AAAC

AI IN ADVANCEMENT ADVISORY COUNCIL

THE STATE OF AI IN ADVANCEMENT REPORT

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AI IN ADVANCEMENT ADVISORY COUNCIL

ABOUT THE AAAC

In October 2018, members of the advancement industry came together to form the AI in Advancement Advisory Council (AAAC). With the belief that artificial intelligence (AI) technology was beginning to revolutionize the way fundraising works, these leaders recognized the need to help shape AI's role in the industry. Entirely volunteer-driven by the passion of its members, the AAAC is committed to an open discussion on where AI technology can and should have an impact in advancement, and solving key challenges that stand in the way of widespread adoption.

The AAAC exists to serve our community and help promote the evaluation, use, learnings, and outcomes from applying AI in advancement.

Dear Nonprofit Advancement Leaders,

Artificial intelligence (AI) is the catalyst for the Fourth Industrial Revolution and is both changing and challenging the way we work across all industries. We currently sit at a moment in time where we have the opportunity to define how AI will impact the future of advancement for nonprofit organizations. This is why, in late 2018, we formed the AI in Advancement Advisory Council. The AAAC is made up of some of the world's most forward-thinking thought leaders, technologists, and advancement experts in the nonprofit sector.

The AAAC is entirely volunteer-driven by the passion of its members and is at the center of progress in applying AI in advancement. Ultimately, we believe we will change the world by accelerating the impact that nonprofit organizations are able to have on the world at large. Together, the AAAC advocates for the ethical, effective, and fair use of artificial intelligence technology in order to elevate advancement and empower all nonprofit organizations to achieve their missions.

Why now? This is a critical time in the history of philanthropy. Giving, as a percentage of U.S. GDP, has been stagnant, remaining around two percent for more than the past five years. A one percent GDP increase in giving in the U.S. would generate billions of additional dollars for organizations working to improve our world. AI has the power to create changes of that magnitude. Our profession, however, hasn't yet embraced or come to fully understand the transformative power of AI. The AAAC's collective work will make these revolutionary technologies accessible to nonprofits around the world while inspiring more acts of giving at scale.

As we evaluate how deeply AI can and will impact all that we do in fundraising, it's clear that the work we are doing on the AAAC will help define how our industry operates for years to come. To ensure that this 'rising tide lifts all boats,' the members of the AAAC commit to producing referenceable work that:

- Educates nonprofits about AI -- from the many different scientific fields it encompasses, its history, and why it's useful in our society -- and offers guidance and context for learning and adoption
- Explores the ethical use of AI in advancement, defining potential challenges and best practices for the technology in the industry
- Develops industry partnerships to build on the work of the AAAC and guides organizations as they explore, build, and deploy AI to achieve their missions
- Establishes a foundation of workforce development skills and best practices to properly understand the abilities of AI technology, ensures that it is used efficiently in advancement
- Benchmarks and measures AI adoption within advancement to accelerate and monitor growth

We are honored to be leading this charge for our industry, and we look forward to engaging the community as we work to find ways to apply AI in a fair and ethical manner.

Sincerely,
The Members of the AAAC

- **Armin Afsahi**, Chief Development Officer, Faculty of Arts and Sciences, Harvard University
- **Dan Allen**, Vice President, Advancement, DePaul University
- **Marijana Radic Boone**, Executive Director, Advancement Services, College of Charleston
- **Evelyn Buchanan**, Associate Vice President, University Advancement, California State University, Chico
- **Jim Dicker**, Vice President, Development and Alumni Relations, University of Delaware
- **Nathan Fay**, Associate Vice President, Prospect Development Data Analytics, City of Hope
- **Karin George**, Principal & Co-owner, Washburn & McGoldrick
- **Rod Grabowski**, Vice President, University Advancement, University at Buffalo
- **Laurel Lyle**, Vice President, Development Operations and Fundraising Programs, Cure Alzheimer's Fund
- **Adam Martel**, co-founder & CEO, Gravyty
- **Rich Palmer**, co-founder & CTO, Gravyty
- **Kim D. Rich**, Executive Director Advancement Services, Medical University of South Carolina
- **Reed Sheard**, Vice President, College Advancement and Chief Information Officer, Westmont College
- **Chris Tobin**, Executive Vice President, Institutional Advancement, College of Charleston
- **Colleen Whelan**, Director, Advancement Services, Providence College
- **David Woodruff**, Associate Vice President and Chief Operating Officer, Resource Development, MIT

Tom Davenport

World-renowned thought leader and author, President's Distinguished Professor of Information Technology and Management at Babson College, Fellow of the MIT Center for Digital Business, and an independent senior advisor to Deloitte Analytics

> ***The health of the global market depends on updating our underlying measurement systems, business models, and technologies. It's time to overhaul our business and management approaches to reflect today's realities. Living in the Fourth Industrial Revolution with measurement and management systems from previous eras is simply not viable.***[1]

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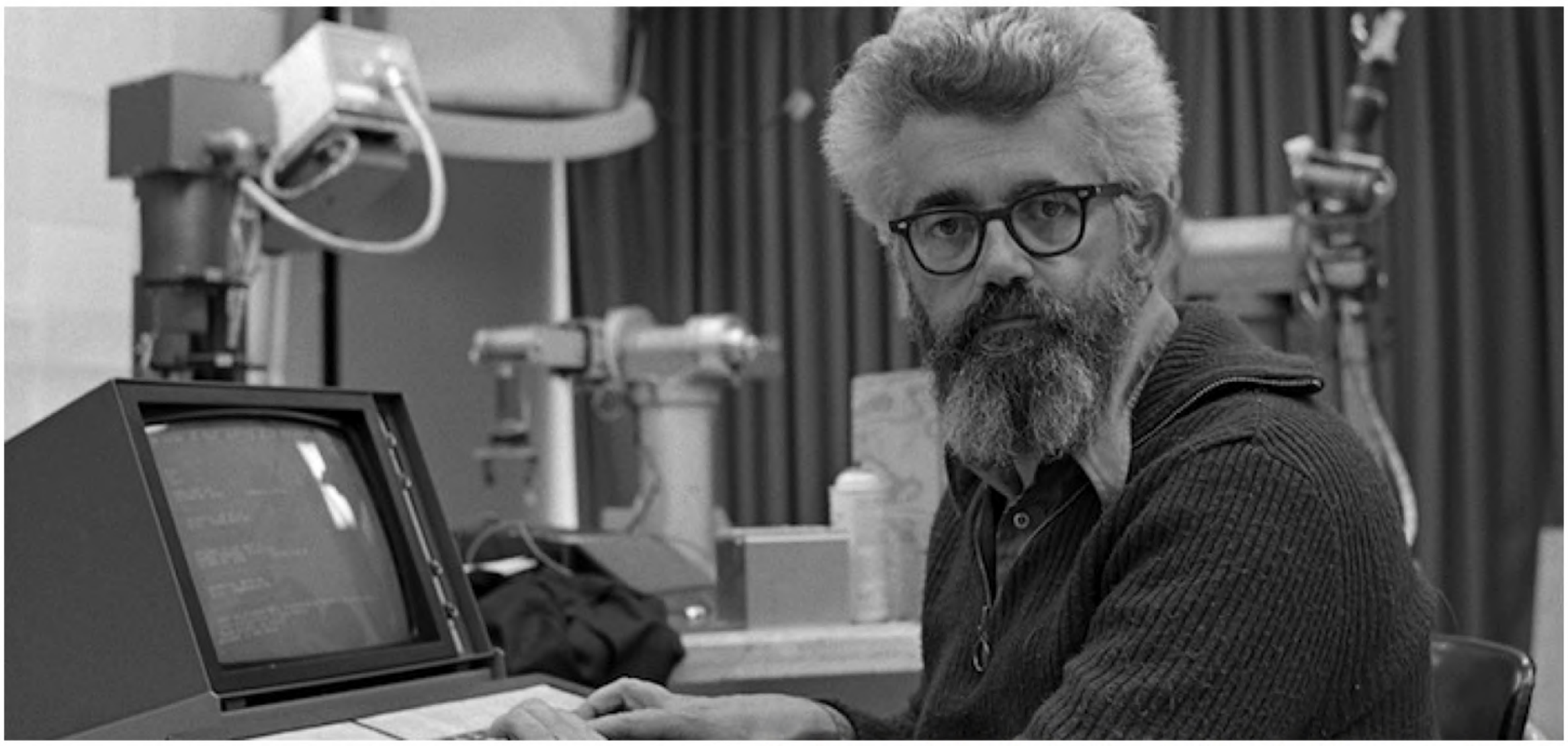
AI: A GENEROUS HISTORY

The very genesis of the term "Artificial Intelligence"[2] is inextricably linked to philanthropy, advancement, and a hopeful future. In the summer of 1956, Dartmouth professor John McCarthy brought together a distinguished group of researchers to explore the nature and origin of intelligence, and its convergence with computing machinery.

