



An ethical compass for the banking industry in the automation age

Decisions require a deep dive into your organization's core values

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Executives for one of the largest U.S. banks are facing a huge business and ethical dilemma.

The company outsources customer service, data entry, and other repeatable tasks to a vendor in China that employs 10,000 people in two small cities. At the same time, American regulations are pressuring the bank to bring these jobs back home.

Labor costs in China are on the rise, making cost less of an issue. But pulling such a large chunk of jobs back home will leave thousands of individuals unemployed, potentially crippling the two Chinese cities.

Executives consider four options. **Which is the right answer?**

- A. Hire 10,000 employees to fill jobs transitioned back to the United States.
- B. Bring the work back to the United States, but automate much of it.
- C. Leave the work in China; automate the work and manage it there.
- D. Maintain the status quo and face stiff fines from the United States government.



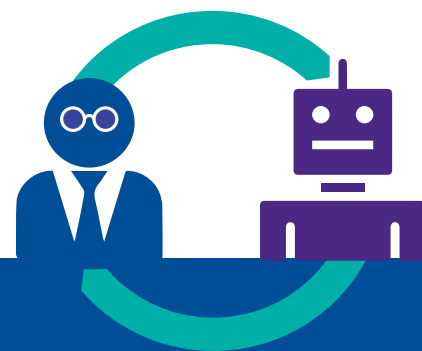
Perhaps the better question is, IS there a right answer?

Katherine Blue, who leads our U.S. Sustainability practice, believes that in this era of radical transparency, it's imperative to understand the ethical implications of enabling products, customers, and supply chains through robotic process or cognitive automation.

"There are transformative cost-saving opportunities with digital labor," she said. "However, banking institutions must boost control structures and learn to operate in a new intelligent automation (IA)-enabled workforce world. It also means managing the resulting potential risk of a robot (bot) making or contributing to a decision that people later view as unethical or noncompliant."

While this scenario is fictitious, the intent is to make readers think, maybe squirm a little. This article presents options to keep tough automation decisions in alignment, as much as possible, with government regulations, social and cultural norms, and company core values.

Thrilling possibilities spawn a major dilemma



First, let's define what technologies we're talking about: Intelligent automation (IA), robotic process automation (RPA), and cognitive automation, which includes artificial intelligence, combined with analytics and the human enterprise. Together, they create what many call digital labor.

Digital labor refers to an automated workforce with capabilities to complete work that largely mirror our own abilities.

These new automated "workers" use digital technologies to automate tasks human labor completes today. "If used strategically, intelligent automation can augment human knowledge workers' brain power," said Todd Lohr, principal, U.S. Intelligent Automation leader, KPMG LLP. "The possibilities are exponential."

And therein lies the quandary.

Various levels of automation enable capabilities we never thought possible. These technologies allow physicians to make custom treatment recommendations from an almost unlimited base of knowledge. Auditors can improve analysis of companies' books and lessen risks as the technology reviews all past records rather than just a sample.

The banking industry also stands to benefit from these innovations. For example, the same technologies can answer calls to customer service centers and either fulfill or route them. And they may also help simplify and speed up the mortgage, home equity, and car loan processes.

A combination of document and image recognition, machine learning, and natural language processing (NLP) can scan a large volume of documents, both public and internal, and make decisions based on applicable laws, rules, and regulations. And algorithms could decide which exceptions are passed on to a human for exception processing and decision making.

Of the activities people perform in U.S. workplaces today, 45 percent—which represents about \$2 trillion in annual wages—can be automated using already demonstrated technologies.¹

"It's not the first time companies have enjoyed significant advances while also wrestling with them," observed Cliff Justice, Innovation & Enterprise Solutions lead, KPMG LLP. In the twentieth century, automobiles replaced horses and buggies, jets replaced trains, machines replaced manual production lines, and computers replaced adding machines and calculators.

And what if the technology gets too smart for humanity?

In 2014, Stephen Hawking warned that artificial intelligence would be the biggest, and possibly the last, event in human history. He and his co-authors suggested how they could imagine IA "outsmarting financial markets, out-inventing human researchers, out-manipulating human leaders, and developing weapons we cannot even understand." Some of this has already happened. They go on to say, "whereas the short-term impact of IA depends on who controls it, the long-term impact depends on whether it can be controlled at all."²

"We believe these technologies can be controlled, and corporate leaders have a significant role in controlling them long-term," Justice stated. A recent survey of senior leaders reports that 62 percent are looking at automation and robotics with the specific purpose of reducing their reliance on labor.³ Company executives must understand that these decisions are critical to the way we will live in the future and require careful use of an ethical compass in making them.

