

# Optimism and Ethics

An AI Reality Check



“Artificial Intelligence is a ground-breaking technology that will fundamentally transform business on a global scale. We believe AI will act as the key driver of the next evolution in how humans work and live. It is essential that both business and community leaders understand the opportunity presented by this new technology.”



**Stephen Kelly, CEO of Sage**

## Introduction

The impact of AI is global. Perceptions of AI vary across tech, business and consumer communities around the world, but one thing is clear: AI's impact on business and, soon, our daily lives, is the tech topic of our time.

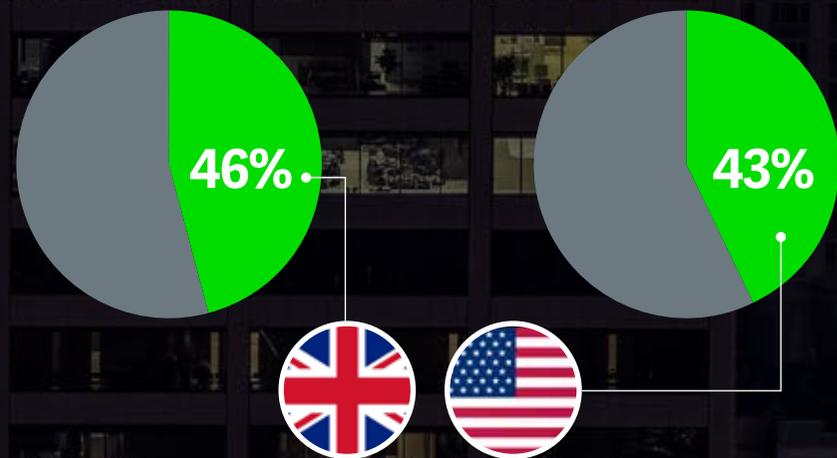
"Indeed, there's a lot of hype around what AI can do, how it will change lives, and which risks we need to address directly. At Sage, we take AI's business utility seriously. My team works daily to understand the underlying technology and mitigate challenges, which range in focus from ethics to efficacy.

"Ultimately, we see AI as an opportunity to authentically inject diversity, ethics, and inclusion into the business world, while also streamlining - and one day removing - administrative burdens. That's why we developed Sage's core principles for designing AI for business to cover all the issues AI touches - from diversity to job creation. But, this isn't something we can solve alone. The question of AI, ranging from its role in business all the way to its role in the future of humanity (Elon Musk, for instance, has stated "AI will be the best or worst thing ever for humanity") must be answered collaboratively, by a diverse community of varying backgrounds.

"To that end, we conducted a survey of thousands of individuals across technology and consumer communities in the United States and United Kingdom. Our aim was to better understand the real human attitudes toward AI, to pinpoint where and how people develop their perceptions of AI, and to continue to work to identify the real, immediate issues that need to be addressed.

"Some of our findings were surprising. Although most people are optimistic about AI, many - nearly half of all consumers surveyed - readily admitted they have "no idea what AI is all about." Although those in the technology industry consider AI to be the most important topic around right now, there is a lot we still need to do to better educate the world about AI, define it, and communicate what it can really do."

**Kriti Sharma,**  
VP of Artificial Intelligence, Sage



**An urgent need for AI Education**  
Consumers admitted they have "no idea what AI is all about"



## Overall Optimism: The World Stands Ready To Embrace AI.

Our survey data shows that people in the United States and the United Kingdom are generally optimistic about Artificial Intelligence. The most extreme negative prediction – that robots will “take over” – is widely rejected by both technology communities and average consumers alike.

In fact, our findings show that the most extreme negative prediction – that robots will “take over” – is widely rejected by both technology communities and average consumers. Respondents from the U.S. and UK were 2-5% more likely to select “none” in a list of possible negative outcomes that may result from AI than predict the subjugation of humanity by “robot overlords.”

UK consumers were the most doomsday-oriented, with 17.4% of respondents predicting humanity’s downfall at the hands of robots. Notably, a larger number of U.S. tech respondents (18.1%) selected the subjugation of humanity than UK tech respondents (12.1%).

