

# DPRCG 2024 CONVOCATION

---

## The Future of Work: How AI Tools are Transforming A&E Practices

Ryan Gallagher  
Sr. Software Developer, Kittelson & Associates

G.W. Justin Platts  
PLA, LEED AP, RDG Planning & Design



THE VALUE OF  
**TRUST**

# Learning Objectives

- By the conclusion of this session attendees will understand...
  - The responses of their peers to the Future of Work Survey through the presentation of the results.
  - The evolving skillsets that are likely to be needed by design firms in the near-term if they are to successfully use and incorporate AI Tools into their practice through the experiences shared by the presenters.
  - How AI Tools are currently being developed and used in AE firms through the actual internal and external work shared by the presenters.
  - The cultural impact AI Tools may have on their practices through the stories shared by the presenters.

# Justin Platts



- Justin Platts is a Managing Principal at RDG Planning & Design. Justin has been with RDG since 2003.
- With business roots starting in 1965, RDG is a 230-person design organization serving a broad range of clients nationwide with offices in Des Moines, Omaha, St. Louis, Denver, Iowa City, Madison and the RDG Art Studio.
- Justin is active in firm management and project development through principal leadership.

# Ryan Gallagher



- Ryan Gallagher is a software engineer and cloud solutions architect with 20 years of experience in technology. He has led application development teams and built innovative solutions that streamline and enhance workflows across various industries.
- Focused on integrating AI into architecture and engineering practices, Ryan designs tools that use advanced automation and intelligent systems to transform traditional processes, helping organizations adapt and thrive in the evolving digital era.

# Respondent Role & Experience

- 32 Respondents
- Most respondents (48.39%) hold leadership positions such as Partner, Director, or Principal
- A majority (80.65%) have over 20 years of experience in the industry

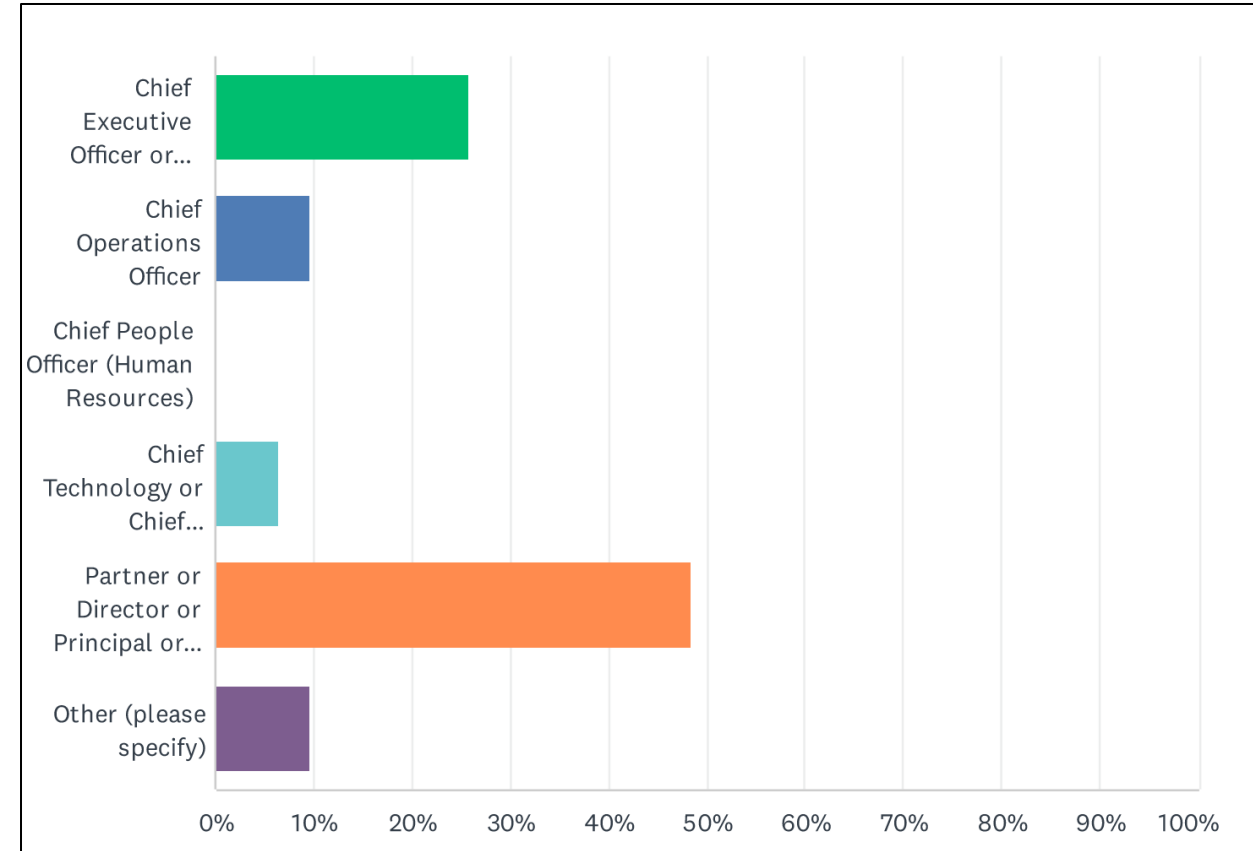


Figure 1: Respondent Roles

# Firm Size & Focus

- The firms surveyed range in size, with the largest group (41.94%) having 100-499 employees
- The primary focus of these firms is split between architecture (35.48%) and a combination of architecture and engineering (45.16%)

