

# Leadership in the Age of AI

Adapting, Investing and Reskilling to Work Alongside Al





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### Foreword

#### Fostering Shared Values Amid Digital Disruption

Over the past year, many of the world's nations were confronted with challenges that will take hard work and true leadership to resolve. While the causes for strife and separation in our shared world are manifold, technology is playing a starring but paradoxical role: it is a unifier, but also a divider. As we formulate new ideas about beneficial applications of technology, we simultaneously worry about its power to further prevent a level playing field.

Perhaps no subject better illustrates this concern than artificial intelligence (Al). Most agree it holds vast potential to unlock discoveries inconceivable to humans. For many others, Al strikes uncomfortable chords: worry over job displacement, economic instability and skills shortages.

Who will monitor Al's use? How will we ensure the benefits of Al are shared equally? Can we avoid leaving people behind in an Al-driven world? Moreover, at the outer extremes, Al challenges our very humanity. Can machines actually achieve consciousness, and if so, what then will be essentially and uniquely human? Existential questions like these must be asked, even if they cannot be answered now, as we proceed with advancements in Al.

Still, Al's future is bright. So far, the arc of Al leans toward empowerment and giving humans the tools necessary to automate redundant tasks, detect and analyze hidden patterns in data and generally make possible revolutionary insights that will make our lives better.

For example, weather patterns in potential natural disaster zones can be analyzed to provide people with the tools to prepare for, or even prevent, disasters. Agricultural AI can provide farmers and food processors with the information they need to fight against crop disease, develop and adopt natural pesticides at scale and even grow crops in the most drought-plagued areas of the world. Medical AI can potentially detect and diagnose health-related problems in a matter of moments. In mining and engineering, AI can save lives and greatly enhance safety



by predicting potential risks or looming structural failures. In our day-to-day lives, AI can streamline customer experiences or create new experiences never imagined.

#### The possibilities are limitless.

To achieve these possibilities, humans and AI must work together. This is already underway with promising early success. The basics of uniting humans and AI are being laid out today by the businesses pioneering AI and automation. By employing knowledge management platforms to amplify and augment human decision-making, AI techniques will be applied to solve more of the complex engineering and business problems organizations face, while at the same time igniting human ingenuity and creativity. To that end, the report to follow delves into the impact AI is having on enterprises, and how business leaders and the workforce are evolving.



**Mohit Joshi** President *Infosys* 

### Introduction

### Tracking the Progress of Artificial Intelligence

Infosys has commissioned multiple global studies over the past few years looking at how artificial intelligence affects us as we progress through what the World Economic Forum calls the Fourth Industrial Revolution. This revolution is taking place at all levels in the shift toward greater digitization. Digital transformation is now largely being driven by the adoption of Al technologies in the enterprise, though the ramifications of Al extend beyond the enterprise to society as a whole.

A year ago—in January 2017—a previous Infosys report, *Amplifying Human Potential*, mapped out the maturity of AI adoption across enterprises globally. At that time, a quarter (25 percent) of IT decision makers and business leaders said that their organization had fully deployed AI technology that was delivering to expectations. Most respondents, though, said that their organization was somewhere in the early stages of AI deployment—55 percent had partially deployed AI or were still formulating their plans to do so.

This year, Infosys has released a new report based on a survey of IT decision makers and

senior executives at enterprises in seven countries. The goal of this report is to shed light on the impact AI is already having in businesses, examine what differentiates those achieving value versus those who are not and provide business and technology leaders with guidance to help them navigate the rapidly changing business climate as AI takes hold.

The report covers the following areas relating to AI implementation and execution:

- Return on Investment
- People and Skills
- Leadership

Infosys believes that AI technologies have the power to amplify human potential. For businesses, that can be transformative, bringing radical cost reductions and efficiency, while opening up new opportunities to create real value.

What's clear from the new 2018 research is that AI technologies are no longer experimental or hidden behind the scenes, but rather they are already broadly deployed, producing real results and impacting business strategy, investments in growth, recruitment, team management, the customer experience and the competitive landscape.



#### Defining "Artificial Intelligence"

For this report, "artificial intelligence" is defined as "software technologies that make a computer or robot perform equal to or better than normal human computational ability in accuracy, capacity and speed. Examples can include Natural Language Processing, Knowledge Representation, Automated Reasoning, Machine Learning, Robotics, Rational Agent and Chatbots."

