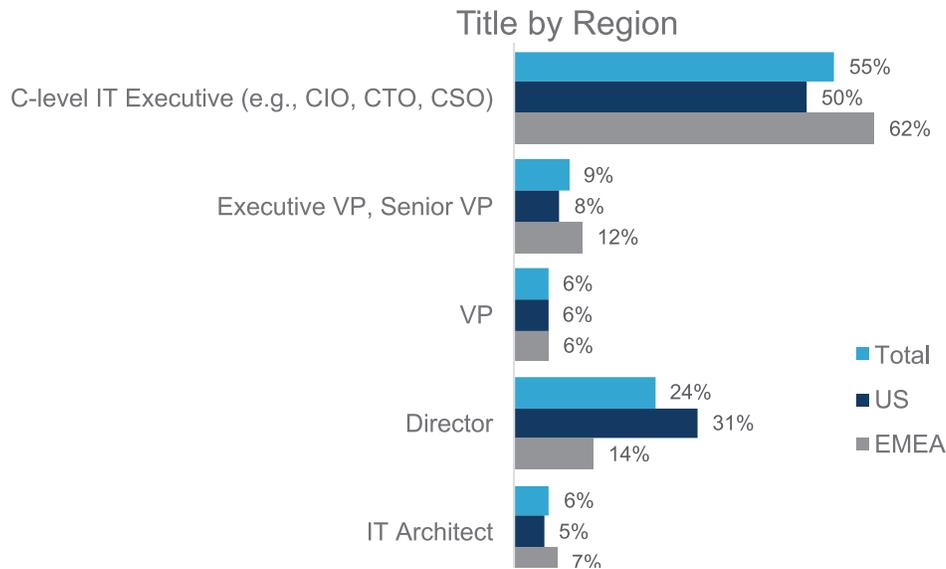
As demonstrated in previous Future of Work reports, accelerating development and improving collaboration are both possible with the use of low-code development platforms. Low-code platforms simplify development by replacing code with visual drawings, like a flow chart.

In addition to adding speed, low-code platforms must also address the power required in creating enterprise applications based on AI, RPA, etc.. The most modern low-code platforms enable this through a combination of native AI/RPA services plus zero-code integration to external cognitive public cloud platforms. They also enable it through cloud architectures that are always enterprise-grade, with exceptional recovery point objective (RPO) and recovery time objective (RTO) guarantees, industry-leading SLAs, and extensive security certifications, such as FedRamp 2.0, HIPPA, PCI, etc.

Low-code development should be investigated by any organization looking to gain market advantage through intelligent automation.

Methodology

The Future of Work survey, conducted by IDG, gathered responses between August and September 2018. Respondents comprised of 500 IT leaders (50% C-level, all Director or above) at companies with over 1,000 employees. 50% of respondents were U.S. based, and 50% were from Europe (U.K., France, Germany, and Spain).



For this leg of the survey, that data set was complemented by a 2019 survey of 100 North American IT executives that was conducted by LTM Research.



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*Source: comScore Media Metrix, Desktop Unique Visitors, Worldwide, January 2017



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