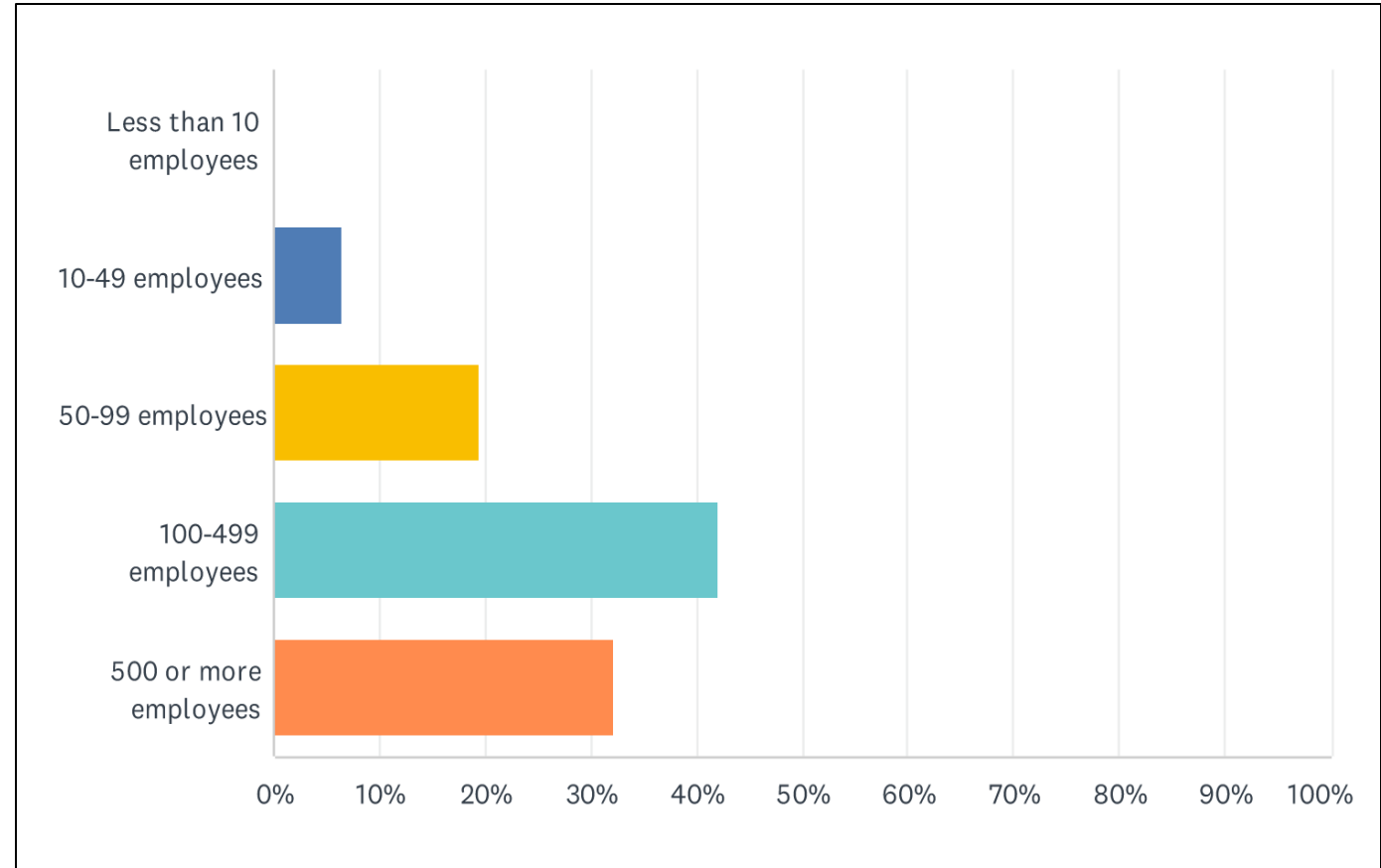


Figure 2: Firm Size

# Project Types

- Respondents indicated their firms are involved in diverse project types, with commercial (64.52%) and institutional (58.06%) being the most common

