

Harvard Business Review

WEBINAR SUMMARY

How AI Could Boost Your Top and Bottom Line

Featuring Michael Chui and Brian McCarthy

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How AI Could Boost Your Top and Bottom Line

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Overview

The buzz about artificial intelligence is widespread. Although AI investments are growing, many organizations remain uncertain about how to profitably deploy this technology. McKinsey recently conducted worldwide research with executives about leveraging AI and turning it into a competitive advantage. This work revealed that broad leadership support is required for AI transformation. Other keys to success include partnerships for capability and capacity, joint business and technical leadership of AI initiatives, and a focus on last-mile adoption. Purposeful investments combined with portfolio strategies drive higher profits.

Context

Michael Chui and Brian McCarthy discussed the value of AI to organizations, as well as best practices for successful deployment of AI.

Key Takeaways

While AI is still early, it can significantly affect organizations' top and bottom lines.

AI refers to machines' ability to perform cognitive tasks. AI investments are growing, but McKinsey's research found that most companies are still early in adoption. To date, a small percentage of companies have deployed AI in a core business process or at scale, and most AI projects have been undertaken by technology giants. Over half of AI investments (60%) are in advanced machine learning capabilities. Although AI is in the early stages of adoption, the potential to affect organizations' top and bottom lines is great.

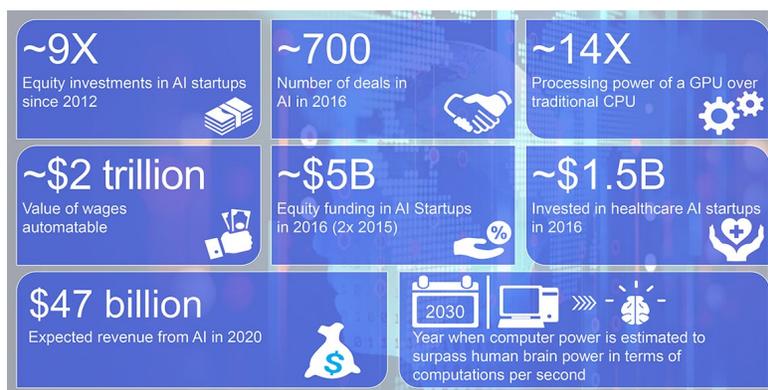
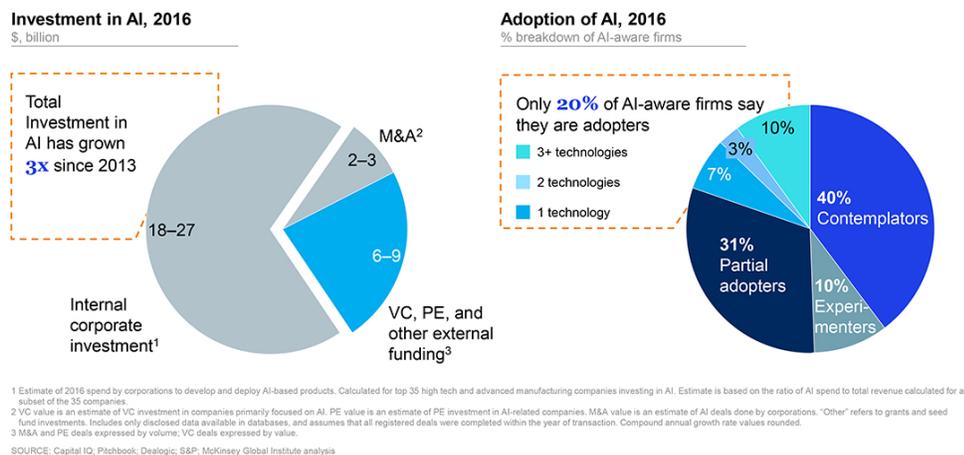


FIGURE 1: AI INVESTMENT, ADOPTION, AND OPPORTUNITY

Successful AI transformations require senior support, a commitment to change, and tech expertise.

Best practices associated with AI transformations include:

- **C-level buy-in.** Companies that successfully adopt AI have alignment at the top and commit significant resources. A pitfall is “tacit approval delusion” where AI projects are started because people agree it’s the right thing to do, but the transformation is sidelined or “pocket vetoed.”
- **AI is part of the DNA.** Early adopters feel AI is part of the organization’s cultural fabric. They recognize that AI will fundamentally change the organization.
- **A data-driven mindset and technical expertise.** A data-driven mindset is necessary but not sufficient. It’s hard to leapfrog to AI without technical skills to support implementation.

“When it comes to AI, you need to move along the maturity curve. It’s hard to take shortcuts and leapfrog straight to AI unless you have technical expertise and data-driven processes.”