#### Survey Details and Methodology

This survey was commissioned by Infosys and conducted by independent market research company Branded Research Inc. across seven countries: Australia, China, France, Germany, India, the United Kingdom and the United States. The total sample size included 1,053 global C-level executives as well as IT decision makers (ITDMs) and influencers of AI technology purchases within their organizations. These companies ranged in size from 500 to more than 5,000 employees, and from \$500,000 to more than \$1 billion in revenues. For more details about the survey, see page 25.

# Key Findings: The AI Revolution Is Here

### **90**%

Ninety percent of C-level executives reported measurable benefits from deploying AI technologies within their organization

77%

Seventy-seven percent of IT decision makers were confident employees in their organization could be trained for the new job roles AI will create in their business

73%

Seventy-three percent of all respondents **agreed or** strongly agreed that AI has already transformed the way they do business

### **53%**

Fifty-three percent of all respondents indicated that their organization has increased training in the job functions most affected by Al deployments

**45%** 

Forty-five percent of respondents said the AI deployments in their organization are greatly outpacing the accuracy and productivity of comparable human activity

We are no longer on the brink of change resulting from AI—we are already immersed in a world with software-driven machines learning to process unstructured information in meaningful ways, something that until relatively recently was the domain of humans alone. Welcome to the AI revolution.





Globally, nearly four out of five C-level executives (79 percent) reported that their organization has experimented with Al technologies and services to identify potential benefits. However, Al deployments are becoming pervasive, with enterprises quickly moving from experimentation to implementation to measuring outcomes.

IT departments have historically been and remain—the champions of AI as organizations seek new ways to automate routine IT processes. Seventy-five percent of respondents reported that their organization had deployed AI technologies within IT.

**86**%

As Al proves itself in IT, it is also starting to extend into other functions across the enterprise: 36 percent of respondents reported using Al technologies in operations, 35 percent in research & development and 33 percent in customer service. Where Al technologies are applied varies quite a bit from industry to industry, however. For example, the Retail & Consumer Packaged Goods sector skews higher in its use of Al in customer service, the Banking & Insurance sector skews higher in its use of Al for accounting and finance, and the Oil & Gas sector skews higher for its use of Al in operations.



of organizations surveyed have middle or late-stage AI deployments and

view AI as a major facilitator of future business operations.

What do these findings mean for business leaders? Artificial intelligence is becoming a core aspect of business strategy. Moreover, broader adoption of AI is fundamentally changing every aspect of the way leaders lead—from the way they recruit and train, to the way they inspire teams, to the way they apply AI and human power together to achieve their vision for the company, to the way they drive innovation and compete. The following section will explore how AI technologies are already producing measurable results for organizations.

# 07

*M* Al offers us unprecedented opportunities to engage consumers in new and totally different ways. Today we have massive datasets at our fingertips as well as the extraordinary processing power to extract patterns, connections and meaning from that data to get to the intent of consumers. *M* 

**Devin Wenig** President and CEO *eBay* 



### Al's Return on Investment

While it's still in the very early days for Al technologies, nine out of 10 C-level executives reported measurable benefits from Al within their organization. Meanwhile, 87 percent of organizations in late or final stages of their Al deployments reported significant and measurable benefits from Al technologies.

According to survey respondents, a majority of organizations started off using Al to automate or improve routine or inefficient processes. In fact, 66 percent of those surveyed are leveraging Al technologies primarily for business process automation, which is often viewed as a good starting point because it can deliver quick improvements.

When you look at organizations in later stages of AI deployment, many of these businesses also leverage AI to innovate and differentiate themselves. For example, 80 percent of IT decision makers at organizations in later stages of AI deployment reported that they are using AI to augment existing solutions or build new business-critical solutions and services to optimize insights and the consumer experience. Forty-two percent of those in late stages of AI deployment also expect a significant impact in research and development in the next five years.

### Across industries, AI is producing strategic advantages:



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# Which industries are using AI to automate business processes:



While enterprises in the countries tracked said they saw measurable improvements from their AI deployments, the benefits were inconsistent from country to country. Per the survey respondents, more enterprises in the U.S. and India are experiencing a return on their AI investment compared to the European countries surveyed, which are further behind.

### What Drives AI ROI?

Overall, organizations in later stages of their AI deployments saw potential benefits across the value chain.