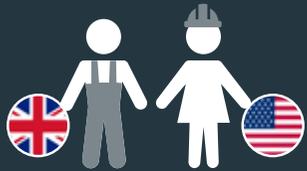
A large majority of people surveyed – more than 4 out of every 5 responses – indicated optimism (...or at least neutrality) when it came to this technology’s potential to make their lives better in the near future. UK technology professionals tended to be the most optimistic (32.2%), while UK consumers tended to be more pessimistic (23.2%). In the U.S., technology professionals and average consumers were more closely aligned on optimism.

The clearest benefit respondents think AI will deliver is the elimination of repetitive workplace tasks. In fact, this was the most selected response to this question with almost half (48%) of respondents from the UK tech community marking the elimination of repetitive tasks as a key benefit – compared to 40.7% of U.S. tech respondents. Meanwhile, 40.9% of UK consumers noted that AI could diminish the need for repeating tasks – compared to 41.2% of U.S. consumer respondents.

With the majority of respondents seeing the benefit of elimination of repetitive workplace tasks, it is clear that the proliferation of chatbots and other early use-cases in the enterprise has begun to break through to mainstream awareness. The survey’s findings indicate that consumers understand at least some of the positive benefits of workplace AI despite persistent wariness about its job replacing and security risks. This presents AI builders and creators with an opportunity to shape consumer perception and work to ensure humans firmly have a place in an automated future.

## AI Evangelists

Most excited by the possibilities AI brings.

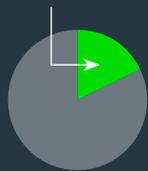


For non-tech workers in the U.S. and UK those between the ages of

**25 - 34**

are the most optimistic about AI increasing their quality of life.

**18%**



For tech workers in the U.S. and UK, those between the ages of

**35 - 44**

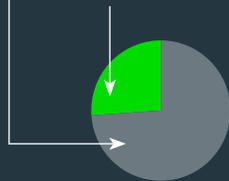
are the most optimistic.

Of the 181 respondents who answered "Increased quality of life,"

**19%**

were between the ages of 35 and 44.

**74%** of those were male and **26%** were female.



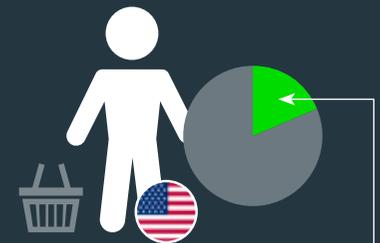
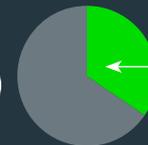
Women in the U.S. between the ages of

**18 - 24**

with a background in technology are leading the charge, making up the largest percentage.

**38%**

of women who believe AI will make their lives better in the near future.



U.S. retail workers are the most optimistic that Artificial Intelligence will make their lives better in the near future.

**18.7%**



Healthcare is the least optimistic with

**21.6%**

expressing no optimism.



## Tech Insiders Vs. Consumer Observers

While AI optimism is shared by both those who work with technology and the general public, there are some significant differences around other key issues. The tech community, some of whom work for companies exploring potential AI use-cases for conducting business, are more likely to embrace AI's positive potential. Consumers, though generally optimistic, are more likely to be concerned about the potential for technology to dehumanize interactions or lead to job displacement.

Unsurprisingly, our survey found that the adoption of AI technologies was higher in tech communities than consumer groups. Virtual assistants were the most-adopted AI use case among the examples provided in both consumer and technology communities. In fact, 22% of UK tech respondents use AI-powered voice assistants – compared to 21% of U.S. tech respondents. To a lesser extent, members of both tech communities surveyed currently employ the use of chatbots.

While chatbots constitute a different technology, it is important to note that voice assistants serve as the best entry point for AI integrations with chatbots and more complex AI networks. In other words, the survey indicates voice assistants and chatbots have clear opportunities to contribute to the democratization of AI across business, tech and the general public.