"The study is to proceed on the basis of the conjecture that every aspect of learning or any other feature of intelligence can in principle be so precisely described that a machine can be made to simulate it. An attempt will be made to find how to make machines use language, form abstractions and concepts, solve kinds of problems now reserved for humans, and improve themselves," read the proposal.[3] The outcome of this meeting was robust documentation, prescient thoughts about tomorrow, and the adoption of the term "Artificial Intelligence" (AI), the title of the proposal.

Someone had to pay for all this progress. This is where philanthropy enters the story.



Professor John McCarthy working in his computer lab

McCarthy appealed to the Rockefeller Foundation for a $13,500[4] grant that first opened the doors for 'Artificial Intelligence'. Without philanthropy, there would be no AI. More than 50 years later, we are in a position to return the favor by leveraging AI to bolster philanthropic advancement.

There has often been a diametric approach to AI in the public and private sectors. In the decades following the fateful summer of AI's creation story, the private sector sought to implement commercial applications of AI in secretive ways, fearing the erosion of competitive advantages and attempting to justify AI through a cost-benefit analysis.

The public and nonprofit sectors, on the other hand, strove to understand the possibilities and limits of different avenues that AI could take and eagerly shared information that might be helpful.

After this initial hype, the famed 1973 Lighthill Report[5] painted a pessimistic view of AI and its future value. Governments around the world began to withdraw their budgets from AI research, private companies retreated from commercial applications of AI, and the resulting "AI winter" forced the discipline to continue within a small handful of research labs at universities until future conditions improved.

While these AI research pioneers toiled with algorithms and theories in the basements of universities, the forward momentum of technological development continued to pick up steam throughout the late 1980s and 1990s. The rise of the internet, the ability to connect across ubiquitous platforms, and the rapidly decreasing cost of hardware meant that the world was generating more information than ever before. This convergence of algorithms, access to rich data, and tremendous compute power meant that AI applications - both private and public - began to see meaningful results and portend a brighter, resurgent future for AI.

This is corroborated by a series of increasingly ambitious and successful applications of AI. In 1997, we saw IBM's Deep Blue beat chess grandmaster Garry Kasparov.[6] Then in 2005, Stanford won the DARPA Grand Challenge by creating an autonomous[7] vehicle. Flash forward to this decade where we've seen Watson win Jeopardy,[8] Apple introduce Siri,[9] and Google beat the world Go champion.[10] The world has seen AI progress quickly -- and, it looks likely that this march forward will continue exponentially.

Professor John McCarthy experiments with AI

Before looking further at the current state of affairs and offering some exploration into the future, it's important to look at the role of technological change on workers. Touted as the Fourth Industrial Revolution[11], AI holds the potential to drastically reshape the working landscape of humanity in both inclusive and zero-sum capacities.

Looking back, for much of human history we were hunters and gatherers. We tended fields, raised livestock, and existed under the umbrella of subsistence. Living conditions were the outcome of manual labor and societal composition - with some people specializing to maximize efficiencies but many acting as generalists to meet the varied demands of daily life. When a variety of factors began to push us towards machinery and into the factories[12], we began to abandon manual labor for machine-assisted labor. We built machines that specialized in certain tasks and learned to become efficient operators, enabling us to leave the rural fields for the urban factories.

During this transition, horses gave way to automobiles and the once-indispensable farriers who set and mended horseshoes were relegated, in the developed/developing world at least, to entertainment and dressage.

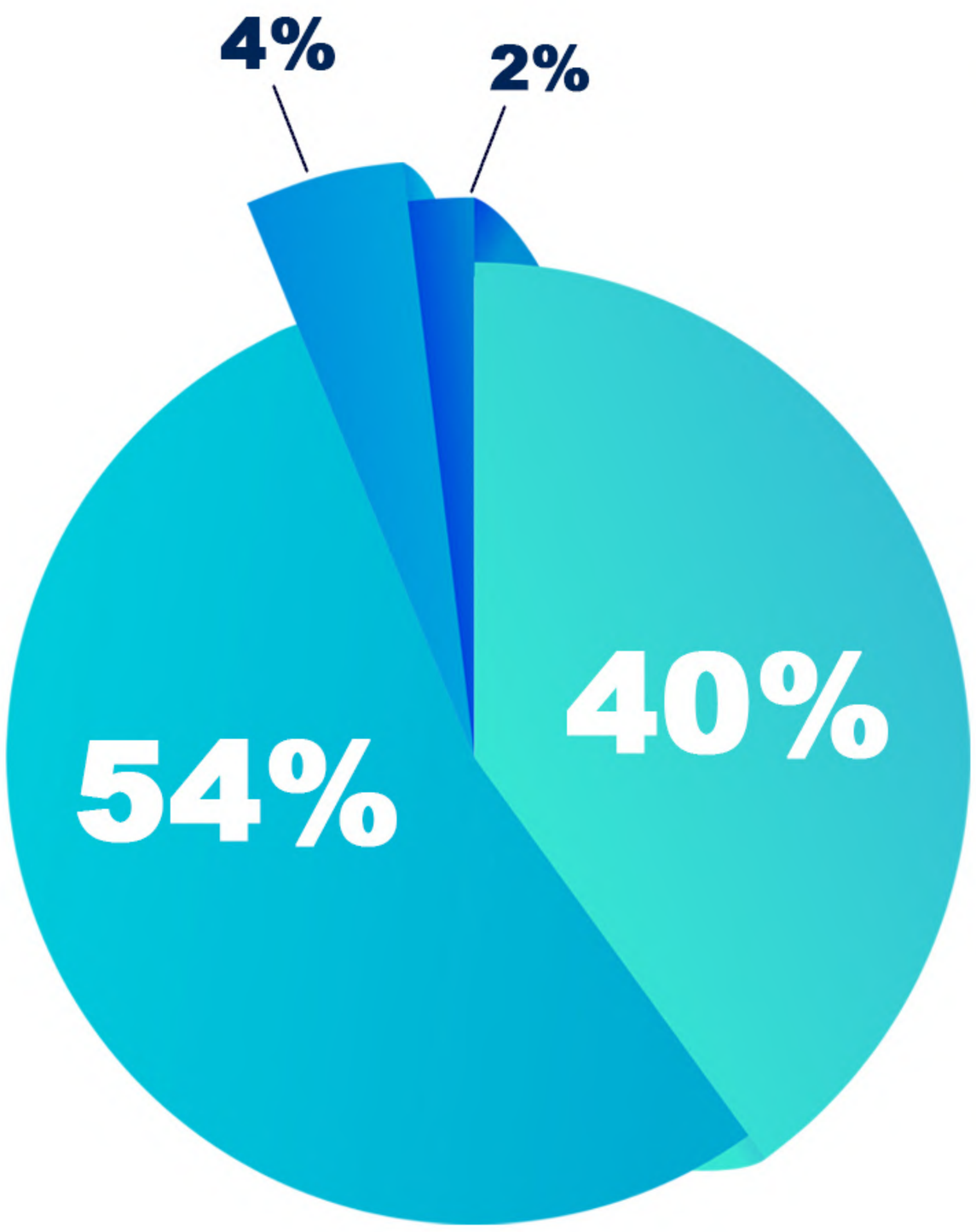
During this era, many skilled workers needed to proactively or reactively consider their fate and potential reskilling in the wake of technological advances. As we enter the Fourth Industrial Revolution, many of these same concerns are paramount in the public's mind.