45% Activities people perform in U.S. workplaces today which can be automated using already demonstrated technologies

¹ McKinsey & Company, "Four Fundamentals of Workplace Automation," Nov. 2015

² Stephen Hawking: "Transcendence looks at the implications of artificial intelligence – but are we taking AI seriously enough?"; The Independent, May 1, 2014

³ HFS Research and KPMG LLP, "Achieving Value Beyond Cost," 2015

Consider more than the financial costs

Companies worldwide have access to powerful technologies; so powerful it's critical to weigh multiple scenarios before leaders make choices on how to use them.

The adoption of robots and artificial intelligence could improve productivity by 30 percent in some industries.⁴ This figure, and a multitude of other statistics, prove the financial and productivity benefits of automation.

But the nonfinancial costs are equally, if not more, important. We can automate, but should we? How will our decisions make the world a better place?

We have seen several KPMG clients confronted with the challenge of balancing the enormous potential of IA initiatives (e.g., digital analytics to handle risk, run risk analysis) against the impact that implementing these changes may have on their workforce, including making many jobs obsolete.

The threat of humans becoming redundant due to an IA-driven world needs to be a concern of all businesses. Governments may step in to discourage or prevent this outcome, for example by imposing taxes or fines or passing restrictive legislation.

There have been rumblings of various governments considering imposing a tax on bot-driven activities. And as the use of IA grows throughout the business world—especially in countries like China that see IA as a tool of effective governance—these rumblings may get louder and become a reality.

The U.S. government has already published recommended policy responses to automation, including strategies to encourage education of new workers, assist those who lose jobs, and combat inequality.⁵ What's more, the current U.S. administration has taken an aggressive position on bringing jobs home to America.

Further, while a company may bring back hundreds of jobs from foreign nations, the question is, will they eventually automate them? And if they do, how will the government respond?

From a citizen's perspective, more than 50 percent of over 30,000 people from 28 countries surveyed recently said

the pace of change in business and industry is moving too fast, and 54 percent worried about losing their jobs due to automation.⁶

Some theorize that unemployment triggered by automation may deeply affect societies, causing former workers to question the value of their lives. According to Tae Wan Kim, assistant professor, Ethics, Tepper School of Business at Carnegie Mellon University, businesses that follow the view that the "challenge of 'meaning in life' is not the business of business, inadvertently or negligently will be a major contributor to an important social and ethical problem in the second machine age. That's why we recommend augmentation as an alternative mindset for business."

Company leaders will largely determine where these technologies might take us. Carefully consider the potential impact. The good and the bad. Examine the effect on safety for your employees, vendors, and customers that create and use your products and services. Evaluate the impact on the environment, the communities where you do business, as well as the world economy.



Ways to monitor your ethical compass

“Now we have technology that can simulate human reasoning and thinking and be trained to work alongside humans in ways we’ve never had before,” said Lohr. “It’s a new relationship between humans and technology that we’re experiencing.” But how can we be smart about using it?

One client, for example, has deployed hundreds of software bots in less than a year. The result is fewer errors and rework, which improves the experience for both customers and employees.

“The technology is already moving faster than companies expected,” said Steve Hill, Innovation & Investments global head, KPMG LLP. To help keep clients from making reactive decisions, we encourage considering outside advice and facts before taking on such a disruptive new model. “We work with clients to evaluate the most manual, labor intensive and error prone processes,” said Hill. “Then we collaborate closely with them to assist in retraining and redeploying workforce to minimize disruption.”

While financial impact is a major consideration, your ethical compass should be based on your company’s goals, culture, and core values. Following are several ways to tap into current company core values and processes or create new ones as the ethical compass to guide automation decisions.

1

Start the ethical discussion within your organization.

Have frank conversations about the potential impact of each decision. A recent survey found that 83 percent of professional investors are more likely to buy stock in companies well known for social responsibility, believing these companies are lower-risk investments.⁷ Also, 69 percent of consumers are likely to purchase stock in a company well known for its ethical standards.⁸

Following this reasoning, it’s likely that investors in banking stocks will place their money in banks that boost profits through cross-selling success and improved customer experience rather than just by slashing the labor workforce.

Another survey found that 92 percent of employees would consider leaving their current jobs if offered another role with a company that had an excellent corporate reputation.⁹

Tae Wan Kim says, “In the end, a choice between automation and augmentation is really a matter of which purpose businesses choose for the future.”

69%

Consumers who are likely to purchase stock in a company well known for its ethical standards (which includes taking care of its employees, providing customer value, and engaging in philanthropic activities).

2

Define or update the organization’s core values and corporate social responsibility focus.