A primary factor driving ROI from AI, according to the data, was a clearly defined strategy. Eighty percent of respondents who said they have seen at least some measurable benefits from AI agreed or strongly agreed that their organization had a defined strategy for deploying AI. Investing in people was another major factor, which is discussed in more detail in the next section.

### Which geographies are leading the pack in ROI from AI deployments?



### Enterprises in the late stages of Al-driven digital transformation have realized:



AI technologies are proving effective at driving efficiencies. Yet, AI initiatives shouldn't simply be about automation they should be the catalyst to rethink processes and business models. Doing so can achieve significant improvements with longer-term, strategic benefits. This is why design thinking and AI strategy planning go hand-in-hand—every AI initiative should incorporate design thinking methodologies throughout planning and implementation.

### **Sudhir Jha**

SVP, Head of Product Management and Strategy Infosys Having a defined strategy is a best practice with any new technology deployment. What is noteworthy, per the graphs to the right, is the extent of the advantage, particularly regarding the benefits to employees affected by AI deployments.

### What Hinders ROI?

Data underpins most AI technologies; yet, nearly half of all respondents (49 percent) reported that their organization is unable to deploy the AI technologies they want because their data is not ready to support them. As such, approximately 77 percent of IT decision makers said that their organization is investing in data management, particularly in India (91 percent) and the United States (89 percent).

Al, of course, is only as good as the accuracy and integration of the data it ingests. However, organizations cannot afford to wait for the perfect conditions or until their data infrastructure is just right. Nor do they need to—machine learning is already helping organizations wrangle their vast amounts of data to accelerate their Al initiatives.

Respondents have experienced other issues with their AI initiatives as well. Topping the list:

- IT security and privacy issues 45%
- Data integrity issues 37%
- Employees need more training 36%



If The future of AI is supporting and augmenting human capabilities such that a human-AI team is stronger than either alone.

**Missy Cummings** Director, Humans & Autonomy Lab *Duke University* 

# Developing an AI-Ready Workforce

In certain ways, AI is already outpacing human capabilities: 45 percent of those surveyed reported that their organization's AI deployment is greatly outpacing the accuracy and productivity of comparable human activity. Another 37 percent of respondents said that their AI technology is slightly outpacing humans. But clear differences exist from country to country.

### Percent of respondents who said their AI deployments are outpacing people at performing certain tasks, by country:

- India 74%
  United States 58%
  China 50%
  Australia 47%
- United Kingdom **39%** France **26%** Germany **18%**
- Cermany 1070



Roughly two out of five respondents (37 percent) said that their organization had removed positions that have become redundant post-AI deployment. Further, 60 percent of respondents reported that they believe job roles within their organization that have moved overseas will be replaced with automation as a result of AI deployments.

Stats like these seemingly offer proof for early theories that AI could be used to replace mundane, rote and highly predictable dayto-day human activities. Some may view such findings as harbingers of doom for workers around the world who believe their job roles are vulnerable to replacement by AI or automation. However, amid intensifying critique from the global community regarding Al's potential ethical and human dilemmas, business leaders are well aware of the concerns as 69 percent of C-level executives reported that their employees are concerned that Al technologies will replace them.

Despite employee fears, enterprises successfully using AI recognize that their employees are key to making AI and their business successful. Industry leaders are preparing their organizations to adapt quickly, and they are optimistic that AI technologies will ultimately create more opportunity for employees than they will eliminate.



### Organizations globally take actions to address the impact of Al on their workforce:



# Top five areas of investment<br/>in Al technologies:46%44%33%33%33%33%



The most cited benefits of AI among survey respondents:

- 48 percent said AI had augmented human skills to make their people better at their work
- 45 percent said AI is making for better employees because it frees their time

It is worth noting that 91 percent of survey respondents at organizations in the most advanced stages of their AI deployments reported that their employees are aware they are using AI technology to do their jobs. Within industry sectors, every industry surveyed reported greater than 70 percent of their employees were aware that they are using AI technologies to do their jobs, with the exception of the Travel, Hospitality & Transportation industry (48 percent) and the Public Sector (47 percent).

Globally, those surveyed said that their Al deployments have equally benefited customers and employees (45 percent and 43 percent, respectively), while only 13 percent of respondents said shareholders had benefited the most. Moreover, 83 percent of C-level executives surveyed were confident employees in their organization can be trained for the new job roles Al technologies will create.