Similarly, when VisiCalc introduced the first widely available spreadsheet program on a microprocessor,[13] did accountants go out of business? No. They were elevated to new levels and able to construct more sophisticated approaches to financial management. Though the creators of paper general ledgers have long been relegated to novelty gifts - decades later, we can trace the foundation of modern capital markets and economics with the growth of spreadsheets.

The role of AI in fundraising is not new; it has been widely adopted to chart, track, and report on the recency, frequency, and acquisition of donors and prospects. Much like the Recency, Frequency, Monetary Value (RFM) model for analyzing customer value in sales, these were turned into algorithms, and many entities created proprietary donor modeling around the data. For years, AI has played a role in fundraising, specifically in prospect development. Machine learning was the first logical step to utilizing AI to understand and interpret the data.

Although some positions may have been replaced by this technology, it has led to other staffing needs to organize and monitor the data that is used and to then interpret the results via reporting, project planning, and creation of new moves management models.

When we consider where the fundraising profession is headed in the presence of AI, let's use this lens to guide us. Let's consider that the workforce has a history of continuous re-education as technology enters its domain. Let's keep in mind that technology elevates humans from being completely beholden to weather patterns and animal labor. Let's remember that while offices full of accountants can accomplish a great many things, fewer specialists connected to the right tools can more rapidly propel entire organizations forward in today's world.



KEY:

- Higher Education Institution
- Hospital / Healthcare Organization
- Other
- Nonprofit Organization

A majority (54 percent) of organizations that responded to our survey were higher education institutions, 40 percent were nonprofit organizations, and 4 percent described themselves as "hospital / healthcare organizations".

The AAAC advocates for the ethical, effective, and fair use of AI to accelerate advancement and empower all nonprofit organizations[14] to achieve their missions. We do this because we believe that AI will continue revolutionize the outcomes that nonprofit organizations can achieve through their missions to change the world. In fact, many members of the AAAC have already seen the results of AI-enabled outcomes at their own organizations.

THE STATE OF AI IN ADVANCEMENT: SURVEY AND RESULTS

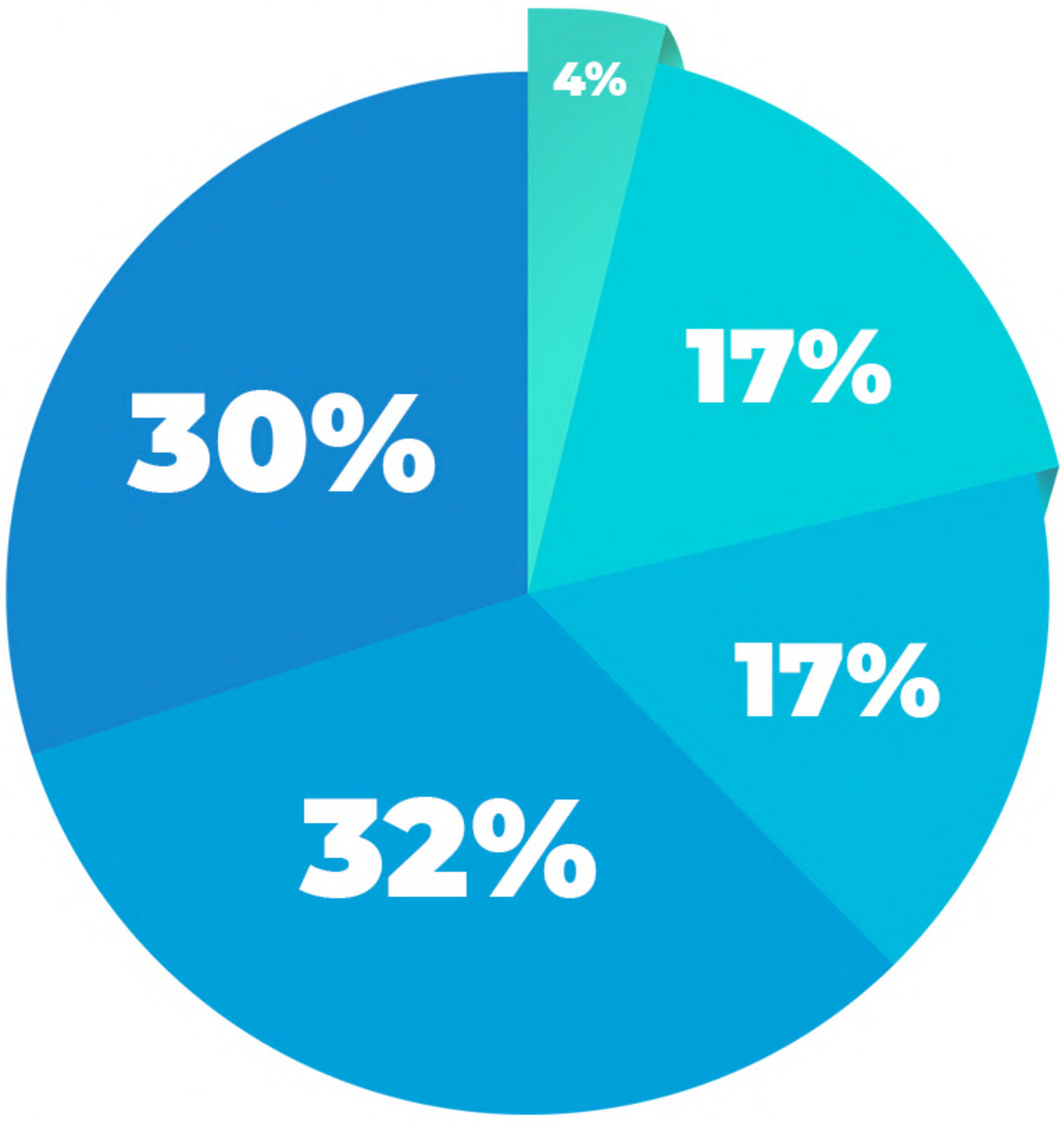
As we seek to define how deeply AI will impact the work of philanthropy, we must first begin with a baseline. This survey and the analysis of its findings are the first steps in objectively understanding the state of AI in advancement. From here, we will be able to measure the acceleration of the use of AI within our industry.

The State of AI in Advancement Report was conducted by the AAAC using a quantitative online survey methodology. A total of 210 advancement professionals completed the survey in April and May of 2019. It was conducted among a diverse set of respondents from the nonprofit sector, including higher education institutions, nonprofit organizations, and healthcare institutions. The majority of responses (62 percent) came from "Large" and "Economic Engine or Powerhouse" nonprofit organizations. Guidestar defines "Large" nonprofits as those with an annual operating budget between $10 million - $50 million and "Economic Engine or Powerhouse" nonprofits as those with an annual operating budget greater than $50 million.

What is clear from our findings is that there is a fundamental education gap in the use of AI for advancement. While it is encouraging to see that slightly less than half (42 percent) of nonprofit organizations report researching AI, we have room to grow with more than a quarter (28 percent) reporting that the current state of AI at their organization is either deployed, in the implementation phase, or experimental. This is despite the fact that 89 percent of respondents agree that AI will make their advancement team more efficient. There is work to be done to ensure that AI technologies are accessible to nonprofits around the world.

This first State of AI in Advancement Report will serve as a benchmark on the state of AI in our industry. We intend to update the report annually to share our findings so that we can collectively understand acceleration and adoption trends, identify diverse use cases, and monitor the outcomes of this transformative technology in our industry.