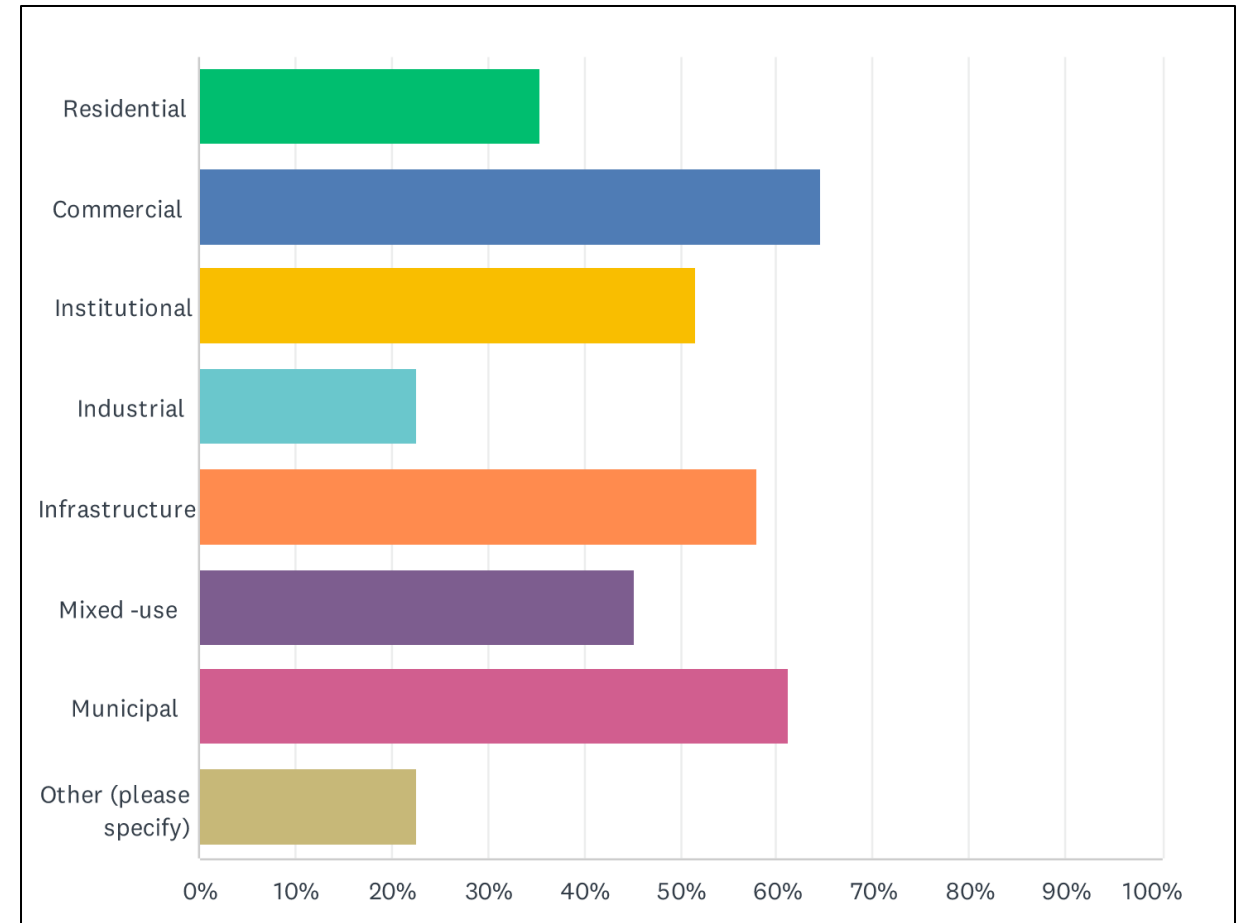


Figure 3: Project Types

# AI Familiarity & Usage

- While 62.5% are somewhat familiar with AI and ML tools, only a small fraction (18.75%) use them often
- Design Automation and Data Analysis are the most commonly used AI/ML applications

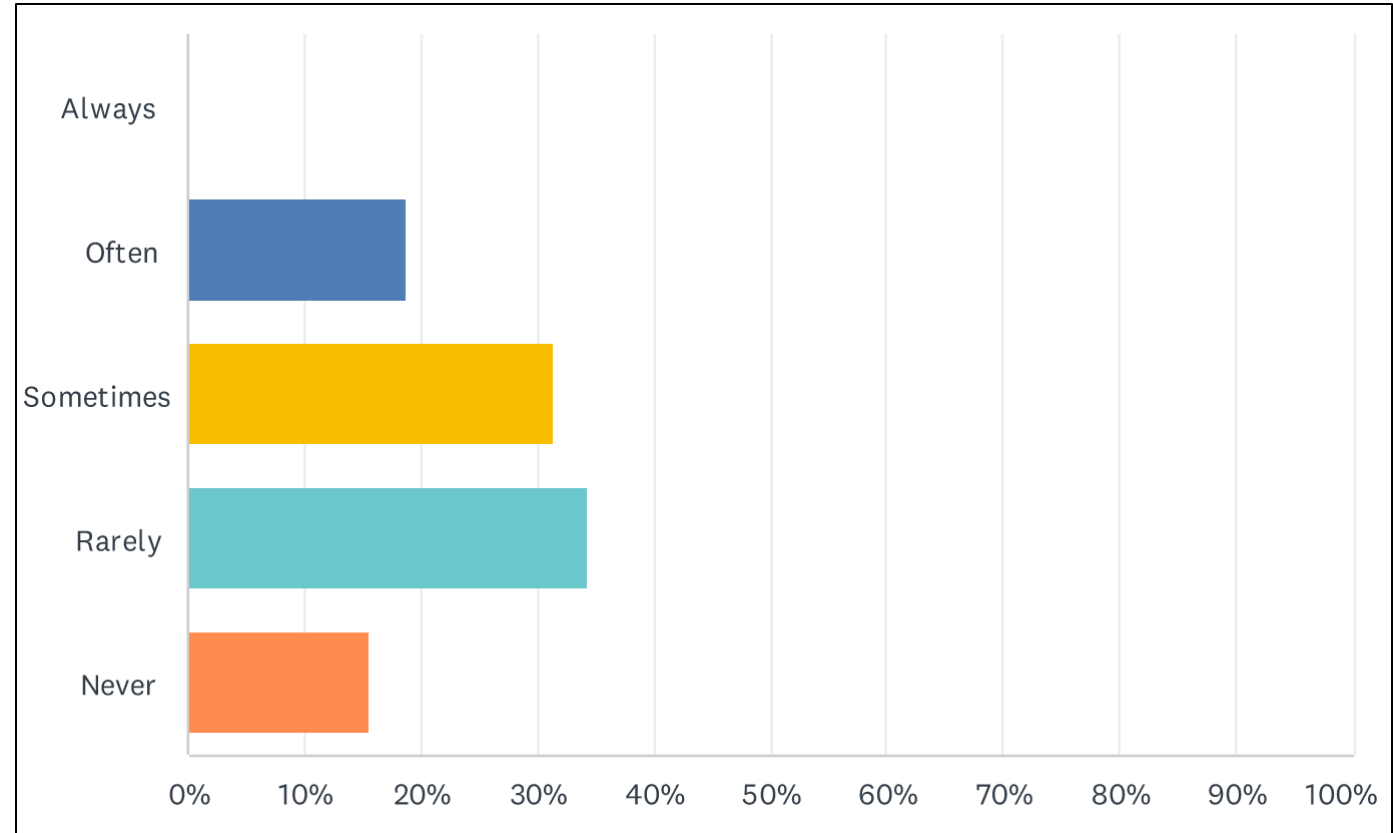


Figure 4: Usage



# Anticipated Benefits

- The key benefits anticipated from AI/ML Tools include
  - Improved design accuracy (73.33%)
  - Increased productivity (65.52%)
- Many respondents also believe these tools enhance creativity and reduce costs