Nielsen reports that 67 percent of employees prefer to work for a socially responsible company.¹⁰ Kim encourages “business enterprises to explore and exploit new technologies that enable humans to race with machines rather than against them, so as many humans as possible can sustainably obtain opportunities to be part of collective value creation.” This, Kim believes, “is a real challenge to business.”

Some companies talk about taking care of their employees and providing value for customers as a part of core values. And annual corporate social responsibility reports focus on safety, and environmental and community impact, as well as philanthropic efforts.

Making these tough automation decisions pushes existing values and processes to the limit. Explore expanding on this to encompass major similar business model changes that can have sweeping effects on all aspects of your organization and society.

3

Evaluate how the organization historically makes tough decisions such as deciding when and where to close down operations and open new locations, and which products and services to develop. It also includes whether to use IA to replace the workforce or augment it to help it work better and more effectively.

We have heard from many of our clients about how their IA initiatives have helped generate bottom-line profit as well as client and talent-related benefits. For example, one wealth manager developed IA solutions with the ability to generate research that both advisors and clients can understand. This has resulted in increased revenue uplift, cost savings, a smarter, enabled workforce, and better informed, satisfied clients.

IBM is establishing principles that will guide the development of artificial intelligence and cognitive systems so that it focuses on augmenting human intelligence. IBM states, “Our position is based not only on principle but also on science. Cognitive systems will increasingly be embedded in the processes, systems, products and services by which business and society function—all of which will and should remain within human control.”¹¹



⁷ “National Survey on corporate Social Responsibility” Aflac, 2016

⁸ “Millennials’ and Parents’ Purchasing and Investing Decisions,” Aflac, 2015

⁹ “Corporate Reputation Affects Talent Acquisition” Corporate Responsibility Magazine, 2015

¹⁰ “Better Together,” HR Today, Sep. 2016

¹¹ “Transparency and trust in the cognitive era,” IBM THINK Blog, Jan. 2017

Ways to monitor (continued)

4

Consider how your core values extend into your technologies

To be smart about how you use these technologies, it's critical to encode company values in the technology. Why? Artificial intelligence and data can have biases that contradict your core values and beliefs. For example, a bank's loan system could misunderstand accents or dialects and improperly deny loans.

"As we build the technology and rules that govern it, we must be mindful of the inherent bias that comes with averages and statistics, which may impact how algorithms work," noted Justice. "By carefully building these technologies that can learn, you help ensure it will make decisions that align with company ethics and beliefs."

5

Knowing the complexity of automation decisions, many companies establish an ethics committee or board that typically includes outside experts.

Global and regional banks could, for example, establish an ethics board to advise on how to introduce IA into its operations in a responsible manner. While the bank conceptually may be able to replace virtually all of its human workforce, it may find that the better path is to let IA augment the workforce so they can do their jobs better and also provide better service to clients.

For example, at KPMG, we are automating critical parts of our audit services so our clients receive more thorough and accurate services than humans could ever provide. In doing so, we have to make some of the same tough decisions our peers and clients are making.

"Our goal is to provide higher quality audits to help restore faith in the capital market," Justice stated. "At least one third of our business can be disrupted by these technologies—to the benefit of organizations worldwide." We also report our governance and quality control structure in an annual Transparency Report.¹²

6

Follow through by establishing metrics to track the residual effects of automation.

Many organizations create a Center of Excellence to manage governance. It's also critical to establish organizational change management programs for employees to help them learn how to work with new technologies.

7

Consider the work of IA-oriented nonprofits in your strategy.

Groups such as OpenAI, the Partnership on Artificial Intelligence to Benefit People and Society, and the Association for the Advancement of Artificial Intelligence are forums founded to ensure that IA focuses on benefiting society. Members of the Partnership on AI include technology leaders Amazon, Facebook, Google, IBM, and Microsoft. It also includes several banks, OpenAI, and other academic and nonprofit organizations.¹³

The annual International Joint Conference on Artificial Intelligence is a major event that focuses on this subject.

8

Get involved in education programs—preschool through college—to help make sure there's a workforce skilled for the future.

A university-level educator recently panicked when he realized our education system is designed for jobs that won't be here in five years. "AI-driven automation will continue to create wealth and expand the American economy in the coming years. But while many will benefit, that growth will not be costless and will be accompanied by changes in the skills that workers need to succeed in the economy."¹⁴

For example, Udacity offers free online university-level courses on subjects that include machine learning and artificial intelligence. These courses incorporate the principle that organizations achieve optimal results when robots operate alongside of humans, as intuition, gut feeling, and experience cannot, and should not, be completely automated.

9

Cyber and physical security should be integral to protect your intellectual property.