—Michael Chui

Culture change is necessary for AI adoption.

Culture change, change management, communication, experimentation, and proper incentives are all critical elements of driving organization-wide AI adoption:

- **Different decisions require different change management approaches.** Strategic decisions are usually made at the C-level. AI can support facilitated decision making and champion/challenger models. Operational and tactical decisions are made by hundreds or thousands of people throughout an organization. AI can help people through tools like recommendation engines. To create value, organizations must leverage both the power of the machine and workers’ experiences.

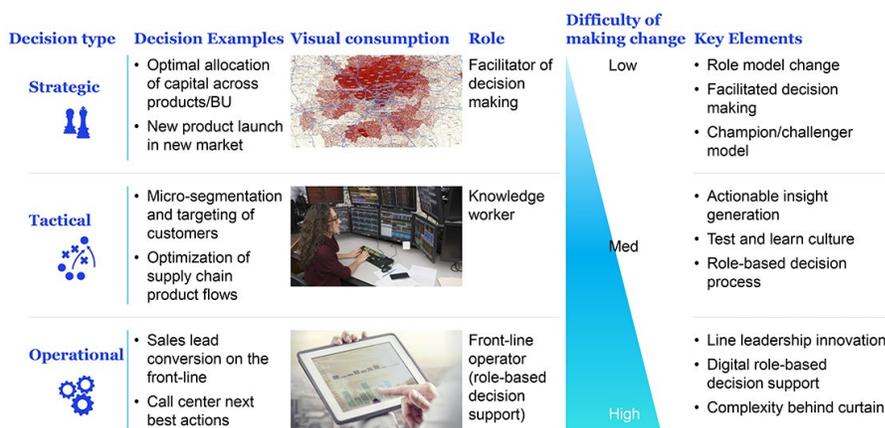


FIGURE 2: AI AND ORGANIZATIONAL DECISION MAKING

- **Communication is a key.** It is important to increase knowledge and understanding about AI, as well as promote a vision that shows where things are going.
- **Experience and experimentation with AI can accelerate cultural change.** Work is often needed to increase employee trust in AI. As people see that machines support better decisions and outcomes, they develop trust.
- **Employee performance metrics and incentives may need to change.** In retail banking, for example, manager promotions are often based on customer knowledge and intuition. At one company, employees resisted a machine that provided better customer targeting for cross-sell and upsell opportunities. In response, McKinsey recommended a “WIIFM” (what’s in it for me?) approach that showed how machine information could be combined with branch manager knowledge to improve revenue, profitability, and customer experiences.

Scaling AI means leveraging a broader ecosystem.

Scaling AI is a company-wide transformation. Even if an organization plans to outsource or acquire some capabilities, it must develop enough organic capabilities to be a savvy client. Creation of ecosystems is important to help organizations scale AI. Modern ecosystems leverage cloud capabilities and APIs, and often involve “coopetition” (cooperation with potential competitors).

Collaboration opportunities exist at the intersection of industries. For example, a bank, a telco, and a retailer might come together to share data to get a better view of consumers.

“From the coopetition perspective, we’re seeing ecosystems emerge with interesting collaboration opportunities at the intersection of industries. We think this will continue to happen.”

—Brian McCarthy

Collaborative teams and a portfolio approach help firms derive value from AI.

As companies pursue AI, they must assemble teams with diverse skills. It is essential to have co-leadership from a business and technical perspective, as well as data scientists who mediate between analytics and the technology.

A best practice is assembling collaborative teams. Teams may be composed of five to seven people with different skills working on a common problem and developing solutions in an agile fashion. Agile teams help organizations go fast with AI.

To maximize value, a portfolio approach is helpful. The most successful companies develop a comprehensive view of AI opportunities. They then map AI opportunities against the size of the reward and the timeframe to achieve value. Observations about successfully investing in AI are:

- **A portfolio approach enables multiple purposeful investments.** Investments may be divided into short-term quick wins, medium-term high-value technologies, and long-term game-changing technologies. In many cases, AI extends existing analytic use cases to another level.

