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# Artificial intelligence: 5 realities for financial leaders

The first step in a healthcare organization's artificial intelligence strategy should be education.



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- Artificial intelligence (AI) is a hot topic in healthcare, but one often misunderstood by leaders in the industry.
- AI has many practical uses in healthcare.
- Before jumping on the AI bandwagon, however, leaders should educate themselves on the capabilities, challenges and potential risks of AI now and in the future.

**F**rom tackling disease, to increasing operational efficiency, speed and consistency, to reinventing the patient experience, artificial intelligence (AI) is paving the way for the transformation of the healthcare industry. Billions of dollars have been invested in healthcare AI deals in recent years.<sup>a</sup> But as an AI-nascent industry, healthcare AI is surrounded with as much hype as hope. Even with a projected annual savings of

a. Court, E., "One Sector Has Emerged as the Hottest Area for AI Investment. A Top Investor at Andreessen Horowitz Told Us Why It's the 'Natural Next Step' for the Industry," *Business Insider*, August 2019.



\$150 billion for the U.S. healthcare economy by 2026, AI remains a misunderstood technology.<sup>b</sup> It carries with it the burden of multiple myths and is often difficult to move from pilot to scale.

In order to sort through the hype, financial leaders should recognize five important realities and understand the work to be done to ensure real-world, practical ROI from AI.

#### **REALITY NO. 1: HEALTHCARE HAS A DATA QUALITY PROBLEM**

AI requires large data sets of accurate, pertinent and clean data to statistically correlate patterns and trends. Most healthcare information systems were not implemented with analytics or AI in mind. Problems in data collection accuracy, variable data definitions and limited interoperability across disparate systems create data quality issues. Many data sources are siloed or are paper-centric. It's not unusual for one department or group to rework data without reaching out to others to ensure consistency. Consequently, healthcare finance, business and clinical analysts struggle to trust each other's data.

**Work to be done: Improve readiness for AI through enhanced data quality.** Data governance work groups composed of financial, business and clinical data consumers can assist analytics and technical teams in clarifying how data is defined, captured, structured, transferred, cleaned and presented. Improvements in the data quality landscape for most health systems will require answers to questions such as:

- Who has access to specific data (e.g., management level, license requirements, division, internal versus external, sensitivity)?
- What actions can be taken with the data (e.g., view only, modify, delete)?
- What are the primary sources of the data (e.g., electronic health record or enterprise resources planning software, point system, external database)?

- What are the organization's standards for data quality (e.g., data completeness, validity and accuracy)?
- What specific decisions will be made with the data?

Without preparation and improved data quality, the effectiveness of AI will be compromised.

#### **REALITY NO. 2: AI CONSISTS OF MULTIPLE TECHNOLOGIES AND TOOLS**

AI is not a single technology but an umbrella term that includes machine learning, natural language processing, robotics and algorithms. When combined with process automation tools, AI can accomplish the following:

- Reduce manual repetitive tasks, allow the workforce to focus on high-value activities and make resources more productive and lower costs
- Generate deep insights to enable real-time operations, identify trends for decision-makers and set the stage for a predictive and personalized future

Healthcare is still in the early stages of applying this technology, and many leaders are unclear regarding differences in specific AI capabilities and requirements for success.

**Work to be done: Understand what AI can and cannot do.** Today's healthcare and broader AI solution market is composed of narrow or *weak* AI, but applications will grow in the coming decades, as seen in the exhibit on page 34.

Designed for a single purpose and focused on a specific data set, narrow AI does not have the ability to think, adapt, learn or reason. These technologies depend on *black boxes* or algorithms programmed by humans. Often, influenced by incorrect problem statements and data curation methods, unintended consequences of biased data or unsuitable modeling techniques, healthy skepticism is needed. Financial leaders should apply the same rigor to AI that they do to other technologies:

b. "AI and Healthcare: A Giant Opportunity," *Forbes*, June 4, 2019.



- Educate leadership regarding the maturity of and practical uses for AI in healthcare today.
- Don't fall for vendor acronyms or hype regarding the underlying algorithms and statistical models; ask for an explanation in terms financial, business and clinical leadership can understand.
- Work with business or clinical decision-makers to validate the results of the models within your own environment.
- Evaluate the risks associated with inappropriate projections.
- Explore the value, business case and ROI of the solution.

Financial leaders should work with their organizations to understand that the holy grail of AI — where machines exhibit cognitive skills, including the ability to solve problems or make judgements under uncertainty — is not available in any industry today. Most agree that strong AI is still realistically 20 to 30 years away. Artificial superintelligence, where the intelligence is

smarter than humans, is a controversial topic. Researchers agree that type of AI won't be a reality for at least 45 years, if ever.<sup>c</sup>

### REALITY NO. 3: AI WILL REQUIRE NEW SKILLS AND COMPETENCIES

There is a common belief that AI will replace humans in the workplace. The more likely near-term scenario, however, is the automation of routine, mundane tasks and augmentation of the work that remains. Digital transformation and innovation enabled by AI and other digital technologies will require new operating models and skillsets.