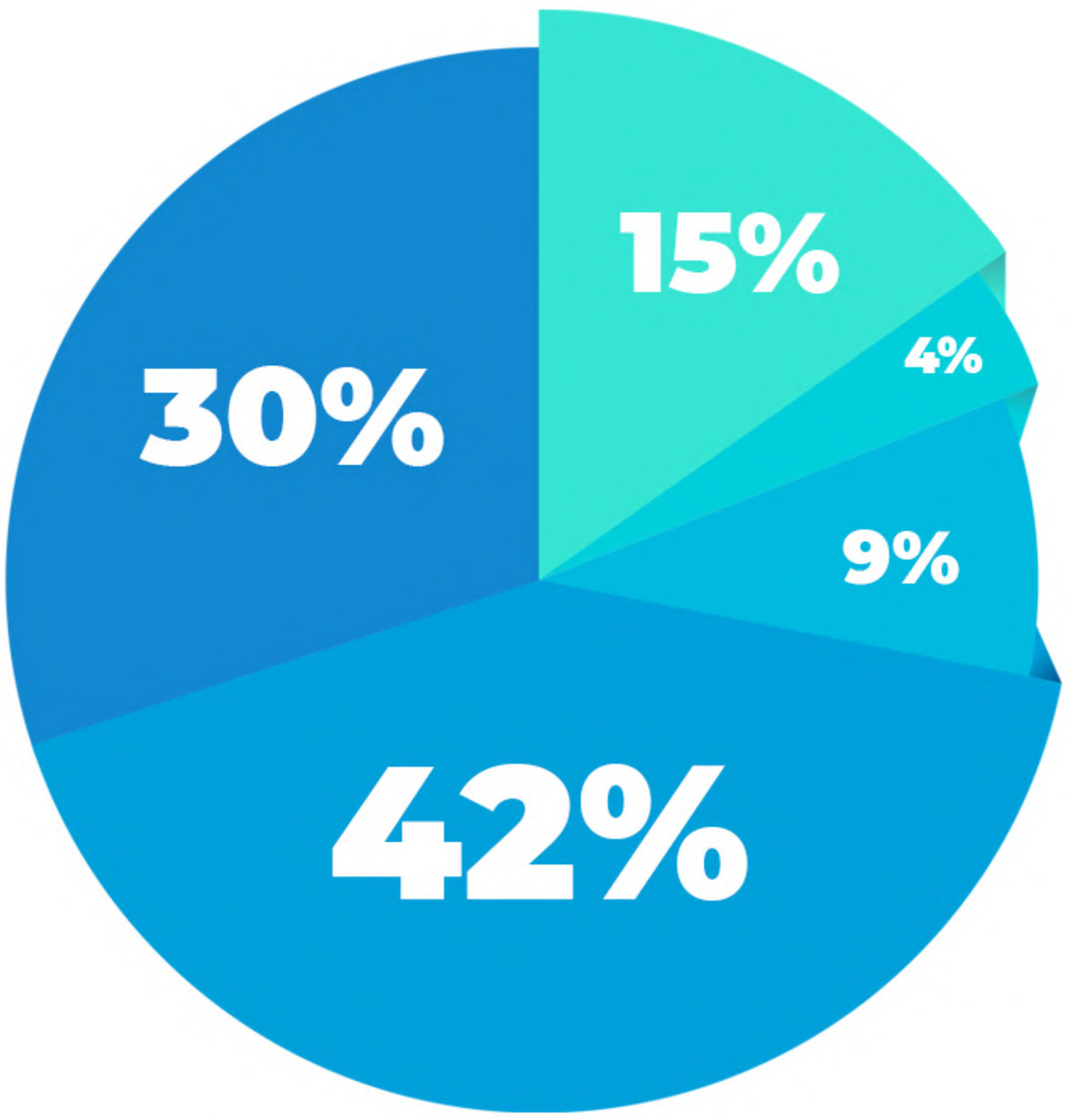
To determine the size of organizations taking our survey, we looked to a previously used scale defined by Guidestar. That scale uses an annual operating budget to determine a size description as follows:



KEY:

- Economic Engine or Powerhouse (more than $50M annual budget)
- Large ($10M - $50M annual budget)
- Mid-Size ($5.1M - $10M annual budget)
- Small ($1M - $5M annual budget)
- Grassroots (less than $1M annual budget)

The majority of respondents report that their organizations are either “Large” (32 percent) or “Economic Engine or Powerhouse” (30 percent). “Mid-Size” and “Small” organizations were split (17 percent, respectively). A small minority (4 percent) of respondents came from “Grassroots” organizations



KEY:

- **Non-Existent (no plans to deploy nor research AI)**
- **Researching (looking into AI applications, but no plans to deploy within 12 months)**
- **Experimenting (expecting AI application deployment within six months)**
- **Implementing (expecting AI application deployment within three months)**
- **Deployed (at least one AI application is up and running)**

There are a great number of organizations in the nonprofit sector interested in what AI can do for advancement. Of our respondents, 42 percent report that they are currently "researching" AI -- looking into AI applications but do not expect deployment within 12 months. Another 15 percent report that they have deployed at least one AI application, while four percent say that they are "implementing" AI for advancement now and expect deployment within three months. Additionally, nine percent report "experimenting" with AI for advancement, meaning they are expecting deployment within six months. With these responses, just over a quarter (28 percent) of nonprofit organizations will be using AI for advancement within the next 12 months. However, 30 percent of organizations report that they have no plans to deploy nor research AI. Throughout this report, we will detail why this is a dangerous stance to take at a critical time in our history.

Analysis: The state of AI in advancement has moved beyond the days of early adoption, with more than 10 percent of organizations already reporting usage. However, we are still a ways away from mainstream usage, with a combined 71 percent of organizations either still in the "research" phase or with no plans to adopt AI for advancement.

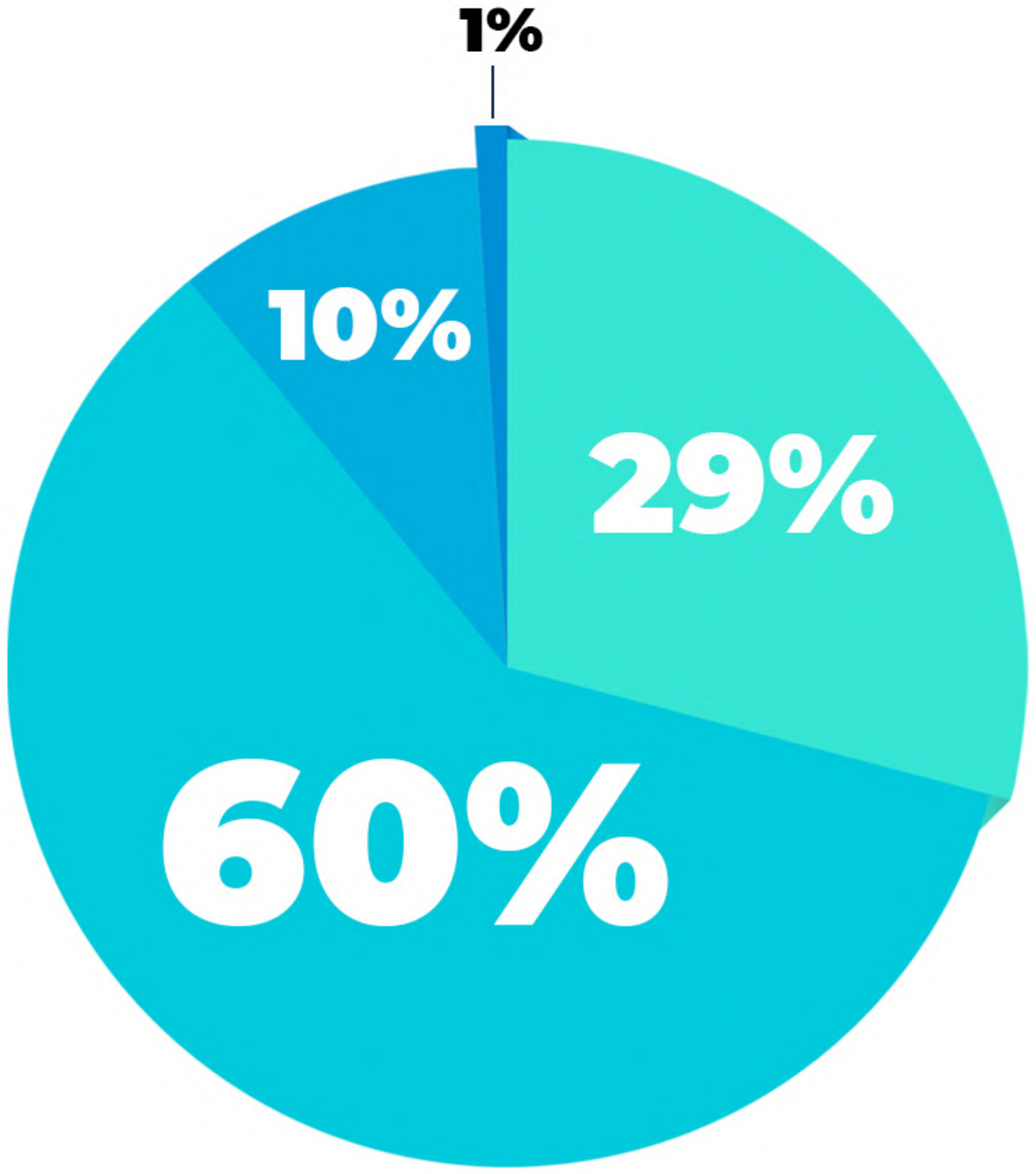
While many organizations may be waiting to see how AI works for their peers, research suggests that being a "fast follower" may be a harmful strategy. In the case of AI, being a fast follower is a first step to losing competitive advantage. As Vikram Mahidhar and Thomas H. Davenport outlined in Harvard Business Review, "By the time a late adopter has done all the necessary preparation, earlier adopters will have taken considerable market share — they'll be able to operate at substantially lower costs with better performance. In short, the winners may take all and late adopters may never catch up."[15]