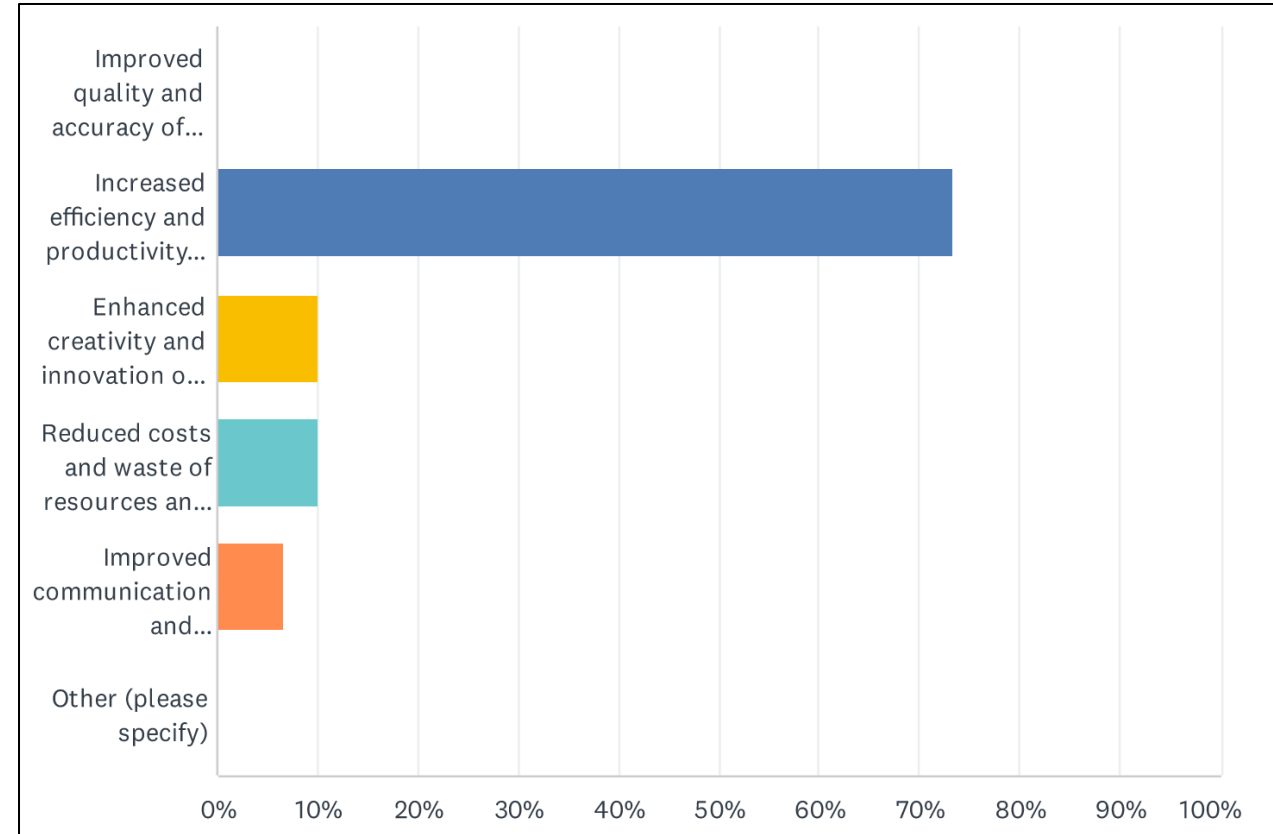


Figure 5: Anticipated Benefits

# Anticipated Challenges

- The major challenges cited include:
  - A lack of knowledge and skills (43.33%)
  - Concerns about data quality (10%)
- Trust in the tools remains a barrier for some firms