Respondents with exposure, directly through use or indirectly through research and press, understand AI's value proposition more than those without it. In general, we found that more AI education and exposure leads to better sentiment about its future. For instance, only 2.9% of respondents in the U.S. tech group who consider themselves to be "early adopters" of AI technology were concerned about a robot takeover, while U.S. consumers who indicated that they frequently read media coverage about AI were most likely to be "very optimistic."

Although AI adoption is still in its initial stages, many respondents were at least willing to consider using AI to manage both personal and professional activities on their behalf. Respondents from the tech communities in the U.S. and UK are more willing to use AI for professional and personal tasks than consumers.

Within the U.S., it was interesting to note a closer alignment on the use of AI for personal tasks (59.3% of consumers being open to it versus 63.1% of tech respondents) and a wider gulf when it came to professional tasks (53.6% consumers versus 60.1% of tech respondents).

# Insiders Vs. Observers

The big differences in tech and consumer community responses.



Tech insiders V Consumers

Most in the tech communities have at least heard of it.

Many in the consumer communities have no idea what it's about.

The technology communities are far more involved.

There is still work to do when it comes to increasing awareness around AI when it comes to consumers.



Over **33%**

of respondents, both in the UK and U.S., frequently read media around AI to stay involved in what's going on.



Over **40%**

of respondents, both in the UK and U.S., say they "have no idea what AI is all about."



Tech insiders V Consumers

In general, technology communities are much faster than consumer communities to adopt emerging technologies such as AI, chatbots, voice assistants and more.

When it comes to artificial intelligence, tech insiders are far more likely to be an early adopter as new technologies emerge. Consumers are far behind:



**13%**

of the U.S. tech community are early adopters.



**16%**

of the UK tech community are early adopters.



Less than **5%** of U.S. consumers are early adopters.



Only **6%** of UK consumers are early adopters.



Tech insiders V Consumers

There's still a general mistrust in the consumer communities when it comes to AI supporting everyday personal tasks, where the tech insiders are more willing to at least give AI a shot at things like booking doctors appointments.



