Enabling transformation. Reimagining work.

KPMG 2019 Executive Symposium Key Insights
he convergence of emerging technologies. New business models. Human creativity and empowerment. At our fifth annual KPMG Executive Symposium on AI and Emerging Technologies, we explored these topics and many others alongside leading technology luminaries, business leaders, visionaries, and analysts. We discussed how the accelerating pace of change can enable enterprise transformation and help us reimagine work. AI, blockchain, 5G, IoT – all have the powerful potential to help boost growth, quality, and productivity. Unleashing its power requires more than just a focus on technology, but a real focus on change management, as this is really a monumental transformation of human beings.

Our aim with this piece was to distill key insights captured at the event into a fast read that is full of pragmatic insights and recommended actions. For those who didn’t attend the Symposium in 2019, we hope you put these insights to use—and that you reach out to us to start a dialogue around transformation.

Charlene Li—author, analyst, investor, entrepreneur and one of our keynote speakers—closed her talk with a challenge that we believe is worthy of repeating: “Do you want to be a disruption victor or a victim? Are you going to stand comfortably where you are today, or are you going to actively do something today to make sure that you have longevity, that you will be here tomorrow?”

We look forward to seeing you at our 2020 Executive Symposium on June 15th - 17th in Key Biscayne, Florida.
The first big theme of our 2019 Executive Symposium was **exponential technology and the speed of progress**. The power of AI to yield actionable insights, augment people, and automate tasks is accelerating beyond human comprehension. Recent history is full of companies that failed because they refused (or were simply unable) to see the urgency to scale these technologies to transform.

The second big theme is **transformation and automation**, which requires the convergence and integration of these technologies, as well as the skills required to scale and embed. This revolution is not just about technology; it’s really a monumental transformation of human beings. The true leaders will be the ones who succeed in doing business in wholly different ways, with human and machines complementing each other.

Third is an emerging aspect of AI that’s rarely discussed in depth—**the “human reboot” that will take place as AI becomes more pervasive, which will require frameworks around ethics and control**. Those at the reigns of AI must control these machines so the outcomes are fair and transparent. An even more profound issue is the extent to which we allow them to take over tasks that we see as uniquely human. What will we reserve for ourselves—and how will we define ourselves as human beings in the presence of these intelligent systems?
What are companies seeking by using AI? Improved growth, quality, productivity, as well as risk mitigation. **AI has absolutely massive applications** - extending data and analytics to unbelievable proportions allowing us to gain **insights** that were previously unimaginable, **augmenting** and extending the knowledge of an enterprise to each individual customer or to each individual employee. Through **automation**, AI is lifting the burden of mundane, repetitive tasks off a workforce, so it can be more creative, innovative, and strategic.

*Cliff Justice*, U.S. Leader, Intelligent Automation, KPMG
The acceleration of compute power and data storage capacity is enabling technologies like machine learning to double in power every one to two years.

Recent history shows how powerful and disruptive the rise of exponential technologies can be—and it’s about to get even more intense as 5G networks arrive, transforming the enterprise landscape. Blockchain is another big force set to upend our relationship to data and ownership. Creating epic experiences for consumers and the workforce is the ultimate goal of scaling these technologies.

“AI is worth the effort because the results can give you significant competitive advantage. But it’s hard. A lot of business use cases are complicated, and you have to integrate a variety of technologies. **Developing the prototype is critically important to prove that it works.** Bottom line, you have to have good data and get AI into production so that users can use it fluidly.”

*Brad Fisher, Partner, U.S. Leader of Data & Analytics and AI, KPMG U.S.*

Excerpt from the closing panel: *The Connected Enterprise: Leveraging emerging technologies to transform your organization and reimagine work*
Insights

► Disruption is coming from unknown areas, unknown players, unknown fields at a rate that’s accelerating. There are very few companies today that are making their money the same way they made it 20 or 30 years ago.

► By 2030, there will be 500 billion connected devices and 100 trillion sensors. We’re heading towards a world where you can know anything you want, anytime you want, anywhere you want, where the question you ask is more important than what you know.