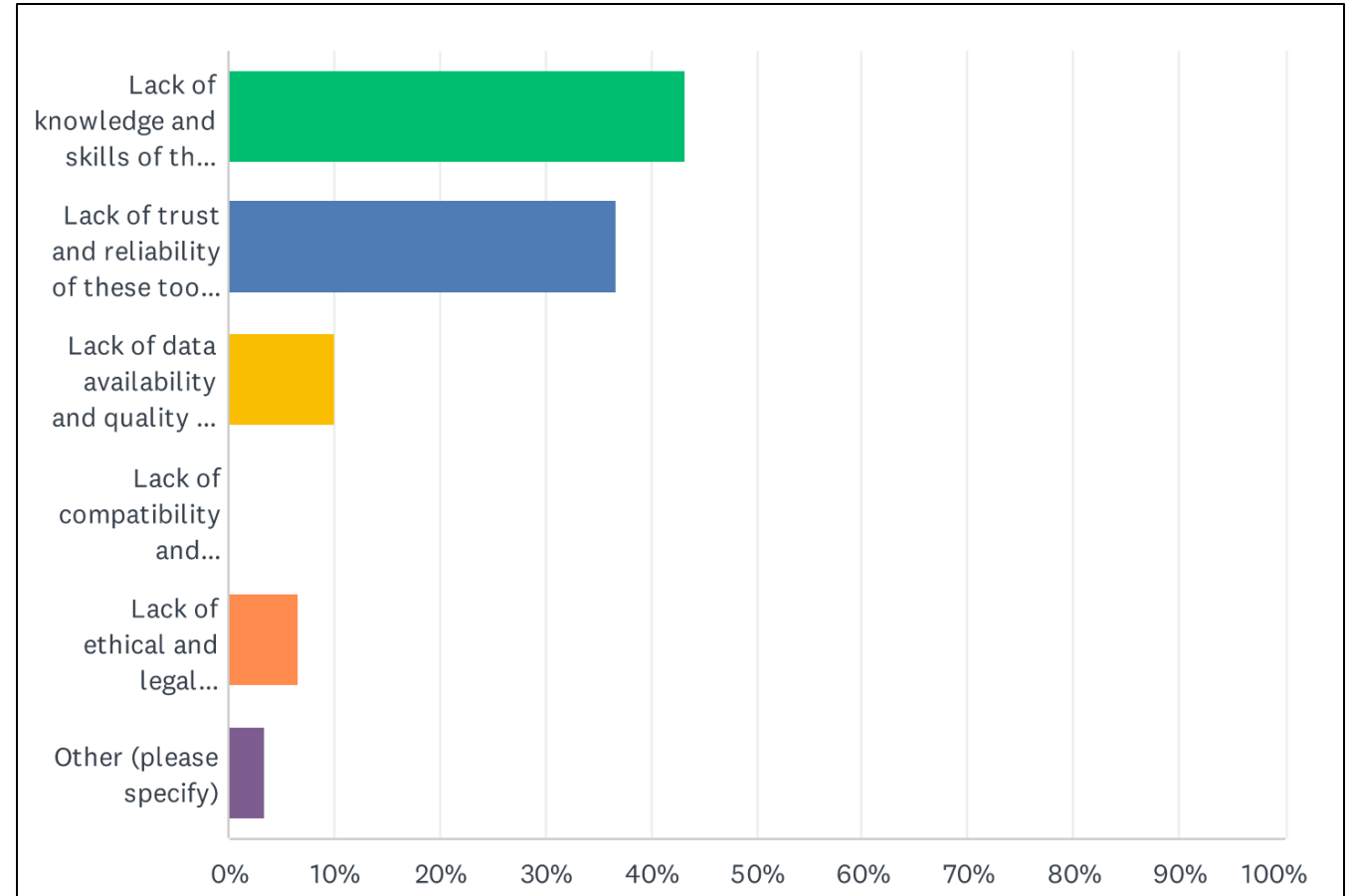


Figure 6: Anticipated Challenges

# Workforce Impact

- AI/ML is expected to increase the utilization of existing staff (48.39%)
- Some believe it may also reduce the need for additional staff