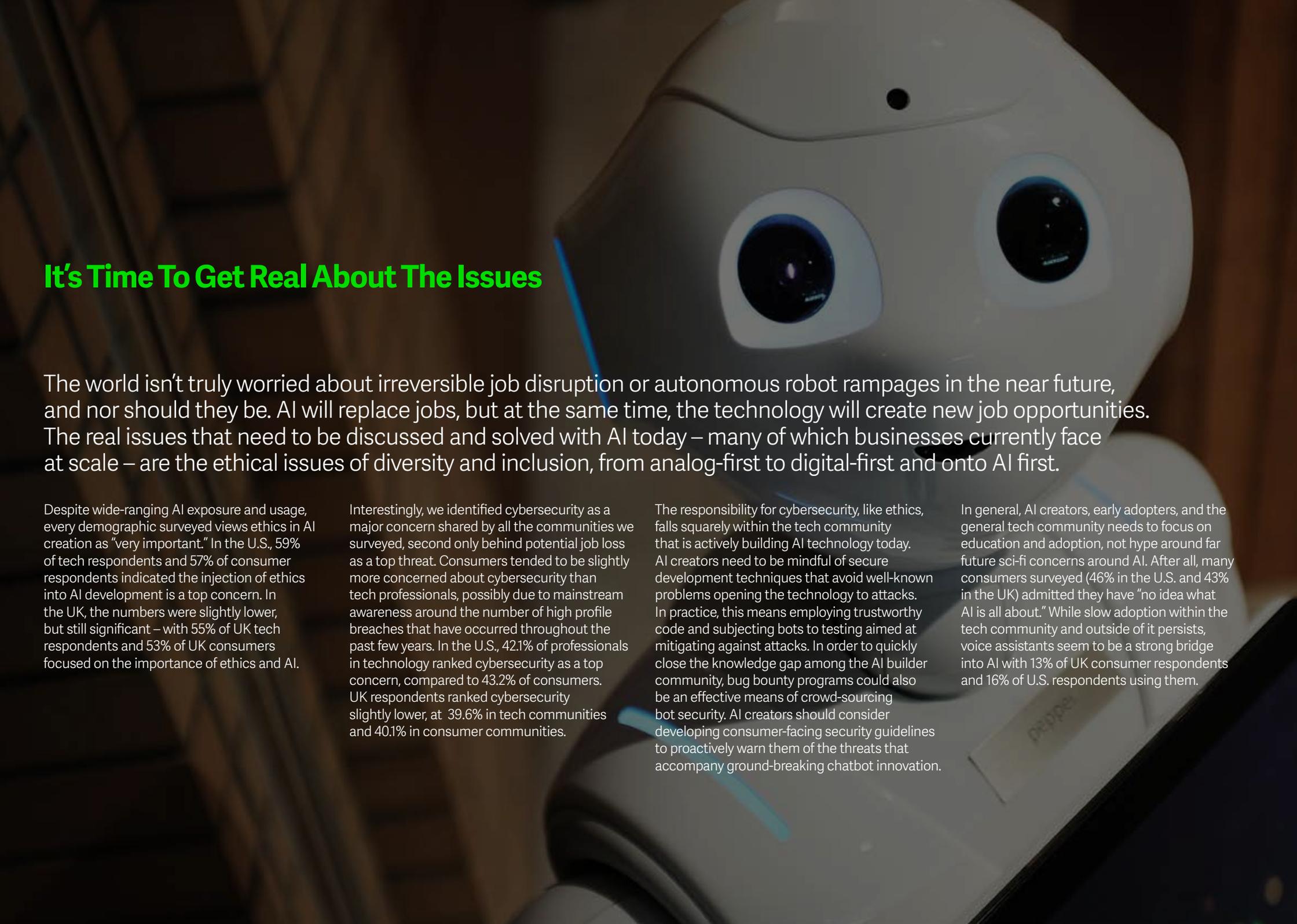
Over **30%**

of U.S. and UK tech communities are beginning to warm up to the idea.



Less than **25%**

of U.S. and UK consumers would trust AI to manage everyday tasks.



## It's Time To Get Real About The Issues

The world isn't truly worried about irreversible job disruption or autonomous robot rampages in the near future, and nor should they be. AI will replace jobs, but at the same time, the technology will create new job opportunities. The real issues that need to be discussed and solved with AI today – many of which businesses currently face at scale – are the ethical issues of diversity and inclusion, from analog-first to digital-first and onto AI first.

Despite wide-ranging AI exposure and usage, every demographic surveyed views ethics in AI creation as “very important.” In the U.S., 59% of tech respondents and 57% of consumer respondents indicated the injection of ethics into AI development is a top concern. In the UK, the numbers were slightly lower, but still significant – with 55% of UK tech respondents and 53% of UK consumers focused on the importance of ethics and AI.

Interestingly, we identified cybersecurity as a major concern shared by all the communities we surveyed, second only behind potential job loss as a top threat. Consumers tended to be slightly more concerned about cybersecurity than tech professionals, possibly due to mainstream awareness around the number of high profile breaches that have occurred throughout the past few years. In the U.S., 42.1% of professionals in technology ranked cybersecurity as a top concern, compared to 43.2% of consumers. UK respondents ranked cybersecurity slightly lower, at 39.6% in tech communities and 40.1% in consumer communities.

The responsibility for cybersecurity, like ethics, falls squarely within the tech community that is actively building AI technology today. AI creators need to be mindful of secure development techniques that avoid well-known problems opening the technology to attacks. In practice, this means employing trustworthy code and subjecting bots to testing aimed at mitigating against attacks. In order to quickly close the knowledge gap among the AI builder community, bug bounty programs could also be an effective means of crowd-sourcing bot security. AI creators should consider developing consumer-facing security guidelines to proactively warn them of the threats that accompany ground-breaking chatbot innovation.

In general, AI creators, early adopters, and the general tech community needs to focus on education and adoption, not hype around far future sci-fi concerns around AI. After all, many consumers surveyed (46% in the U.S. and 43% in the UK) admitted they have “no idea what AI is all about.” While slow adoption within the tech community and outside of it persists, voice assistants seem to be a strong bridge into AI with 13% of UK consumer respondents and 16% of U.S. respondents using them.