Still, it is our expectation that many organizations will wait on executing an AI strategy for advancement until they fully understand the different uses and outcomes that the technologies provide. It is the AAAC's goal to make AI accessible through education and to remove the gap that exists between researching and deploying AI. We'll accomplish this goal by monitoring and reporting on the outcomes that AI produces for advancement.

Efficiency: The primary value of all AI technology is to create efficiencies that are otherwise unachievable at scale. When we asked advancement professionals if they agreed with the statement, "AI will make my team more efficient," an overwhelming majority of 89 percent either agreed or strongly agreed. A small minority of 10 percent disagreed, while a mere one percent strongly disagreed.

KEY:

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree



Analysis: *Despite the fact that a combined 72 percent of organizations report that they do not have plans to deploy AI in the next 12 months, it is extremely interesting that a combined 89 percent understand that AI can make their advancement team more efficient. This suggests that there is a general understanding that AI can create a positive impact for organizations. This is an important area that the AAAC is paying close attention to.*

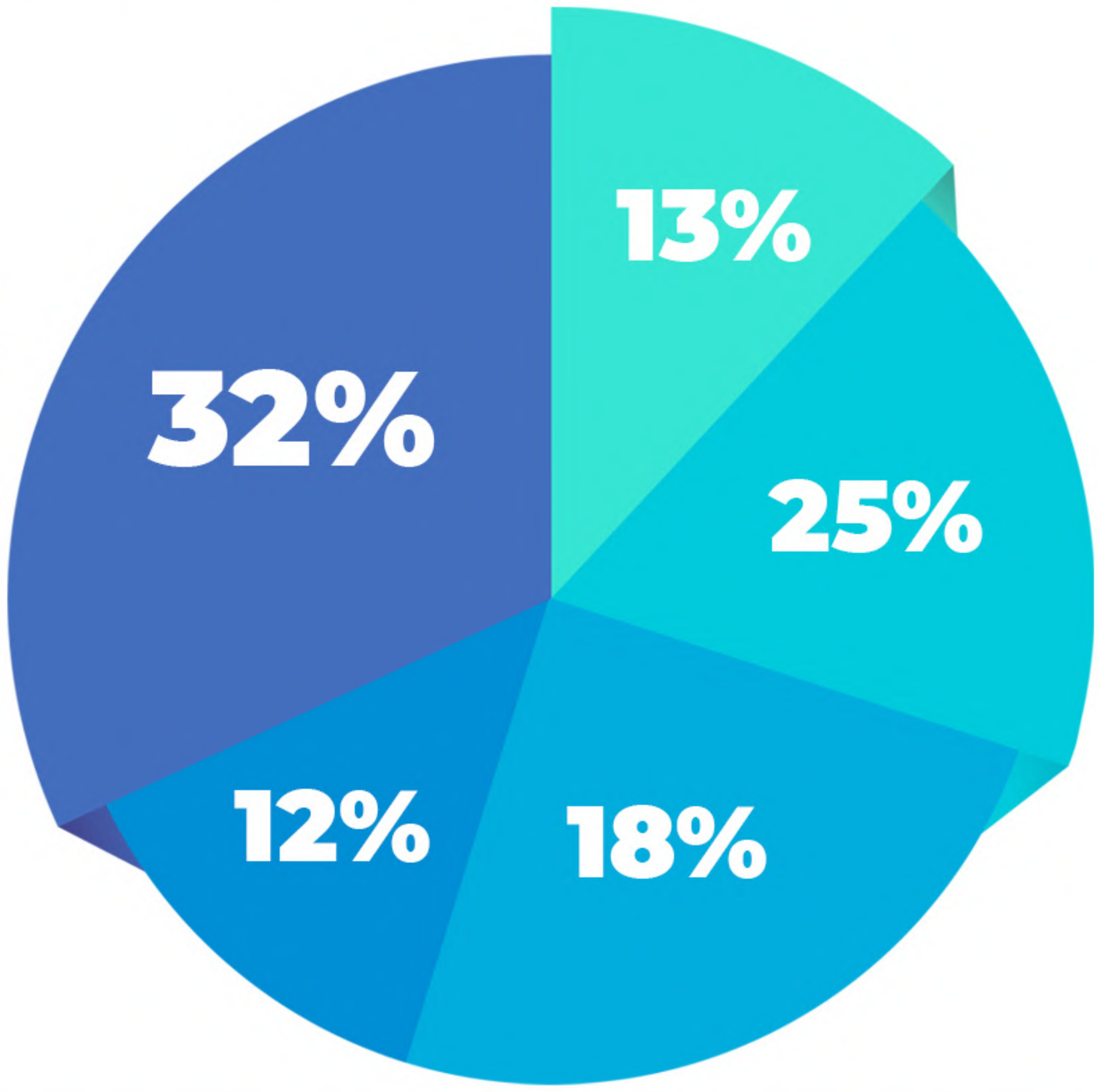
We also realize that efficiency does not tell the full story of AI's value. Effectiveness is also of critical importance. We're beginning to see the early results of AI's effectiveness in advancement. In fact, The Chronicle of Philanthropy wrote extensively about this topic in March 2019, describing a number of applications of AI engineered to improve annual and major gift programs, as well as gift processing. In the article, reporter Nicole Wallace explains how The Cleveland Clinic now processes 80,000 gifts annually with the same number of employees who maxed out at processing 30,000 just a few years ago. And, its fundraisers benefit from algorithms that automate the placement of potential major gift donors directly into portfolios for cultivation.[16]

The advancement industry's output is consumed by high-level tasks like inspiring gifts and spreading an organization's mission. The work that we do is largely built on emotional intelligence. Our future reports will also examine how AI efficiencies impact emotional intelligence.

AI Responsibility: When asked to complete the sentence, "The person at my organization who is responsible for rolling out AI is…" we found that a majority (32 percent) feel that role resides with the Executive Director of Advancement Services, while 25 percent feel it resides with the Executive Vice President, Senior Vice President, or Vice President in charge of Advancement. Additionally, 18 percent reported it was the responsibility of the CIO or COO, 13 percent reported the Executive Director of Fundraising, and 12 percent reported the organization's CEO or President.