As Peter Diamandis’ reflected in the Symposium Opening Keynote, the human mind has not had a hardware or software ‘upgrade’ in two million years. Technologies—among them, AI, AR, VR, blockchain, networks, robotics, sensors, synthetic biology, 3-D printing—are literally changing business and humans on a fundamental level.

All of these technologies are growing and doubling on a 12-to-24 month timeframe as computational power and storage accelerates on a staggering level. Billion-dollar companies are being formed far faster than at any point in history—and it’s often just a handful of entrepreneurs or even an individual scaling these new businesses.

“...It truly is an extraordinary time to be alive. The challenge is our brains are not wired to understand the pace of change. It’s critical for you to be thinking about how AI and robotics and 3-D printing, synthetic biology and AR, and VR, and blockchain will transform your industry, because every industry here is going to be dramatically transformed this next decade.”

Peter Diamandis, Founder & Executive Chairman of the XPRIZE Foundation, Executive Founder of Singularity University. His talk: Exponential Tech: Innovation and Disruption and the Road Ahead
Terry Halvorsen of Samsung said the level of hyper-converged connectivity supplied by 5G—now 2.5 gigs per second—is truly revolutionary and will be the fundamental enabler of Industry 4.0.

Sensors and equipment will be intercommunicating and sending data to individuals, enabling near-real time decision support. We’ll see a terabit chip in a phone; 10 or even 15 terabits in a laptop. The amount of data that will now be flowing and used will be as transformative in the enterprise space as railroads once were.

The biggest impact will be on compute. In linking all manner of devices and objects—a million or more on a network for a single enterprise—the power of multiple computers will be literally in one’s hand. This will lower the cost of compute. And it will change economies by unlocking at least $4.3 trillion in new value, much of it from extracting more from data.

"5G is real, it’s upon us, and it is going to have a revolutionary impact. Business only use about 25% of the data they collect. The rest of it becomes digital waste. **With 5G in combination with AI, we will be able to grow the value of that data.** We’ll start using 60% to 70% of data. You’re going to be able to splice it, slice it in real time. And you’ll be able to do it wherever your business or mission is, right at the edge. You’re also going to have some options with that data that you do not have today."

Terry Halvorsen, CIO, EVP, IT Mobile, Samsung Electronics.

His talk: *Accelerating Enterprise Innovation with 5G*
Blockchain is about transparency—knowing what is owned, where it came from, and when. Pharma and healthcare, Mike Gault, CEO of Guardtime believes, may present the biggest applications for blockchain. For example, the digital supply chain between a pharma company and an insurer can connect real-world evidence and patient data to adjust the pricing of drugs.

Blockchain is a tool that enables processes to be cryptographically verifiable, so you eliminate the need for trust. If you go to a business and say, “Do you have a budget for process integrity?” They don’t. They have a budget for the symptoms of the lack of process integrity.

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Mike Gault, CEO, Guardtime. His talk: Realizing Value from Blockchain: Evolving from Experimentation to Deploying at Scale

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Bernie Moreno, Chairman of Bernie Moreno Companies and Ownum, said it’s time to think about Blockchain from an application perspective. Where there is paper and processes—a ledger that needs to be executable, encrypted, and distributed—there should be blockchain as an enabler of ownership and efficiency.

Think about passports, car titles, and death certificates. They can be lost and stolen (and forged)—and any one of those events can cause a cascade of problems. Enter blockchain, which documents and transfers intangible assets such as ownership, money, and records.

At a time where computers could possibly replace humans, we’re still sitting in a world where it takes 90 days to transfer a piece of paper from one individual to another.

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Bernie Moreno, Chairman, Bernie Moreno Companies, Ownum. His talk: A New View on Blockchain
USE CASE

Arun Ghosh, U.S. Blockchain Leader at KPMG, gave a powerful example for blockchain and supply chain

“If you ship a part temporarily into the United States just to remanufacture or make it into a larger piece of equipment, then ship it out, you don’t pay tax on it. That process of claiming duty drawbacks is over a yearlong in terms of tying your sales information, your customer information, and your shipping information from three different systems. With today’s technology, you can make it transparent to the government. We realized this business case with one of our clients, helping them to achieve millions in savings right away.”
Companies are struggling to manage the massive re-organization required to effectively deploy automation, raising questions about how to transform business models and, at the same time, bring employees along in a way that makes the most of their skills and human talents: People and culture are critical, with leadership that sets the example for all to follow.

