

Title: What's the future of generative AI? An early view in 15 charts

Authors: McKinsey & Company

Date: August 2023

Introduction:

Background

Generative AI represents an inflection point in automation technology. It arrives during a period of economic recovery and labor market evolution accelerated by the COVID-19 pandemic. Remote and hybrid work models are now commonplace, while trends like the Great Resignation signal workers rethinking careers.

Current State

Against this backdrop, generative AI promises to transform knowledge work through its natural language capabilities. The pace of evolution in generative AI models and applications has rapidly accelerated since the launch of ChatGPT in late 2022.

Purpose:

Given the speed of progress in generative AI, but also uncertainty about its impacts, this publication aims to synthesize key insights from McKinsey's research to date. The goal is to inform strategies and policies to maximize generative AI's economic benefits while mitigating its risks.

Research Methodology:

McKinsey's rigorous multi-modal research methodology includes expert interviews, use case assessments, global surveys, occupational analysis, and economic modeling. This allows for triangulation and validation of robust findings.

Key Findings:

1. The pace of generative AI progress is rapidly accelerating as new models/capabilities are released frequently. This explosion of innovation provides options but risks overwhelming potential adopters.
2. Generative AI could achieve human performance in many workplace functions by 2040. In some cases, this could be 40 years faster than experts' earlier predictions.
3. Knowledge work activities involving decision making, communication, creativity and collaboration have high automation potential versus physical and routine cognitive tasks.
4. Estimated value potential ranges are: \$200–340 billion for banking, \$240–460 billion for high tech, and \$400–660 billion for retail/consumer packaged goods.
5. Over 80% of surveyed professionals across regions and industries have used some form of generative AI. But actual usage lags capabilities, indicating integration challenges.
6. Top cited risks are biased/inaccurate outputs, cybersecurity vulnerabilities as models scale, and copyright/IP infringement as generative AI takes on creative work.

7. Adoption could provide an estimated 0.2-0.6 percentage point increase to annual productivity growth for developed economies. But this depends on transitioning displaced labor hours into new productive activities.

Recommendations:

- Prioritize high-value generative AI use cases within each industry through detailed assessments of feasibility, costs, risks and value potential.
- Implement human-in-the-loop validation of outputs before publication/usage to minimize errors and bias.
- Proactively upskill and reskill affected workforces by providing subsidies for learning technical and human skills.
- Develop protocols for security, accuracy testing, monitoring and content attribution when applying generative AI to creative tasks.
- Expand portable benefits and income/job transition supports and incentivize employers providing retraining opportunities.

Conclusions:

This influential research by McKinsey elucidates the promise and perils of generative AI during a transitional period. Its rigorous findings provide guardrails for responsible adoption amid uncertainty. If heeded, these insights can maximize generative AI's economic benefits while ensuring gains are inclusive. This work helps societies and businesses lead the technology shift rather than be led by it.

Impact of publication:

McKinsey's rigorous, comprehensive research has informed policy discussions and provided business leaders data-driven insights to harness generative AI. It helps societies and organizations integrate generative AI responsibly and realize its full potential.