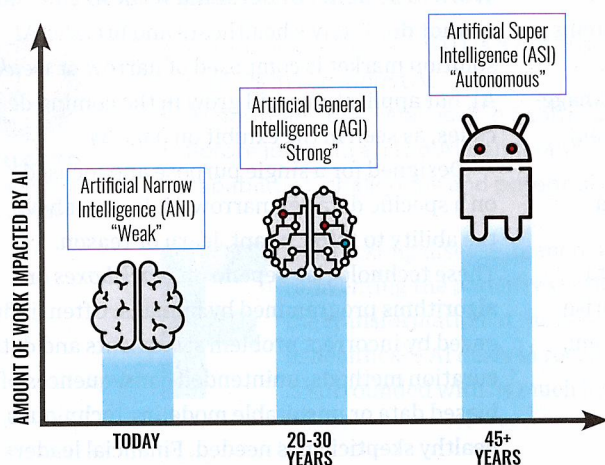
**Work to be done: Create data translator and business architect roles.** Although there is a need for new data skills and analytics competencies to support AI, do not jump to recruit data scientists. Rather, to reap the benefits of AI, focus on changing the way work is done, jobs are defined and decisions are made through AI capabilities. Financial leaders should encourage the creation of data translator and business architect roles to assist in the following:

- Centralizing AI skill development and learning
- Identifying problems to be solved and opportunities to create new value
- Collaborating with data professionals to design models and algorithms
- Helping the business interpret findings, rearchitect business processes and decision-making practices
- Designing new jobs, retraining talent and managing change
- Executing new operating models

### REALITY NO. 4: NEW SECURITY, PRIVACY AND ETHICS CONCERNS SHOULD BE ADDRESSED

Despite its potential to streamline work processes and improve decision-making, skeptics and enthusiasts agree there will be challenges ahead. Most health systems are acutely aware

## Artificial intelligence and the future of work



Source: Maestro Strategies

c. Sysiak, P. "When Will the First Machine Become Super intelligent?" *Medium*, April, 2016.



of the need for HIPAA-compliant systems, even though the 23-year-old regulatory program was established without consideration of today's AI capabilities. Storage of large AI data sets will become a paramount concern with increases in ransomware and cyberattacks. While consumers are generally supportive of AI assistance in healthcare, as companies such as Amazon, Google, Apple, Facebook, Microsoft and others apply their expertise to the problems of the industry, there is growing concern of a high-tech backlash with patients expressing fears over unauthorized data sharing.<sup>d</sup>

**Work to be done: Refine data privacy, security and ethics policies.** Today's healthcare organizations do not need patient consent to sell patient data to third parties; the data simply needs to be de-identified. As the public becomes more aware of the risks of such practices, financial leaders should ensure refinement of existing policies to balance the tension between vendors' need to fuel AI algorithms and patient privacy rights. Specific actions include:

- Consumer and patient advocate participation in the development of protocols for informed consent, data sharing, AI-augmented clinical care, etc.
- Oversight of data use agreements with vendors regarding data protection, intended use of data and compliance with standards
- Updated understanding and compliance with regulations impacting data, including the 21st Century Cures Act and transparency requirements for 2020, including expanded patient access to health information, improved interoperability of health records, prevention of information blocking and privacy and security of data

#### REALITY NO. 5: AI IS IN A HYPE CYCLE

Silver-bullet thinking and multiple vendor solutions/pilots can be disruptive even to the most visionary organizations. In an environ-

## Financial leaders don't need to be risk takers to move forward with AI.

ment where data and analytics resources are constrained, heavy lifting is required to develop robust data assets from which to extract real-time and predictive insights.

#### Work to be done: Leverage finance's strength in decision support.

Research from the University of Applied Sciences HTW Berlin (HTW) explains that the disruptive effect of AI on jobs depends on the extent to which the technology influences the productivity of a specific task. Within five years, HTW predicts that the majority of financial management tasks, roles and structures across most industries will see massive change based on AI's impact.<sup>e</sup> In healthcare, finance organizations can leverage strengths in financial decision support to narrow the focus of appropriate use cases, convene collaborative, multidisciplinary teams, standardize and organize the data, define success measures and set the stage for better performance, service and outcomes.

As AI expands to make operational processes less costly; improve how consumers engage with healthcare providers and services; and begin to digitize prevention, diagnostics and treatment, financial leaders don't need to be risk takers to move forward with AI. Smart, sound, pragmatic investment will set the stage for value orchestration and long-term innovation. ■

e. Reinhardt, K., Brandt, K., Gerlach, C., Glode, A. and Limbach, J., "Study on the Impact of Artificial Intelligence on Competencies in Corporate Finance," University of Applied Sciences HTW Berlin, September 2018.

About the author

**Pam Arlotto** is president & CEO, Maestro Strategies.

d. Mikhailov, D., Perrin, N., "Why We Can't Leave AI in the Hands of Big Tech," *The Guardian*, November 3, 2017.