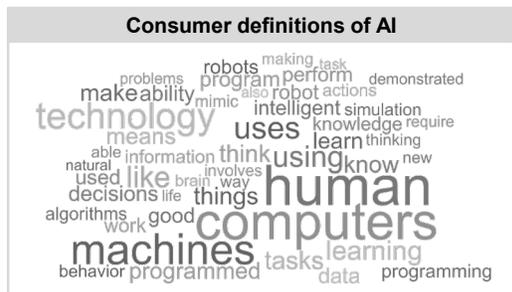
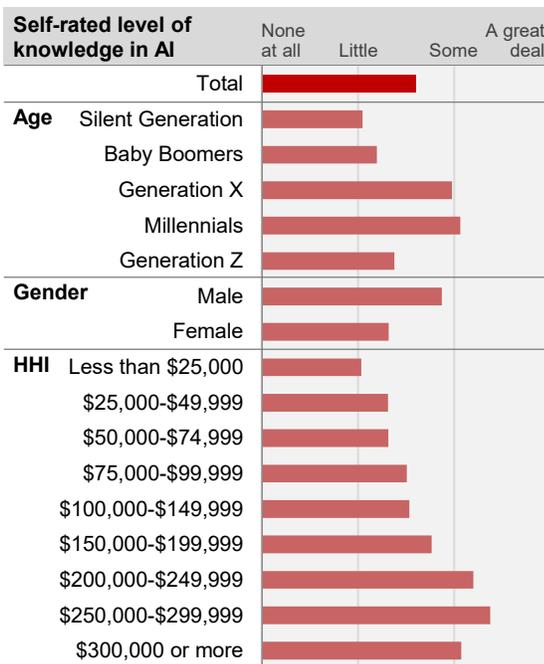


1. Consumer attitudes toward the implementation of AI into life, work and care

People are living longer than ever before – and this era of longevity is being shaped by rapid advancements in technologies driven by artificial intelligence (AI). This issue brief is the first of a series that describes findings from the MIT AgeLab’s AI & Longevity study, which surveyed a group of consumers and experts on their anticipated impacts of AI across a longer life course. Here, we focus on consumer attitudes and beliefs regarding implementation of AI with related comments from experts.

Consumer knowledge and definition of AI

On average, consumers believed that they have little to some knowledge about AI. Millennials and Gen X reported higher self-rated knowledge of AI, while Gen Z, Baby Boomers, and the Silent Generation reported being significantly less knowledgeable. Other characteristics associated with having a higher self-rated knowledge of AI included being male, having a higher income, having a higher level of education, and being employed.



Expert thoughts and opinions

We surveyed an expert panel about the impact of the implementation of AI across various aspects of life in an era of longevity. The panel consisted of more than twenty domain experts in the areas of computer science, health informatics, technology law and policy, and science and technology studies.

Defining AI:

“the most useful definition is one that uses algorithms and statistical models to allow computers to make decisions without having to explicitly program the computer to perform the task. Machine learning algorithms build a model on sample data used as training data in order to identify and extract patterns from data, and therefore acquire their own knowledge. Most AI today is not totally autonomous, but requires some human intervention.”

- An intellectual property lawyer

Benefits:

“By far I think the most important benefits to society from AI will be in the area of health and medical care. Humans are prone to many small mistakes in this area and missing small pieces of information. AI may not be prone to these same mistakes and could greatly enhance our lifespan and quality of life.”

- Director of data science and AI in the finance industry

“If designed and implemented with care [AI systems] can benefit society tremendously. Some examples are detecting illnesses before symptoms manifest themselves, discovering new drugs that are more effective and less toxic to the body, finding new ways processes can be optimized to reduce waste while producing more value, revealing suspicious behavior that could indicate bad intent (on the web or in the real-world). More generally the biggest benefit of AI is its potential role as an assistant with quasi-limitless computational resources that can support us humans in solving challenges for a happier and fairer society.”

- Head of computer vision at an augmented reality company

“AI should ideally allow people to make better and more informed decisions. Electronic systems also can optimize allocations of resources that should lead to increased efficiencies and optimization of effort/focus.”