KEY:

- Executive Director of Advancement Services
- Executive Director of Fundraising
- Vice President of Advancement
- CIO/COO
- CEO

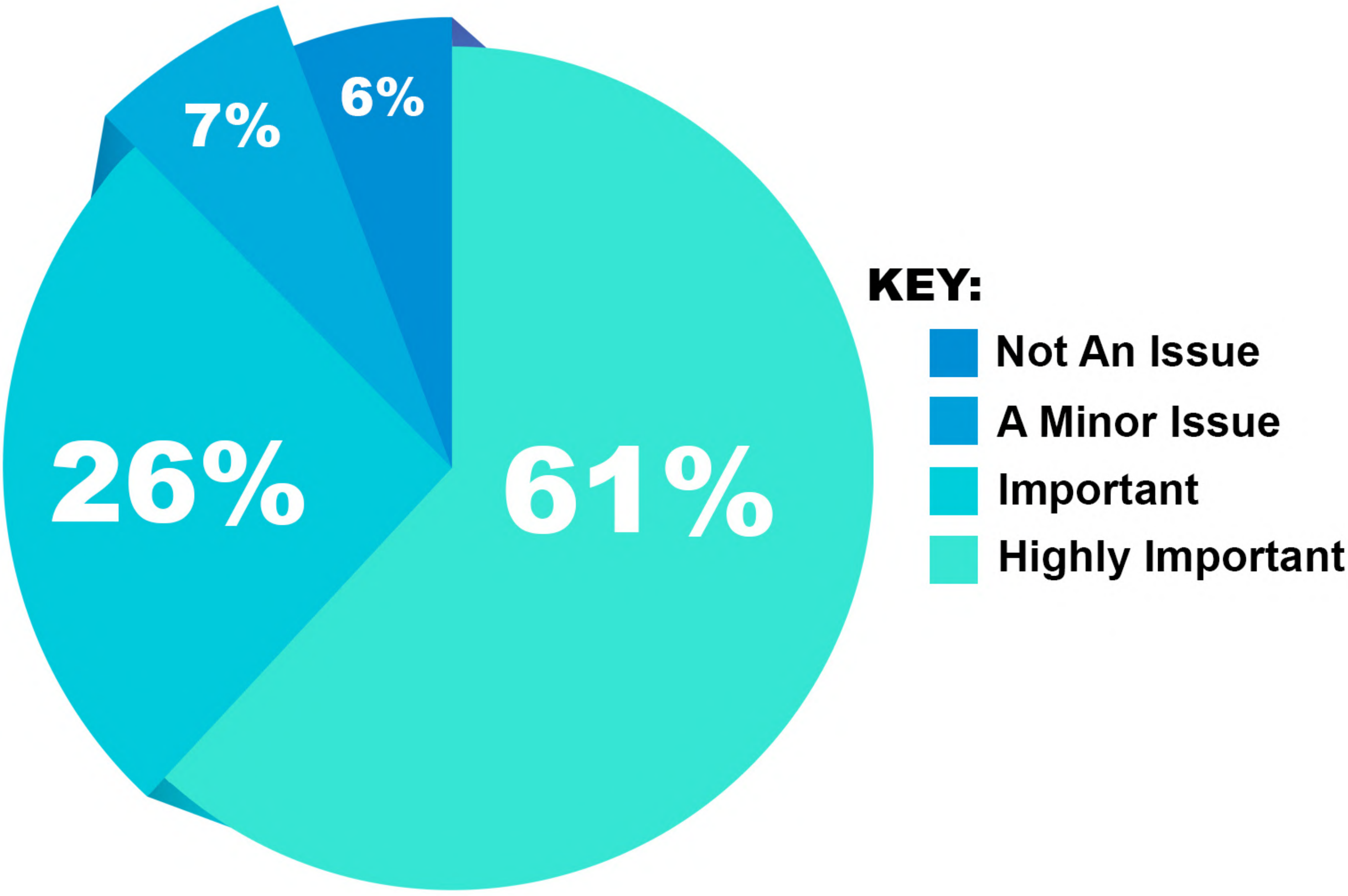


Analysis: Recent trends in purchasing make technology decisions more approachable by non-IT roles, so it is not surprising to see a diverse set of responses for this question. Organizations differ in their approaches to technology. Likewise, it is predictable that the Executive Director of Advancement Services role was the most popular response. By nature, these professionals act as a unique bridge between the analytics side of the advancement house and frontline fundraisers. Analytics professionals are likely to have more knowledge of automation technology and be more open to the value of AI solutions and how to implement them.

Who Benefits from AI?: We also asked our respondents, "Who is most likely to benefit from AI in advancement at your organization?" We allowed respondents to select multiple titles. We found that most often (69 percent of the time) our respondents believed that major gift officers can benefit from AI. Major gift officers were closely followed by the annual fund team (63 percent), senior fundraising leadership (59 percent), and researchers (54 percent). 38 percent of respondents also believed that executive directors, presidents, and CEOs would benefit from AI in advancement.

Analysis: It is encouraging to see that respondents saw a future where every role within advancement would see benefits from AI. The AAAC hopes to uncover use cases that further explore these responses. At the current state of AI in the industry, it is clear that those who are responsible for the frontline of fundraising, and the senior leadership who create the strategy at play for those fundraisers, benefit the most from AI. This was widely reported in The Chronicle of Philanthropy's March 2019 Cover Story, "A.I. and Fundraising: the Future Is Here," written by Nicole Wallace. As we look into the future, we expect AI use cases to emerge for everyone who helps with an organization's fundraising efforts.

Ethics: The ethical use of AI is an emerging and important topic. From unwanted or unintended biases in algorithms, to using data in ways that are detrimental to the industry, we wanted to know about these concerns directly. We asked, "How important is the ethical use of AI to your organization?" The large majority (87 percent) of respondents stated that the ethical use of AI is either "important" or "highly important." Conversely, the remaining 13 percent report that ethics are only "a minor issue" or "not an issue."



Analysis: The ethical use of AI is undoubtedly one of the most important issues of our time. Part of the AAAC's very existence is to explore the ethical use of AI in advancement. In no way do we want AI to diminish the important work being done in advancement offices across the world. The results of our survey clearly indicate that this is an important role in which we all need to play a part. We also have to consider that respondents who replied "A minor issue" and "Not an issue" may have implemented a solution or created a strategy to address concerns around the ethical application of AI. As the first AI council of its kind, we have committed our efforts to defining potential ethical challenges and best practices for how AI is used in our industry.

HOW DOES AI CHANGE ADVANCEMENT'S WORKFORCE?

As we see in our State of AI in Advancement survey, there is work to be done to ensure that AI technologies are accessible to nonprofits around the world. However, it is important to take action to ensure our industry and its constituents are ready for AI's transformative change as soon as possible. One of the ways the AAAC is proactively ensuring that all nonprofits can take advantage of AI's offerings is by considering how AI will affect our industry - specifically the people our industry employs. We need to prepare people for the changes ahead.

AI accelerates the pace at which organizations can benefit from automation. If a job or role could be automated -- that is, at risk of being completed by technology -- it could conceivably be replaced by that technology. It is important for an industry to understand which roles face this risk early so an industrial revolution does not lead to widespread job displacement.

The AAAC recommends the development of a methodology and blueprint for addressing the reskilling needs of advancement professionals. We considered the job categories within advancement to determine where the greatest risk of automation and the ability for AI to influence those roles exists. Based on these two variables, we considered where we need to develop pathways for employees to gain new skills and continue to add value in the industry. The chart below serves as a roadmap for the roles we feel will be most impacted by the transformative nature of AI and where we need to develop new job pathways.