The goal of transformation is not to push humans out of the picture—it’s to take the repetitive, robotic tasks out of their work and give them to machines. New, more productive tasks then emerge for humans. Indeed, fundamentally new business models are already driving productivity and revenue growth for those organizations with AI deployed at scale.

Digital transformation is a journey, not a destination. For those focused on projects that have a clear end, it’s hard to think that transformation is not going to end; it’s going to evolve. The human tendency is to want that silver bullet. If our clients want to start with the technology, we ask them to pause and ask themselves how the technology can enable and support the outcomes they want.

Emily Frolick, Partner, Advisory, U.S. Digital Transformation Leader, KPMG
I believe that we need a new form of leadership where we have a different type of relationship with the people who follow us. The idea of the leader—the vision, an audacious goal—is so compelling it drives people to move towards that goal. The leader is then able to step away from things so that the first follower can become leaders, to find more leaders and more followers to join the movement.

‘Followership’ is this art of creating a relationship between people.

Charlene Li, Author, Analyst, Entrepreneur, Advisor, and Investor
Her talk: The Disruption Mindset: Why Some Organizations Transform, While Others Fail
What are the most actionable recommendations for how to achieve success with automation?

**Pat Geary, Chief Evangelist, Blue Prism:** Empower the people who are closest to the problem, but give them the guardrails so they don’t break your business while they’re solving the problems.

**Marc Wilson, SVP, Co-Founder, Appian:** Try to build something today. Don’t wait. Experiment, fail, try again.

**Pallab Deb, Head, GSI Partner Solutions & AI/ML Partnerships, Google:** Start with an end in mind and get all the people involved. Make that the North Star and then the technology becomes incidental.

“Today, with the approaches that we’re taking with things like lowcode, it’s really about getting the beginnings of mission-critical applications in days and weeks. The speed with which they can take action means hours can be contributed back to the company to do innovative things. Decisions can be made quicker. **RPA and AI can help make decision-making much more efficient.** You can’t have that when you there is a hard line between IT and business. When you start drawing walls and lines, you’re back in the mode of three to five-year development cycles that really never work.”

**Marc Wilson, SVP, Co-Founder, Appian**
A small amount of personal task orientation is not transformational; it really doesn’t change anything. It’s as much about organizational transformation as it is about technology. When our chief customer officer talks to customers, it’s not about technology, and it’s not about infrastructure—it’s about people, change, cultural change, cultural adoption, how to get the very top levels of the organization to distribute this empowerment. It cannot be an anarchic democracy; it has to be managed.

Pat Geary, Chief Evangelist, Blue Prism
Craig Wiley, Director of Product Management at Google, described how the company brought together 300 of the best data scientists and machine learnings from Kaggle, the company’s online community where users find and publish data sets, build models, collaborate, and enter competitions to solve data science challenges. Into this mix of top, world-class talent they introduced AutoML, a suite of machine learning products that enables developers with limited expertise to train models around specific goals.

Here’s where the actual magic happened. We took that human model and assembled it with the AutoML model. Think of it as averaging the two models. And this top model was much better than the others. This means is that the human solved the problem one way—with intuition—and the computer basically said, “Of all possible things I could do, which is the best one?” When you combine them, you get a better answer. This is the excitement for me: It’s not about taking humans out of the machine. The goal is to get them working on the really, cool important stuff.

Craig Wiley, Director of Product Management at Google
His talk: Enabling AI: Bigger, stronger, faster
Martin Fleming, Chief Economist AT IBM, put in context the changes occurring in the global economy over the past decade and how it has set a stage for the transformation we’re now seeing in the workforce in terms of productivity and task-level labor.

Productivity: A whole set of fundamentally new business models are now driving the productivity improvement—and they will enhance the ability to generate faster and stronger income growth, and they will improve standards of living.