### What does the Future Hold?

Digital transformation is all about becoming more agile and customer-centric, and it is by its very nature disruptive to industries, businesses and employees. Al is only serving to accelerate this disruption. However, looking forward, three-fourths of respondents were confident that their organization is prepared to handle Al's impact within the next six months. The majority of respondents were confident that employees possess enough knowledge and skills to take advantage of Al's possibilities.

As noted earlier, IT has been the primary focus of Al initiatives, and will continue to be for the foreseeable future: 61 percent of respondents agreed that IT will be the most impacted job function by Al over the next five years. The other job functions that will be most impacted by Al over the same period, according to respondents, include marketing and communications (32 percent), human resources (29 percent) and legal (15 percent). Expect to see the rise of AI professionals throughout the ranks of businesses, as well. AI leaders will become fixtures in the C-suite, and IT decision makers may need proven AI skills to advance in their careers. According to the survey, an overwhelming majority—95 percent—of IT decision makers from organizations in the late stages of digital transformation said that their organization plans to have a dedicated team of AI professionals.



**II** Augmented intelligence, blending human input and AI, will be the critical driver to succeed in business and to form a prosperous society. We are on the cusp of technological change unlike any we have seen before in human history. Technological advancement is requiring a deeper focus on innately human skills – critical thinking, emotional intelligence and value judgments. In the platform economy, technology is connecting people of all backgrounds and abilities with more opportunities. It is also accelerating the employment of both skilled and unskilled workers in the era of digital transformation, making the world work for everyone.

### **Alain Dehaze**

Chief Executive Officer The Adecco Group

# Al's Impact on Organizational Leadership

Widespread access to artificial intelligence technologies is accelerating digital transformation, a journey that is as much about people, processes and leadership as it is about technology. As AI technologies permeate more organizations and more parts within organizations, the very fundamentals of leadership need to be rethought, from overall strategy to customer experience, to how best to deploy technology and human capital.

### **4** out of **5**

C-level executives said that their future business strategy will be informed through opportunities made available with AI technology.

While traditional business conventions are giving way to new approaches, opportunities and threats as a result of broader Al adoption, business leaders believe they are ready. According to the survey, four out of five C-level executives (80 percent) were confident that their organization's executive team has the ability to adapt their leadership skills as Al technologies are adopted within their business.

Business leaders not only have to evolve quickly in this new and dynamic environment, but they also need to champion change throughout the organization to bridge the gap between old and new business and work realities. Here, a full 76 percent of all respondents were either confident or extremely confident that the senior leaders of their organization understand and promote the positive aspects of Al.

As confident as the executives surveyed were, three-fourths of IT decision makers felt that the executive team in their organization would benefit from formal training on the implications of AI technologies. In the U.S. and India, these figures were even higher (87 percent and 91 percent, respectively). C-level My organization's future business strategy will be informed through opportunities available by deploying Al technologies\*



- Healthcare & Life Sciences
- Travel, Hospitality & Transportation
- Public Sector
- Media & Entertainment

\*Respondents strongly agreed or somewhat agreed

executives likewise called out training the leadership team on AI as a top priority—47 percent of business leaders put leadership training in their top three priorities compared to 40 percent who put employee training in their top three priorities.



The positive effects of AI within organizations go beyond driving efficiencies. Nearly threefourths of C-level executives surveyed (72 percent) expected AI technologies to impact their organization's offerings even more than they would impact organizational processes. For some executives, AI will translate into more time to focus on strategy: 37 percent of C-level executives globally agreed this would be the case.

C-level executives surveyed also widely agreed that AI technologies will have a positive effect on employees: 70 percent of C-level executives surveyed globally, and 85 percent of executives surveyed in the U.S., strongly agreed that AI will benefit employees at all levels of their organization.

#### Al Worries in the C-Suite

Business leaders are optimistic about artificial intelligence and the opportunities it presents, but it is their job to worry about potential risks, too.

Nearly two-thirds of C-level executives (64 percent) agreed that the leadership team in their organization is hesitant to invest in AI technologies because of security or privacy concerns. C-level executives reported that they are also concerned with the implications of industry regulations on their ability to use AI technologies within their business (70 percent) and the potential advantages AI technologies could lend to competition (66 percent). However, most C-level executives surveyed were confident that they were C-level executives reported that Al technologies will most impact leadership activities by affecting:

- Operational excellence
- The ability to be more agile and responsive
- The ability to be competitive given shortages of people with the right skills and talent



not falling behind competitors at this point: in fact, 64 percent of corporate executives believe they are ahead of the competition when it comes to deploying AI in their business.