- A genomics researcher at Harvard University

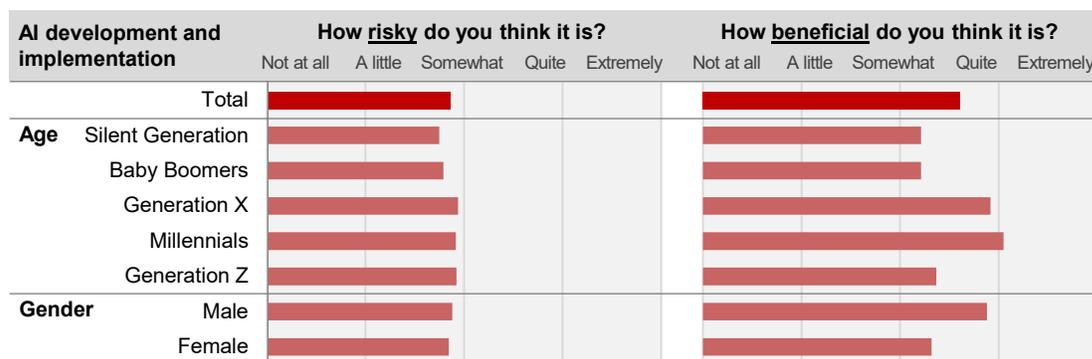
Public attitudes of AI development and implementation

In general, consumers had favorable views toward the use of AI. While responses were not heavily skewed, participants were more likely to agree than disagree with the following*:

- The benefits of using AI in my life outweigh potential risks (avg = 3.5)
- I would trust insights generated by AI applications (avg = 3.6)
- I would be willing to use products and services that rely on AI to make decisions (avg = 3.6)

* Asked on a 5-point scale from 1 = strongly disagree to 5 = strongly agree.

A comparison between different demographic groups showed that Generation X and Millennials, men, individuals with higher incomes, and those with higher education perceived AI as significantly more beneficial, had higher trust, and were more willing to use AI-enabled products and services. Perceived risk, on the other hand, consistently ranked near the middle of the scale across various demographic groups, which may point to uncertainties felt by consumers about AI’s riskiness.



Risk and benefit perceptions across AI application domains

Similar to perceptions of risk and benefit of AI development and implementation in general, consumers on average perceived the use of AI in various application domains as more beneficial (avg scores 3.17~3.54 on a 1~5 scale) than risky (avg scores 2.86~2.96).

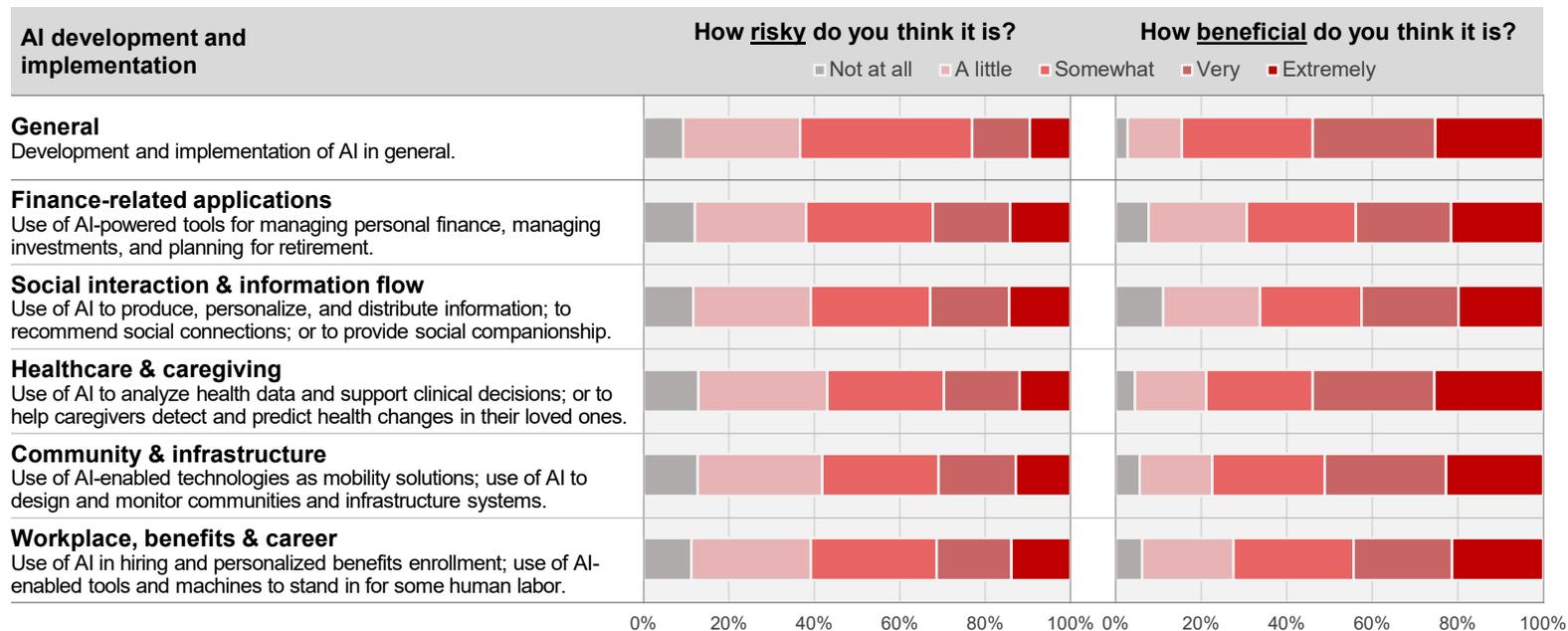
Responses about perceived risk of using AI stayed consistent across application domains. However, more participants said that they believed the use of AI to be “very” or “extremely” risky for specific domains compared to development and implication of AI in general.