Machine learning and labor: Fleming cited research by IBM’s MIT Watson Lab that revealed the impact of machine learning on tasks within all occupations: Fleming stated that there are a small number of occupations where a large proportion of the tasks are suitable for machine learning, but there are a large number of occupations where a small proportion of the tasks are suitable for machine learning.

The IBM MIT Watson Lab study also found this: **When tasks are displaced through automation, there are also tasks that get created** as a result of the automation.
Max Mancini, Automation Anywhere, on the three things a company needs to consider when implementing an intelligent automation solution.

1. Know that transformation is not an automation journey—it’s a **workforce journey** built with a combination of AI, RPA, and analytics to accelerate time to value.

2. **Scale** is vital from both a technology and workforce perspective, which means communicating to workers how automated processes will complement their jobs.

3. Ensure that its new platform fits into your **security and compliance** models the same way humans do.

Max Mancini, EVP of Automation Anywhere, believes that RPA needs to be combined with AI and analytics. An example: One of Automation Anywhere’s bank customers automated hundreds of its back-office processes, resulting in a 1,300% return on investment in the first year and a reduction of 127,000 hours of worker time, all while boosting customer satisfaction.

“Companies need to think about their workforce beyond the human, to include the digital. Although AI is a powerful tool, I believe companies need to integrate it well with their business processes. Over the past 15 years, we’ve trained humans to sit in front of computers and do repetitive tasks. It’s time for us to take those repetitive, robotic tasks out of the human.”

Max Mancini, EVP, Digital Worker Ecosystem, Automation Anywhere
His talk: Automation for All
Al is only as good as how we build it. It can only progress and realize its full potential when frameworks and governance encode ethics and values into these technologies. The question is how to see into—and control—neural networks that form continuous-learning algorithms so that leaders and the public trust the results.

Max Tegmark, professor at MIT, took a big theme of the symposium—the power of AI and its momentum—to ask how far it will go over the coming years and decades: How we can make sure that it helps companies and life itself flourish?

He believes we should envision today a truly inspiring tech future we’re excited about living in, then figure out how to steer there. “I’m very optimistic we can do this if we win the wisdom race—the race between the growing power of the technology and the growing wisdom with which we manage this technology.”

Let’s be ambitious and use artificial intelligence to make our systems more secure so that when we deploy them in our companies and in our world, we can trust them because scientifically we can prove and verify with AI algorithms.

Max Tegmark, Professor at MIT

His talk: How far will AI go: Intelligible Intelligence and Beneficial Intelligence
Max Mancini, EVP of Automation Anywhere, believes that RPA needs to be combined with AI and analytics. An example: One of Automation Anywhere’s bank customers automated hundreds of its back-office processes, resulting in a 1,300% return on investment in the first year and a reduction of 127,000 hours of worker time, all while boosting customer satisfaction.

It’s three o’clock in the morning: **Do you know what your AI is doing? Probably not.** The idea of supervised learning works in a lab, but when you scale it to the enterprise, and it’s working really quickly, problems can emerge. Are the algorithms accessing data legally from a regulatory standpoint—and are they really doing what you wanted them to do?

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**Recommended Actions**

- Unlocking value will require placing people into processes that test, evaluate, and deploy AI models
- Establishing a framework for controlling AI is a mission-critical business objective
- Establishing best practices around the gathering and use of data, and monitoring the results continuously is critically important

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**Insights**

- AI will help drive $15.7 trillion in additional economic value by 2030
- Understanding raw data and how it became labeled as ground truth is critical

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**Recommended Actions**

- Unlocking value will require placing people into processes that test, evaluate, and deploy AI models
- Establishing a framework for controlling AI is a mission-critical business objective
- Establishing best practices around the gathering and use of data, and monitoring the results continuously is critically important
Controlling AI was a big topic at the Symposium: How can the enterprise gain greater trust, transparency, and control over algorithms and data? How can companies institute effective governance methods for AI, with a focus on responsibly unleashing the power of these technologies?

Business leaders need to understand how the model was trained—and who trained it. And they have to understand all of the actions that were taken from start to finish and have visibility into what actually transpired.