Another area of concern with AI among business leaders: losing transparency into their business. AI technologies are complex and in the future, they may run autonomously. Therefore, it is understandable why more than half of the CEOs surveyed (52 percent) said they are fearful that leadership will have less transparency into their business due to AI and automation. Less transparency means less control over outcomes.

# Takeaways: Intelligent Al Integration

The survey results outlined in this report make clear that artificial intelligence is no longer a set of experimental technologies with undefined use cases and limited proof of value. Rather, AI is becoming mainstream in business, and organizations are already seeing the benefits. Based on the survey, here are a few key takeaways and guiding principles that may help business leaders navigate change as AI further permeates the business landscape.

#### Put people first.

Businesses investing in AI should proportionately invest in their employees. The combination of people plus AI should be greater than the sum of the parts. Across all industry sectors surveyed, respondents believed recruiting talent with AI skills is absolutely necessary. However, recruiting AI talent alone will be inadequate—those skills will be in high demand and, therefore, scarce and costly. As AI increases in scale and drives further change, businesses that embrace training and reskilling current employees will realize tangible benefits. The business community should also look to partner with academic and governmental institutions to proactively develop the skills needed.

#### Foster a culture of life-long learning.

Training is important, but it should not be a one-time event. Al will bring about continuous change as the technologies improve and evolve. The organizations that are most successful will be the ones that adopt a culture of lifelong learning and facilitate opportunities for staff to continuously develop new skills. Establishing such a culture starts at the top. Business leaders likewise need to evolve their skills and also gain a deeper understanding of the technologies that are driving their business forward. If they do not, they will not be able to maximize the benefits of their AI or their employees, and they might find that they themselves have become obsolete.

At the societal level, our next generation will need to be flexible and adaptable to change, willing to learn new skills to ensure they remain relevant and provide value as AI technologies develop.

### Build transparency into every aspect of the business.

Transparency will be a critical measurement of an organization's commitment to, and success with, Al. Open communication about Al initiatives and their benefits can improve Al effectiveness and raise morale, curbing fears among employees that can sap motivation or foster mistrust.

An enterprise's champions of AI should also prioritize building transparency into their AI systems and processes. AI is complex and increasingly autonomous. Without visibility into AI, business leaders risk losing control of their business operations. By ensuring transparency, business leaders can uncover new opportunities and head off potential risks before they cause serious problems or harm to the company's customers, employees or reputation.

#### Think beyond business process automation.

It should go without saying that organizations with well-defined AI strategies will have more successful AI initiatives. In the early stages of technology adoption, it is natural to focus on automating existing business processes because it often offers low-hanging fruit. However, automating a substandard business process may still be an inefficient business process that AI simply does faster. In the spirit of ongoing digital transformation and



innovation, AI initiatives should be thought of as an opportunity to reinvent every aspect of business for the better.

#### Do not delay.

As this report reveals, organizations across industries already realize the benefits of AI, and those with later stage AI deployments have a significant advantage. Organizations that are not already experimenting with AI or planning their AI strategy are without question falling behind. Gartner <u>claims</u> AI technologies "will be the most disruptive class of technologies" over the next decade. AI is enabling a vast, connected and intelligent digital world that moves at breathtaking speed. In this environment, business leaders will need to rapidly and radically evolve their leadership skills, managing people and artificial intelligence to maximize both, while driving toward a shared future where AI benefits everyone. If It's up to us to make the choices now that will let technology unify, equalize and empower us all in the days to come.

Salil Parekh CEO & MD Infosys

### About the Survey Panel

The Branded Research Inc. panel is comprised of more than two million survey participants across 40 different countries. The panel is routinely checked against data verification measures that include social vetting, digital fingerprinting and anti-fraud solutions.



### About Infosys Ltd

Infosys is a global leader in technology services and consulting. We enable clients in 45 countries to create and execute strategies for their digital transformation. From engineering to application development, knowledge management and business process management, we help our clients find the right problems to solve, and to solve these effectively. Our team of over 200,000 innovators, across the globe, is differentiated by the imagination, knowledge and experience, across industries and technologies that we bring to every project we undertake.

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