In contrast, the perceived benefit of using AI varied to some degree between application domains. The number of participants that rated the use of AI to be “very” or “extremely” beneficial was higher for healthcare & caregiving applications and the community & infrastructure domain, and smaller for finance, social interaction & information flow, and workplace and career.

Challenges:

One expert noted four challenges associated with AI: “(1) **Lack of control:** humans will have no control in many situations which will impact their life (2) **Lack of understanding:** it will be difficult (or even impossible) to understand why certain decisions have been made when the AI models become more complex (3) **faking reality:** the current AI systems can fake reality, e.g. deepfakes (4) **bias:** the model’s accuracy depends on the characteristics of the dataset used for building the model which may result in biases when tested on new data”

-a research scientist at MIT



Summary & implications for practice

- Public attitudes reflect a general belief that AI is likely to be beneficial.
- Self-reported understanding of AI and perception of its benefits are highest among Millennial & Gen X men with higher household incomes.
- Despite the belief in AI benefits, the public remains somewhat concerned about its potential risks, which may reflect public uncertainty.
- Wider public education on what AI is, as well as its potential benefits, may be necessary to bridge a new digital divide that may impact every industry and policy sector.

The MIT AgeLab is working with Bank of America to explore these questions and to better understand AI’s current impacts and to envision future applications and implications. Panels of subject matter experts and consumers have been surveyed to gather perspectives and thoughts around possible applications, future outlooks, related costs, trust issues, and possible biases in multiple domains of AI implementation.

The data presented in this issue brief were collected from 911 adults in the United States through an online survey. The sample represented various age groups (Silent Generation born ~1945: 13.5%, Baby Boomers born 1946~1964: 27.2%, Generation X born 1965~1980: 25.2%, Millennials born 1981~1997: 24.1%, and Generation Z born 1998~: 9.9%), household income brackets (<\$25,000 annually: 12.7%, \$25,000~\$49,999: 12.6%, \$50,000~\$74,999: 13.0%, \$75,000~\$99,999: 9.5%, \$100,000~\$149,999: 11.7%, \$150,000~\$199,999: 13.1%, \$200,000~\$249,999: 8.9%, \$250,000~\$299,999: 4.7%, \$300,000+: 12.1%, and no answer: 1.6%), and education levels (high school or less: 12.9%, some college or Associate’s degree: 22.2%, college degree: 23.5%, some graduate education: 5.2%, and graduate or professional degree: 36.1%). The sample had an even gender split (male: 51.0%, female: 48.6%, and gender non-conforming: 0.3%), was 58.6% employed (full- or part-time), and was 63.8% White. In the online survey, AI was defined as “machines that are able to make predictions and decisions when presented with novel information within a defined task setting.”

The AI & Longevity Issue Brief Series will draw on multiple parts of the study findings to illustrate ways in which AI may impact lives of people across various characteristics; and to imagine how AI may provide benefits to a longer life in terms of convenience, cost and care. Future entries will present a more focused perspective and detailed results around consumer perceptions of using AI-enabled products and solutions across various aspects of a longer life course, as well as expert discussions regarding the future of AI in a longevity era.

For more information about the MIT AgeLab and the AI & Longevity study, please contact us at agelabinfo@mit.edu or visit our website at agelab.mit.edu.