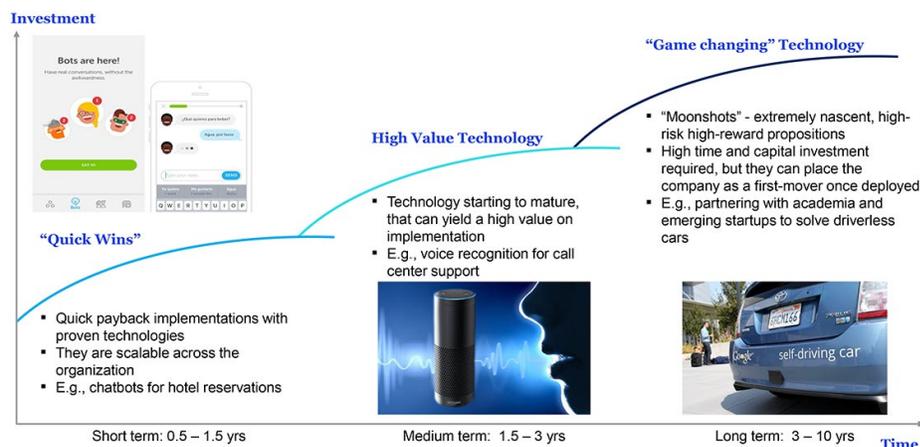


FIGURE 3: A PORTFOLIO-BASED APPROACH TO AI ADOPTION

- **Identify use cases where the organization is trying to drive value.** Once the use cases are clear, the organization can determine the best fit-for-purpose technologies for each. No single technology will support all use cases. Firms will experiment with different “plug and play” technologies over time. A robust underlying data architecture is essential.

- **AI technologies are increasingly accessible to companies of all sizes.** Many machine learning technologies are open source and available through the cloud. If companies have the right talent and access to data, AI technologies are deployable even for small firms.

To get quick wins with AI, organizations must pilot with a view to scale.

Many companies suffer from “pilot-itis”—they conduct successful AI pilots but never scale. It is important to pilot not to prove that AI projects are technically possible, but with a view to scale. Successful pilots meet four criteria:

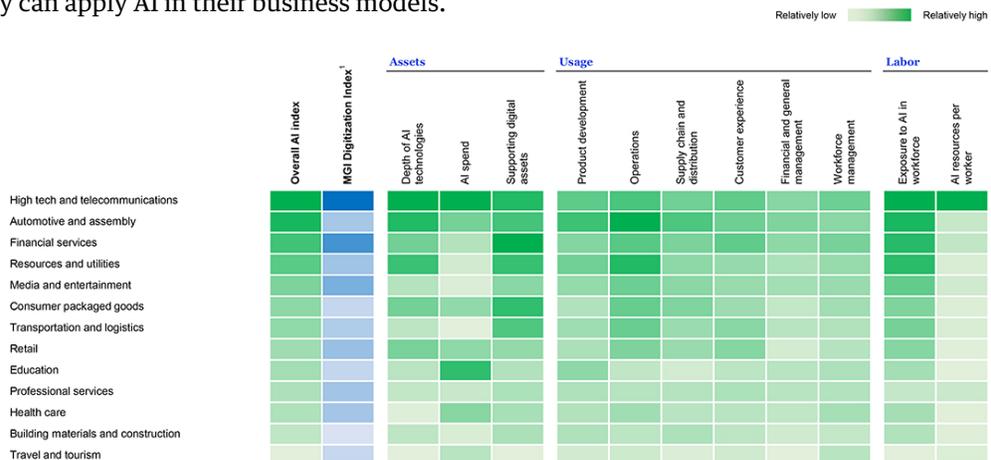
1. They focus on areas of value.
2. They are feasible to execute.
3. The organization has data of reasonable quality.
4. There is support and sponsorship within the business.

Piloting to scale helps teams learn about the operating model. Key questions include how adoption can be increased across the company, which roles are affected by the pilot, and how those roles will need to change. Pilots can address organizational resistance.

Companies with higher levels of digitization are better positioned to capture value from AI.

McKinsey’s research revealed that certain industries, such as high tech, telecom, automotive and assembly, and financial services, are taking the lead with AI. These industries have a foundation of data and are digitizing processes. A correlation exists between organizations’ ability to capture value from AI and the degree to which the enterprise is digitized.

AI early adopters are driving significant performance improvements. As they see success, they increase their AI investments. These companies continue to push the envelope in terms of where they can apply AI in their business models.



1 The MGI Digitization Index is GDP weighted average of Europe and United States. See Appendix for full list of metrics and explanation of methodology.
SOURCE: McKinsey Global Institute AI adoption and use survey, Digital Europe: Pushing the frontier, capturing the benefits, McKinsey Global Institute, June 2016; Digital America: A tale of the haves and have-mores, McKinsey Global Institute, December 2015; McKinsey Global Institute analysis

FIGURE 4: AI ADOPTION AND DIGITIZATION

To support AI, companies must develop a clear talent strategy.

As companies develop AI plans, they must decide whether to build talent from within, recruit or buy talent from outside the organization, or partner. AI talent strategies will vary by company and by strategy. To access the best AI talent, organizations often locate near tech centers or universities.

Many forward-thinking companies are developing programs so employees can get up to speed on AI. Some firms only permit leaders to reach certain levels if they demonstrate analytical acumen.