ORGANIZATIONAL RISK MANAGEMENT:
ARTIFICIAL INTELLIGENCE'S IMPACT ON ROLES WITHIN ADVANCEMENT

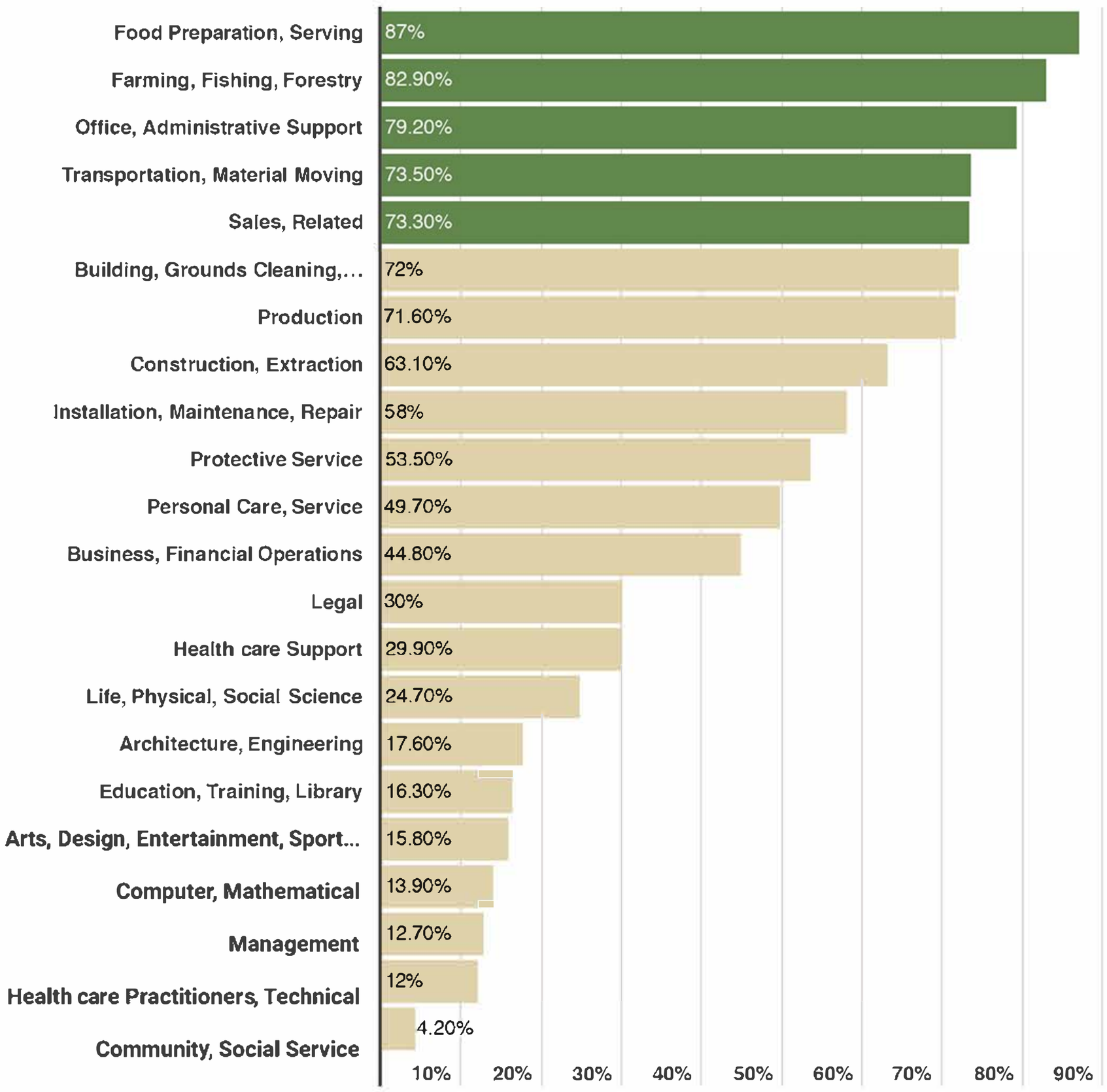
Job Category	Level	Risk of Automation	Ability for AI to Influence	Develop Pathway?
Advancement Services	Senior Level	Low	Low	No
	Data Processor	High	High	Yes
	Report Writer	Medium	Medium	No
	Senior Prospect Researcher	Low	High	No
	Junior Prospect Researcher	High	High	Yes
	Data Analyst	High	High	Yes
Communications	Senior Level	Low	Low	No
	Writer	Medium	Medium	No
	Social Media	High	High	Yes
Fundraisers	Principal Gift Officer	Low	Medium	Yes
	Major Gift Officer	Low	Medium	Yes
	Annual Gift Officer (1:1 visits)	Medium	High	Yes
	Annual Gift Officer – Direct Mail	High	High	Yes
	Annual Gift Officer – Phone	High	High	Yes
Donor Relations & Stewardship	Senior Level	Low	High	No
	Mid-Level	Medium	High	Yes
	Entry-Level	High	High	Yes
Alumni Engagement Officers	Senior Level	Low	Medium	No
	Mid-Level	Medium	Medium	No
	Entry-Level	Medium	Medium	No
Events Staff	Senior Level	Low	Medium	No
	Mid-Level	Medium	Medium	No
	Entry-Level	Medium	Medium	No

The news and the internet are chock-full of claims that AI will eliminate jobs and create unprecedented levels of unemployment. According to a January 2014 article in the Huffington Post UK[17] using the Economist as a source, “almost half (47 percent) of all jobs could be automated by computers by 2034” and Brookings points to a McKinsey Global Institute analysis of 750 jobs, concluding that “45 percent of paid activities could be automated using ‘currently demonstrated technologies’ and… 60 percent of occupations could have 30 percent or more of their processes automated.” A more recent McKinsey report, “Jobs Lost, Jobs Gained”, found that 30 percent of “work activities” could be automated by 2030 and up to 375 million workers worldwide could be affected by emerging technologies.”[18]

However, as SingularityHub’s Byron Reese points out, “technology has progressed nonstop for the past 250 years, and in the US, unemployment has stayed between 5 to 10 percent for almost all that time, even when radical new technologies like steam power and electricity came on the scene.” He goes on to quote the US Bureau of Labor Statistics forecasts of “faster-than-average job growth in many occupations that AI is expected to impact: accountants, forensic scientists, geological technicians, technical writers, MRI operators, dietitians, financial specialists, web developers, loan officers, medical secretaries, and customer service representatives, to name a very few. These fields will not experience job growth in spite of AI, but through it.”[19]

PREDICTED DECREASE IN OCCUPATIONS, 2017-37

Experts say artificial intelligence will lead to job loss as some industries become more automated. Here are the occupations most at risk in New York state and the anticipated decline in the number of jobs over a 20-year period ending in 2037, based on data from a 2017 report.



SOURCE: ROCKEFELLER INSTITUTE CALCULATIONS BASED ON BUREAU OF LABOR STATISTICS, OCCUPATIONAL EMPLOYMENT STATISTICS AND FREY AND OSBOURNE (2017). BUFFALO BUSINESS FIRST, MARCH 15, 2019.

The Economist's predictions are bleaker, stating that, while innovation has always resulted in job losses, the economies of the past have been able to develop new roles for the workers who lost jobs. They argue that the pace of change this time around is so much faster, and governments and economies (both developed and under-developed) won't have enough time to adjust and determine where the next 'lost generation' is going to find work.

Understanding that we can only do so much to predict exactly how the future will unfold, the AAAC has set out to do our best to prepare the advancement and nonprofit workforce for the future in order to take the greatest advantage of the benefits that AI will bring to our industries.

In order to do so, the AAAC looked to existing writings about strategies focused on addressing the future of the labor force in the AI-driven economy. The AAAC further narrowed its focus on developing strategies for on-the-job worker reskilling in order to address those in our sector who are most vulnerable to the impending changes.

To build the framework for its approach, the AAAC primarily relied on two sources – Northeastern University President Dr. Joseph Aoun's book "Robot-Proof: Higher Education in the Age of Artificial Intelligence" and the January 2018 report published by World Economic Forum (WEF) and The Boston Consulting Group titled "Towards a Reskilling Revolution – A Future of Jobs for All."