Beth Smith, General Manager of Watson AI at IBM, cut straight to the chase in highlighting the business opportunity between now and 2030: AI will help drive $15.7 trillion in additional economic value. Unlocking that value successfully will require an environment in which the people creating models—testing, evaluating and deploying them—fit into business processes in a way that enables and supports AI at scale.

To take advantage of that $16-trillion opportunity, you need a thoughtful and prescriptive approach to building and scaling AI—and that starts with data. We know 80% of the data is inside of your businesses. You have this huge asset. You have to be able to collect this data and make it accessible for everybody, from your data engineers to your knowledge workers, in a simple way. Now, once that’s taken care of, it’s about how you prepare and organize the data. How do you make sure it complies with your policy and regulations? You have to analyze it in a trusted environment and then infuse that inside of workflow processes.

Beth Smith, IBM Her talk: AI In Control: Trust and Responsibility in the age of AI

Insights

➤ The right social and economic supports will help humans pursue their most personal and joyful experiences as AI becomes more a powerful and a bigger part of our lives.

➤ Envision an inspiring technology future, then figure out how to steer to that goal.
The use and power of artificial intelligence is accelerating, and disruptive technologies are emerging at an ever-increasing pace, enabling new businesses and disrupting existing ones. Disruptive technologies—from AI to VR to 5G to Blockchain—have the potential to transform processes and the workplace, unlocking tremendous value. Upskilling of employees for a digital age is now essential for remaining competitive and advancing the business.

CEOs recognize that this trend is accelerating. Four in ten (44 percent) are intending to upskill more than half of their current workforce in new digital capabilities over the next three years, according to KPMG’s 2019 CEO Outlook.

However, we see a gap between the workforce changes that need to be made and the investments in enabling technologies required for success. The aspiration for change is there, but deployment across the enterprise is lacking. The application of AI at scale can transform an organization’s performance—its efficiency and productivity. Technologies like machine learning and robotic process automation are being used to execute tasks once the domain of employees, leaving them free to tackle higher-value work. But too many companies are lingering in the early stages of AI development. Change is not necessarily a linear path, or an easy one; it requires a test-and-learn, fail-fast mindset. One objective every leader should be firmly behind is mission-critical importance of deploying and scaling AI now, to be a “Disruption Victor.”

Please join us for the 2020 Executive Symposium event to further the conversation and learn how to unlock value and create new levels of productivity with these disruptive technologies.

To view our playlist of all Symposium speakers from the 2019 event, visit the KPMG Channel on YouTube at: www.youtube.com/KPMG
KPMG wishes to thank all the participants for their time and the valuable insights they shared at the 2019 Symposium on Artificial Intelligence and Emerging Technologies.

**Keynote speakers**

**Peter Diamandis**, Founder & Executive Chairman of the XPRIZE Foundation, Executive Founder of Singularity University

**Max Tegmark**, Professor, Massachusetts Institute of Technology

**Charlene Li**, Author, Analyst, Entrepreneur, Advisor, Investor

**2019 External speakers**

**Elena Christopher**, Research Vice President, HFS Research

**Pallab Deb**, Head, GSI Partner Solutions, Google

**Phil Fersht**, CEO and Founder, HFS Research

**Martin Fleming**, Chief Economist and VP, Business Performance Services, IBM

**Mike Gault**, CEO, Guardtime

**Pat Geary**, Chief Evangelist, Blue Prism

**Saurabh Gupta**, Chief Strategy Officer, HFS Research

**Vivek Gurumurthy**, Senior Vice President and CIO, Verizon Consumer Group

**Terry Halvorsen**, CIO, Executive Vice President, IT Mobile, Samsung Electronics

**Ulrich Homann**, Vice President, Cloud and AI, Microsoft

**Max Mancini**, Executive Vice President, Digital Worker Ecosystem, Automation Anywhere

**Bernie Moreno**, President, Bernie Moreno Companies and Chairman of Ownum

**Ganesh Padmanabhan**, Chief Revenue Officer, Molecula Corp

**Beth Smith**, General Manager, IBM Watson Data & AI

**Cory Wilburn**, CIO, Texas General Land Office

**Craig Wiley**, Director, AI Tools and Platforms, Google Cloud

**Marc Wilson**, Co-Founder & Senior Vice President, Industry Markets, Appian