## The Ethics of Code

Developing AI for Business  
with Five Core Principles.

**1**  
AI should reflect  
the diversity of the  
users it serves.

**2**  
AI must be held to  
account—and so  
must users.

**3**  
Reward AI for  
'showing its  
workings'.

**4**  
AI should level the  
playing field.

**5**  
AI will replace, but it  
must also create.



## Conclusion

Sage's first foray into surveying consumer and tech sentiment about the current nature and future of artificial intelligence revealed clear optimism, varied perceptions, and real issues impacting the adoption of the technology in the workplace and home. While the survey's scope covered two countries and two distinct demographics in each country, it shed light on key universal concerns and questions.

Survey respondents noted the positive potential for AI to replace repetitive tasks plaguing workplace productivity, the negative potential of AI to take jobs away from people, and the mixed potential for AI to take over certain parts of their professional and personal to-do lists. The tech communities in both the UK and U.S. revealed that they have more exposure to AI through personal use and research than consumer respondent groups.

Ultimately, companies and technologists developing AI should pay attention to consumer awareness in the U.S. and the UK of the importance of ethics to AI development (exceeding 50% in every demographic). They should keep in mind universal concerns about AI's potential to replace human work and create cybersecurity vulnerabilities. Addressing key consumer concerns and reinforcing consumer optimism will be crucial to ensuring future adoption of AI technologies to aid humans from all backgrounds through various aspects work and life.

Sage's machine learning and AI journey began in 2016 when we launched Pegg, the world's first accounting automation personal assistant. Powered by AI, Pegg makes managing business finances as easy as texting a friend via popular messaging tools on Facebook and Slack.

Today we are embedding AI and machine learning into products across our portfolio, to help our customers cut the burden of administration, accelerate solving their problems and enhance the performance of their workforce as well as aiding productivity.

In addition to allying AI to HR and Payroll functions we are also using machine learning and AI to prompt businesses with automated insights, for example benchmarking how they are performing and improving marketing spend. The information generated using Machine Learning and AI, will be extremely valuable for the users, providing previously unrecognized insights about business performance or even future challenges.

These use cases highlight some of the benefits of AI by bringing enhanced productivity, improving accuracy and reducing customer wait times as businesses and consumers alike embark on the 4th industrial revolution.

As our research suggests knowledge about AI is shallow amongst consumers, who risk being left behind if they don't begin to acknowledge or be knowledgeable of AI. As a technology provider, we believe it our role to first educate consumers on the vision and benefits and then provide the solution that meets this ideal.

## Methodology

Sage's overarching goal through this effort was to unveil real consumer and tech perceptions of AI, pinpoint specific areas of consumer and tech focus around the technology, understand the role(s) of education and media in public opinion of AI, and to address major concerns people have about the future of AI in the workplace. To do so, Sage used Google Surveys between August 2-5, 2017 to collect responses from 500 consumers in the United States, 500 consumers in the United Kingdom, 250 people who work in the U.S. tech industry and 250 people who work in the UK tech industry for this project. Our dedicated team of AI developers and researchers formed the questions – identical for each demographic – based on Sage's own experience creating, deploying and implementing AI in both a work and consumer context. We analyzed survey responses for evidence of both distinct and shared areas of concern, optimism and uncertainty.

## About Sage

Sage (FTSE: SGE) is the global market leader for technology that helps businesses of all sizes manage everything from money to people – whether they're a start-up, scale-up or enterprise. We do this through Sage Business Cloud - the one and only business management solution that customers will ever need, comprising Accounting, Financials, Enterprise Management, People & Payroll and Payments & Banking.

Our mission is to free business builders from the burden of admin, so they can spend more time doing what they love – and we do that every day for three million customers across 23 countries, through our 13000 colleagues and a network of accountants and partners. We are committed to doing business the right way, and giving back to our communities through Sage Foundation.

[> Find out more here](#)