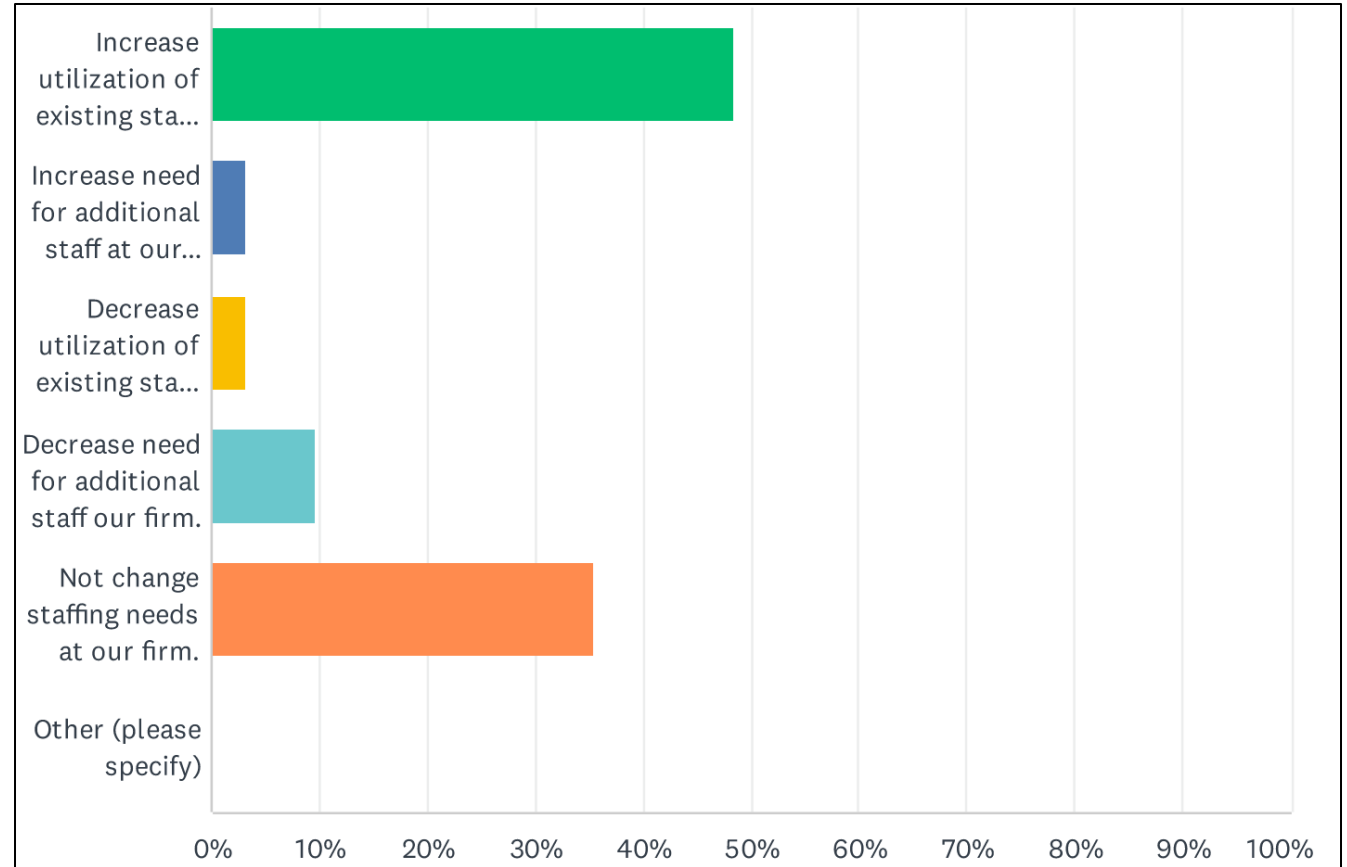


Figure 7: Workforce Impact

# Cultural Impact

- AI/ML tools are generally seen as having a positive influence on firm culture (32.26%), though a significant portion is unsure of the overall impact

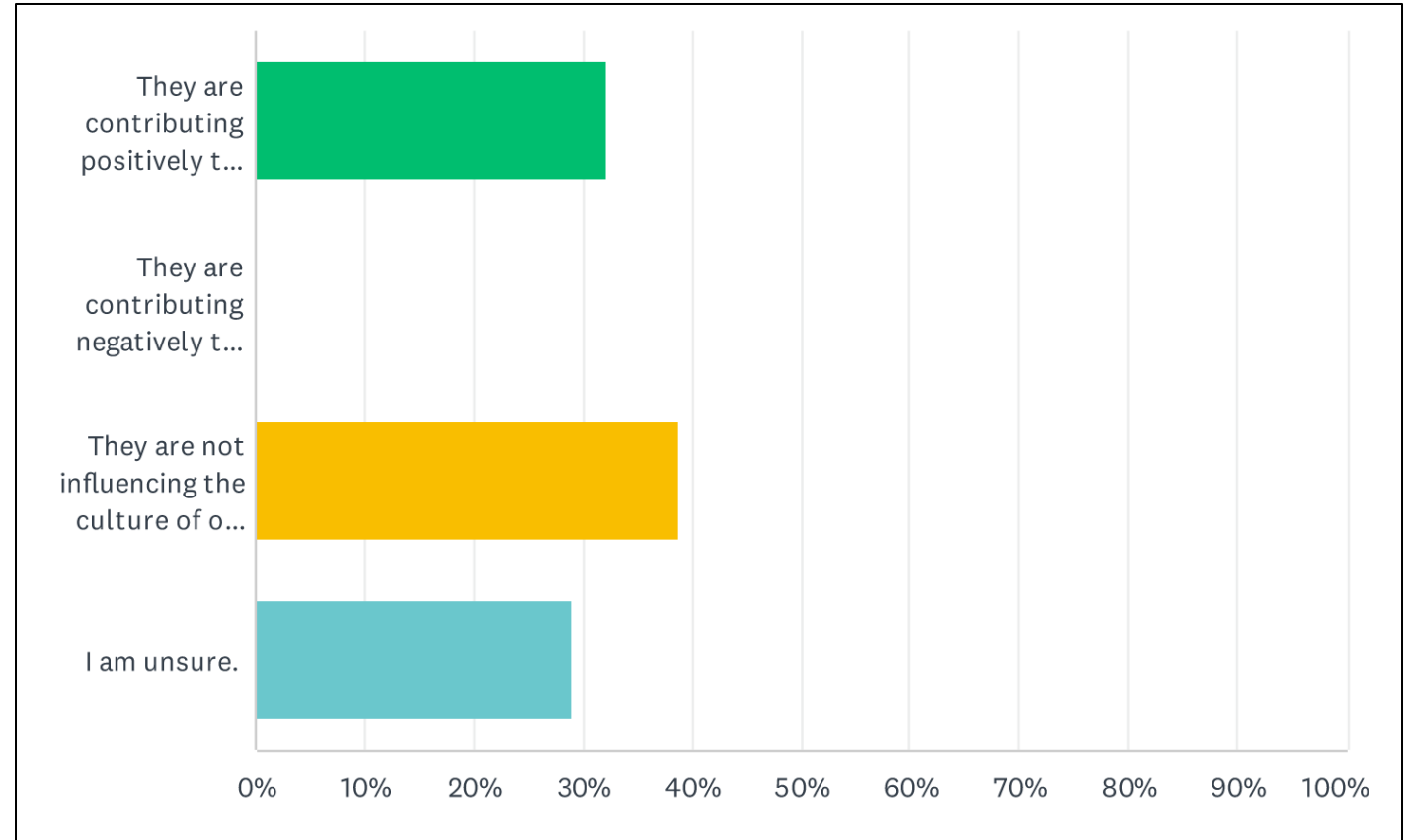


Figure 8: Cultural Impact

# Risk Management

- AI Tools are seen as enhancing risk management capabilities for 29.03% of respondents, though a similar percentage remains unsure