The latter publication proposes that, "as the types of skills needed in the labour market change rapidly, individual workers will have to engage in life-long learning if they are to remain not just employable but are to achieve fulfilling and rewarding careers that allow them to maximize their employment opportunities." It then hypothesizes that economically successful individuals of the future will be those who are able to work alongside machines or those who complement "the work done by mechanical or algorithmic technologies." [21]

Dr. Aoun similarly outlines three new literacies - technological, data, and human - that will empower us to use the digital world to its fullest potential, as we network with both other people and machines. To gain these literacies, Dr. Aoun states, people will need to master four cognitive capacities:

1. Critical thinking
2. Systems thinking
3. Entrepreneurship (a.k.a. the act of creating value in original ways)
4. Cultural agility

The first two capacities can be viewed as meta-skills that everyone needs to analyze and apply ideas and to understand and command complex systems. The latter two are cognitive capacities necessary to make people robot-proof – by being able to create value in original ways and having the capacity to operate in a global economy with an appreciation for the value that different cultural viewpoints bring to an issue or situation.[22] The AAAC recommends that these four cognitive capacities become the framework by which we categorize and evaluate training and upskilling/reskilling opportunities for our employees.

While Dr. Aoun's writing provides a good overarching framework for the types of capacities all current and future employees will need in the AI-powered future, the WEF study proposes more concrete strategies for reskilling and upskilling of existing employees. The study uses a data-driven model to discover reskilling pathways and job transition opportunities for employees in specific roles and sectors. Its model uses the comparison of job requirements between two jobs to compute a similarity score. This score then helps identify transition options from a job that is projected to be eliminated to one that is projected to remain relevant or be created for future needs. The viability of these options is further narrowed down based on its long-term prospects and salary comparison with the original job.

As the basis for its analysis, this report uses the Bureau of Labor Statistics' projections that predict the US labor market will see structural employment decline of 1.4M redundant jobs by 2026, alongside 12.4M new jobs being created. According to these projections, the sector that is most applicable to our profession, the Office and Administrative job family is forecast to experience sufficient new job gains that we don't have to worry about massive unemployment within the industry, but we should consider reskilling pathways.

The AAAC recommends that the methodology used in this study be used as the blueprint for addressing reskilling needs of workers within the advancement and nonprofit industries. The following are recommended steps to creating a roadmap for our industries:

1. Identify which jobs are most at risk
2. Identify job transition opportunities using the methodology from the WEF study
3. Map potential reskilling pathways from current jobs to future opportunities
4. Identify types of training needed to successfully move employees along the reskilling path
5. Evaluate and organize all current and future training opportunities in our profession using the framework of Dr. Aoun's four cognitive capacities

HOW INDUSTRY ASSOCIATIONS CAN HELP PREPARE ADVANCEMENT'S WORKFORCE FOR AI

As we have expressed in our research, the AAAC believes that AI will transform advancement in many ways, including expanding our expectations of achievable outcomes and the roles that serve organizations in these philanthropic fundraising efforts. In order to best prepare the advancement industry for the latter and accelerate the pace at which all nonprofit organizations can employ AI technology, it is imperative that we begin developing pathways for training the workforce in the skills of the Fourth Industrial Revolution.

Of the jobs that are at high risk of being affected by automation, as outlined in Table 1, there are many roles for which we need to develop pathways for reskilling the people in those positions. In Advancement Services/Prospect Development: data processors, prospect researchers, and data analysts; in Communications: social media professionals; in Fundraising: various annual gift officer roles and responsibilities; in Donor Relations and Stewardship: mid and entry-level roles.

The question is: who holds the responsibility to develop pathways for reskilling our workforce? Gratefully, within advancement, we already have a foundation of professional industry organizations that help our workforce keep their strategies on-point and skills sharp, adapt to trends and technology, and ensure that we approach our roles ethically and responsibly. Most in the industry know these organizations by name. We attend their conferences, earn professional development credits from their workshops and webinars, network amongst members, and more. These organizations include CASE, CFRE, AFP, AHP, and more. A small subset of these organizations have taken the first step in helping their constituents understand how AI will change our industry, and potentially their career trajectory, by including AI talk tracks at their conferences. However, for meaningful change, we need more.

It is the assertion of the AAAC that we must partner with these industry organizations as their constituents explore, build, and deploy AI to achieve their missions. Further, these organizations can benefit from the AAAC's research. This includes best practices to properly understand the strategies for using AI in advancement (e.g. the technologies involved in AI, achievable outcomes, methods of accelerating adoption) as well as creating and teaching the curricula of workforce development in the age of AI.

Additionally, the AAAC believes that organizations in the private sector could drive content and teaching in ways that will accelerate AI learnings, skill development, and outcomes. Our for-profit peers often find themselves ahead of the nonprofit market in these respects and this is one time in our industry's history that we have the ability to close the gap, quickly.

Next Steps:

In its efforts to guide the ethical use of AI in advancement, establish a foundation of workforce development skills and best practices, and develop industry partnerships to inform organizations as they explore, build, and deploy AI in pursuit of their missions, the AAAC will look to build partnerships to accelerate these initiatives.

We will formally approach both industry groups that serve us and develop strategic partnerships with private organizations that can accelerate and guide the reskilling of our workforce. A logical first step is to partner with these organizations to educate fundraisers on the ways that AI will change their careers and our industry. It is important that this work begins quickly, as the age of AI is already upon us.

THE PLEDGE FOR AI IN ADVANCEMENT

This report is the first in a long line of anticipated work from the members of the AAAC. It is our hope that this first industry report on the state of AI in advancement opens our readers' eyes to the fact that AI has already changed our industry for the better. It is imperative that we guide the application and use of this transformative technology to ensure that its future impact is positive across the board.

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THE PLEDGE FOR AI IN ADVANCEMENT

Artificial Intelligence (AI) and philanthropy are intrinsically tied. In 1956, John McCarthy coined the term “Artificial Intelligence” in his proposal for funding of a Dartmouth summer research project. That project, funded by a Rockefeller Foundation Grant, was the birthplace of AI and made possible by philanthropy. Today, AI has the potential to dramatically return the favor and change the landscape of the nonprofit sector. Together, the members of the AAAC aim to change the world by accelerating the impact that nonprofit organizations can have on the world at large by applying AI in advancement.

For this reason, and as a result of the findings from the first State of AI in Advancement Report, the members of the AI in Advancement Advisory Council (AAAC) recommend that every organization tied to philanthropy consider the following pledge, that promotes human values, full transparency, workforce training, shared benefits, open dialogue, and a structure for elevating trust as we guide, build, and apply AI in advancement. We, the members of the AAAC, endorse the following:

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THE PLEDGE FOR AI IN ADVANCEMENT

Promotion of Human Values

While humans demonstrate a variability in ethics as they pursue objectives, algorithms are more intentional. They are designed, tested, and adopted. AI approaches in advancement should unconditionally honor the Donor Bill of Rights and be designed and implemented in such a way that their goals align with widely recognized ideals of human dignity, rights, freedom, and fairness.

Full Transparency

AI and data should not be a black box, nor should it be used to knowingly discriminate or bias against segments of the population. Where technically feasible, algorithms will contain mechanisms for human-in-the-loop understanding and transparency in decision-making. We will promote “open borders” between practitioners, builders and data sources to allow for an equal and understandable playing field.

Provide Workforce Training

Augmentation. When the intent of AI is to expand the capabilities of human counterparts, we will take steps to reduce the burden on users to achieve optimal human performance.

Automation. In the case where AI replaces its human counterpart, we will proactively retrain and up-skill personnel to ensure their continued productivity.

Shared Benefit

AI technologies should broadly benefit humanity and all nonprofits; not only an elite few.

Open Dialogue

As AI is an evolving and growing subject, we will promote the open discussion of the benefits and drawbacks of AI; no subject can be taboo for fear of limiting the understanding of ethical outcomes.

Elevating Trust

The currency of Advancement is trust. Donations, whether monetary or otherwise, are exchanged in good faith that an organization will deliver on its promises with intentional increased resources. AI approaches must strive to elevate trust by improving the donor experience.

This pledge is signed by the members of the AAAC to adopt individually at their respective organizations and to promote with all stakeholders of the nonprofit community.

FOOTNOTES & RESOURCES

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