Other Important Points

- **AI and cyber risk.** While cyber risk is a concern in implementing AI initiatives, it is not a reason to go slow. In fact, machine learning and natural language processing can identify cyberattacks.
- **Retail and supply chain trends.** Many online retailers are deploying AI for “next product to buy” and personalized marketing. In supply chains, forecasting has become more micro and targeted with AI—down to the SKU level for location replenishment.



Michael Chui is a partner at the McKinsey Global Institute (MGI), McKinsey’s business and economics research arm. He leads research on the impact of disruptive technologies and innovation on business, the economy, and society. Michael has led McKinsey research in such areas as data & analytics, social & collaboration technologies, the Internet of Things, and artificial intelligence, robotics & automation. Michael is a frequent speaker at major global conferences, and his research has been cited in leading publications around the world.

As a McKinsey consultant, Michael served clients in the high-tech, media, and telecom industries on strategy, innovation and product development, IT, sales and marketing, M&A, and organization. He is also a member of the board of Asia Society Northern California.

Prior to joining McKinsey, Michael served as the first chief information officer of the city of Bloomington, Indiana. Before that, Michael was founder and executive director of HoosierNet, Inc., a nonprofit cooperative Internet service provider.



Brian McCarthy is a thought leader and seasoned consultant, with more than 20 years’ experience leading insight-driven enterprise transformations. He has worked with executives across the banking, insurance, retail, consumer goods, and telecommunications sectors to deploy sophisticated analytics to inform strategic decisions.

As an advisor to executives, Brian helps define a compelling vision for analytics transformation and then leads the resulting change journey. He leads the knowledge development agenda for McKinsey Analytics.

Before joining McKinsey in 2017, Brian worked at Accenture, where he held several leadership roles and launched Accenture Analytics in 2009.



Angelia Herrin is the editor for special projects and research at *Harvard Business Review*. Her journalism experience spans 25 years, primarily with Knight-Ridder newspapers and *USA TODAY*, where she was the Washington editor. She won the Knight Fellowship in Professional Journalism at Stanford University in 1990. She has taught journalism at the University of Maryland and Harvard University. Prior to coming to HBR, Angelia was the vice president for content at womenConnect.com, a website focused on women business owners and executives.

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The recent McKinsey report which found that broad leadership support is essential for AI transformation to be successful is right on target. Time and time again, technological advances seem to only take root and become transformative when they create value by solving business problems or realizing opportunities, and AI is no different.

With all the hype surrounding AI, figuring out how AI can be applied in practical and reliable solutions can be challenging. The key is to focus on ensuring that the strategy around it feeds into your larger business strategy, always taking into account the convergence of people, process and technology.

People. First and foremost, humans are the most important resource an organization has. You must invest in data scientists who have skills focused around machine learning to build your applications; systems engineers who ensure the appropriate infrastructure is in place to support those applications; solution architects who oversee enterprise implementation; and business advisers who understand unique factors within the data and the business value that will be derived from the application.

Process. Consider what organizational (and possibly cultural) changes will have to be made within your business. There must be cohesion between developers and IT to ensure that models are able to be put into production in a timely manner. There are expectations within both groups that must be clearly defined and agreed upon. A great deep learning model has no value if it cannot be put into production. And, you need lots of rich data. You must identify what data you want to analyze, what factors must be captured in your data collection and the method you will use to bring that data into your AI system. Make sure that users understand the expectations of working with output from the AI applications, and create a simple process for capturing input so the solution can be tailored for more accuracy and increased relevance to meet each business need.

Technology. Finally, technology can seem the simplest part of a strategy only because barriers to adoption and implementation often sit within people and processes. Our view is that a single analytics platform that enables the full lifecycle from data to discovery and deployment offers the most advantages. And ongoing innovation and value creation from AI deployments are maximized when they are part of a trusted, scalable and flexible data and analytics ecosystem.

Advances in machine learning have allowed us to create computers that can see, hear and speak to us in a very human way. Indeed, computers can learn, understand and make assessments about the world based on information we provide to them. But we have evolved beyond telling these machines what to do with our data. Now, machines can learn from patterns and anomalies they find in data on their own – in essence fulfilling the promise of AI. A computer's strength comes from its ability to reliably, efficiently and accurately analyze large volumes of data without fatigue. Yet it still requires humans to take those insights and determine what role they will play in a larger strategy that accomplishes our identified objectives.

And that's precisely how AI could boost your top and bottom line – by pairing the respective strengths of machines and the humans that run them to solve real business problems and realize the opportunities before us.

To read more about AI, please visit www.sas.com/ai, for more on the SAS Platform, please visit www.sas.com/platform.