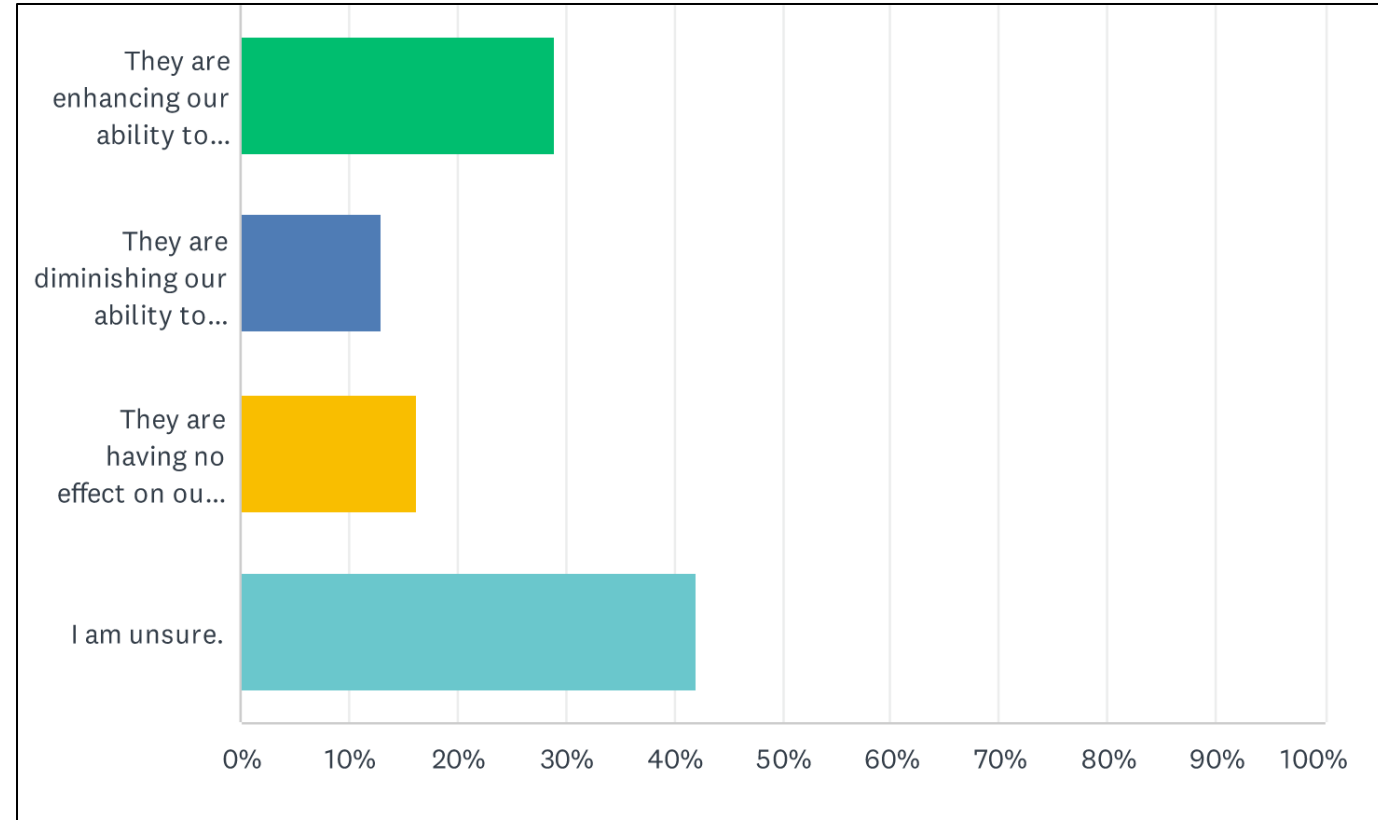


Figure 9: Risk Management

# AI Future in Firms

- Most respondents expect AI/ML Tools to have the greatest impact on their firms within 2-3 years
- Some leadership is open to reducing the standard workweek if productivity gains are significant