While malicious hackers aren't a new threat, the addition of machine learning and AI in their toolkits is. They can more easily target vulnerabilities, teach learning systems to process data inappropriately, or hack banking and payment systems to commit fraud, mislead, and steal.

Equally advanced learning systems and cognitive technologies can detect threats and deter these attacks by analyzing massive volumes of unstructured data to spot suspicious activity and help systems defend from attacks.

A recent global survey found 56 percent of the general population and 65 percent of skeptics who believe our system is failing responded that ethical business practices are important to building trust in a company.¹⁵

Transparency instills trust. Be transparent about how your organization makes these critical decisions. Make your position known by engaging your communications, investor relations, and marketing teams. State your position to employees, customers, clients, vendors, investors, communities, and the public at large. Then stand by it. It's one way to maintain trust.

¹⁵ "Edelman Trust Barometer Annual Global Study," Jan. 2017



¹² <https://home.kpmg.com/us/en/home/about.html>

¹³ "Google, Facebook and Amazon form council to decide AI ethics," The Telegraph, Sep. 2016

¹⁴ "Artificial Intelligence, Automation and the Economy" Executive Office of the President, Dec. 2016

Banks with a higher purpose than profits

Even the experts are mixed on the rise in the use of IA. In a survey of industry experts, 48 percent believed it would have a massive detrimental impact on society where digital agents displace both blue- and white-collar workers, leading to income inequality and breakdowns in social order.

At the same time, several of KPMG's banking clients believe that there's a misconception that humans and machines can't co-exist. These clients disagree and maintain that while machines and AI can do many things faster and more efficiently than humans, they still can't replace the human mind.

IA creates a blank canvas since it can be used in many functions. Before implementing it, it's critical for leaders to think through governance issues and coordinate how to manage the inevitable scaling up as widespread pilots move to realizing the benefits.

Since the technology will greatly affect the global economy, leaders need to influence governments about the future we are creating. That future may fall into four categories:

- A. The predictable future:** What is likely to happen, particularly if we do nothing.
- B. The unpredictable future:** This may or may not be desirable; we just don't know.
- C. The possible future:** This could happen, but it isn't necessarily the most predictable or preferable.
- D. The preferable future:** This is the one we would like to see.

The preferable future can only happen if we make a conscious effort to steer toward it and engage in this higher purpose conversation.

There is a huge paradox at the heart of this technology. Organizations still need the very best human talent to stand on the shoulders of the robots. But introducing the technology can have a detrimental effect on employee engagement, career paths, and well-being, creating

automation anxiety that walks the corridors of many organizations. It takes leadership and innovation to resolve this dilemma.

Another irony is in the priority of technology benefits—weighing the pros of cost savings versus the advantages of releasing human potential to do more valuable things. Again, leaders need to be at the center of this tough conversation.

We believe in the power of banking leaders to make the right choices. With the right tools, knowledge and attention, technology can be a great enabler. But organizational and personal ethics must serve as the compass. You are the steward of this powerful technology. It's up to you to use it the right way.



Questions to consider

Former President Barack Obama recently voiced his concerns about the negative effect artificial intelligence can have on workers. "As we build new forms of AI, we must also develop new economic and social models that can ensure these technologies don't leave people behind," he said.¹⁶

Consider the following questions, and add your own. Then discuss these in great depth before making automation decisions.

- We can automate, but should we?
- Will we automate the right things? How do we coexist alongside automation? What does that operating model look like?
- What will incentivize organizations to help their workforce be more employable rather than simply decreasing it?
- How can we benefit from these new technologies while maintaining the well-being of, and good relations with, our workers?
- How can we ensure this reduction in work will not lead to an unsustainable rise in unemployment?
- What options will satisfy customers, employees, government regulators, shareholders, and outsourcing vendors?
- How can we develop employees' intangible assets and promote the multistage life as workloads reduce and human lifespans increase?
- How can we better protect and develop our workforce—both direct and indirect employees—in order to avoid economically adverse future political decisions?
- Will the outcomes be friendly to humans, the communities in which we do business, and the environment?
- Will our employees, customers, and society continue to trust us?
- How do we start a higher purpose conversation between industry leaders and governments that addresses how individuals will cope with having less work to do?

¹⁶ WIRED, "We Must Remake Society in the Coming age of AI: Obama," Oct. 2016

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Our numbers

- Serving clients in 155 countries
- Hundreds of advisory professionals globally
- Providing services to 76 percent of FORTUNE Global 500 companies
- Supporting thousands of transformations

Differentiators

- Objectivity as advisors
- Beginning-to-end experience
- Functional breadth
- Industry-specific experience
- Technology and governance services
- Extensive data and analytics
- Proprietary research, tools, and intellectual property
- Industry relationships
- Integrated competencies and services

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