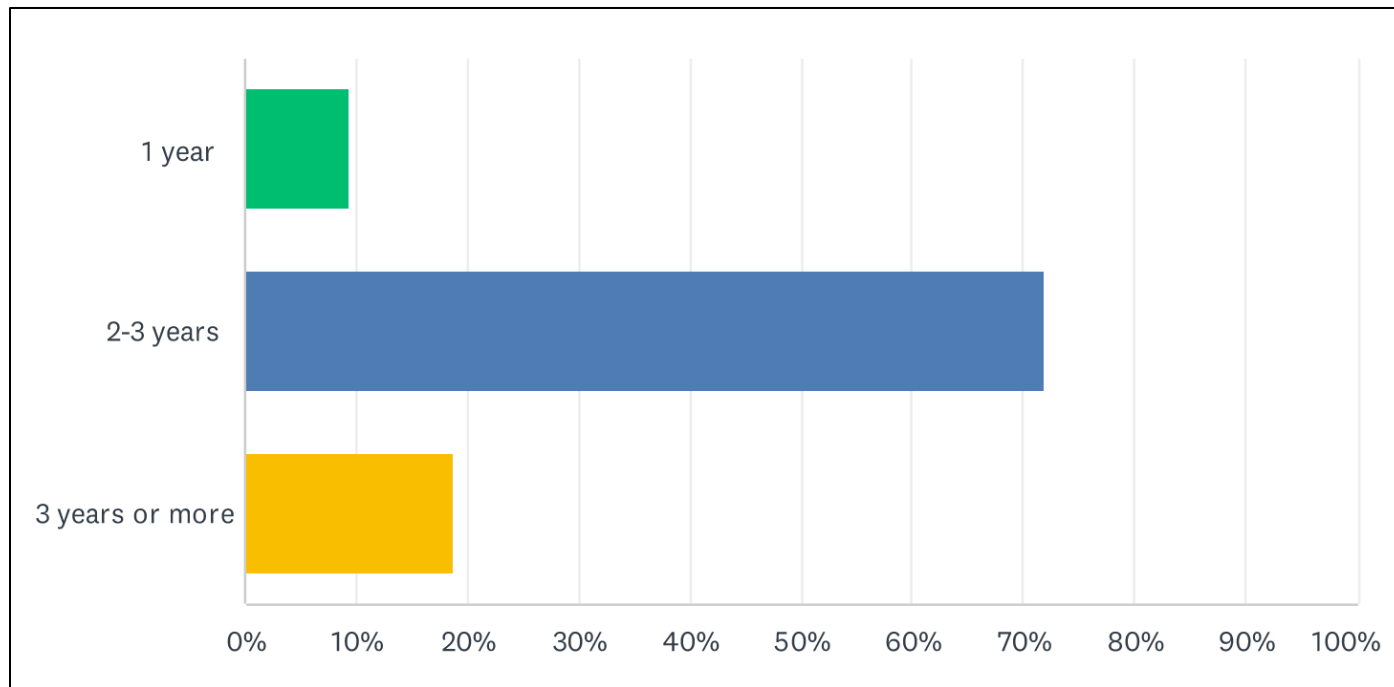
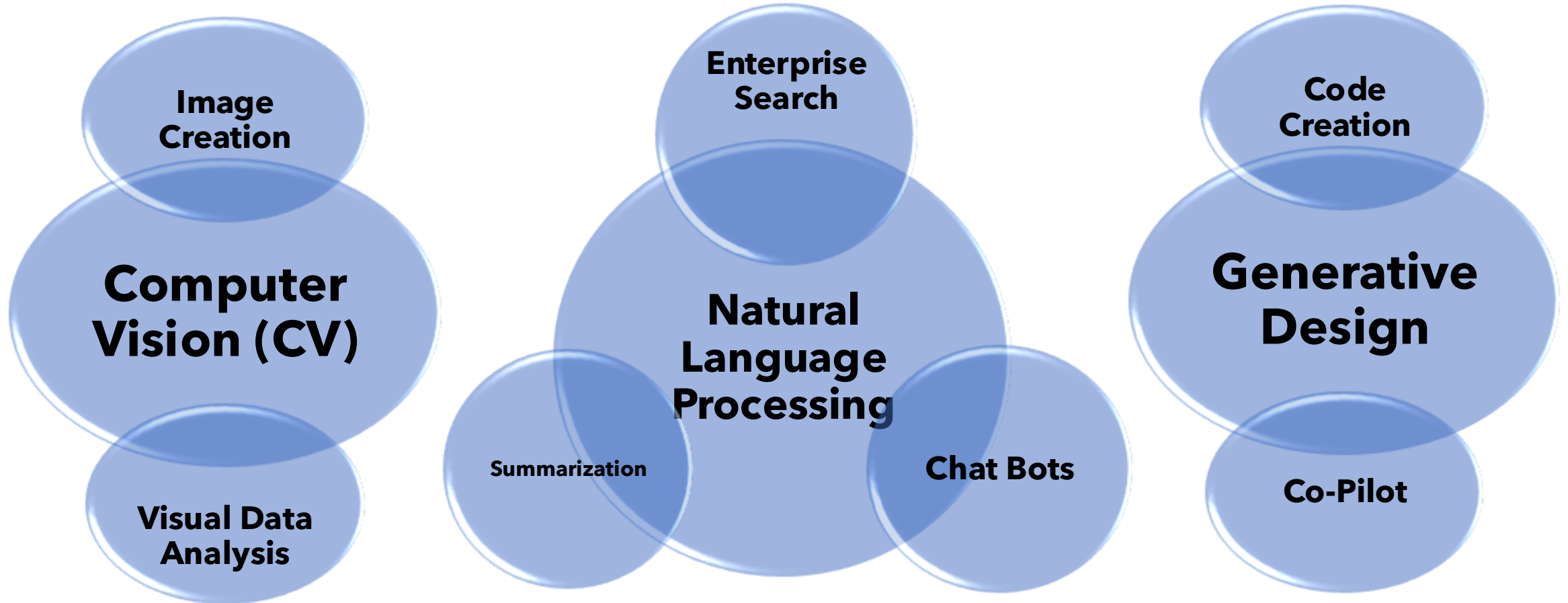
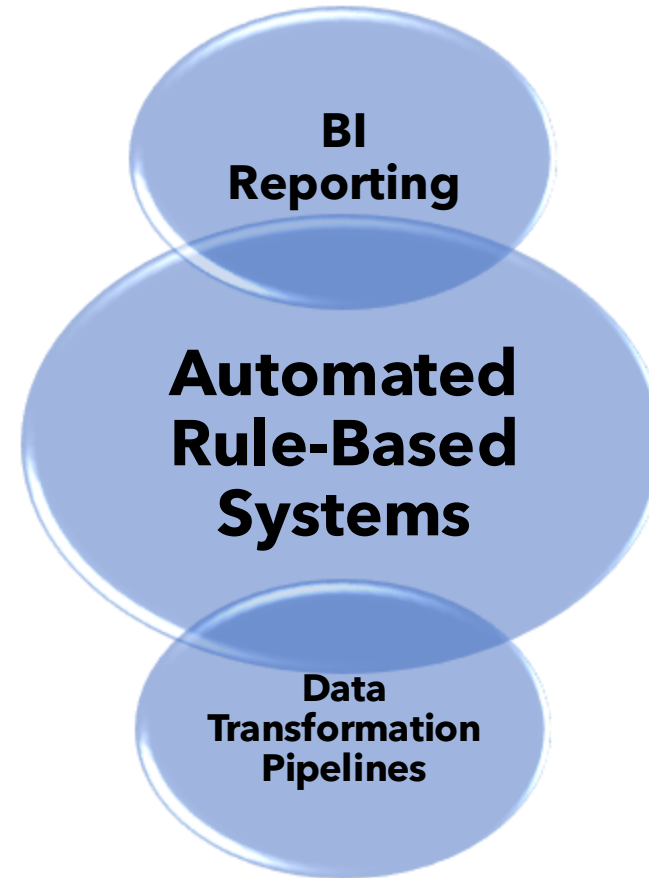
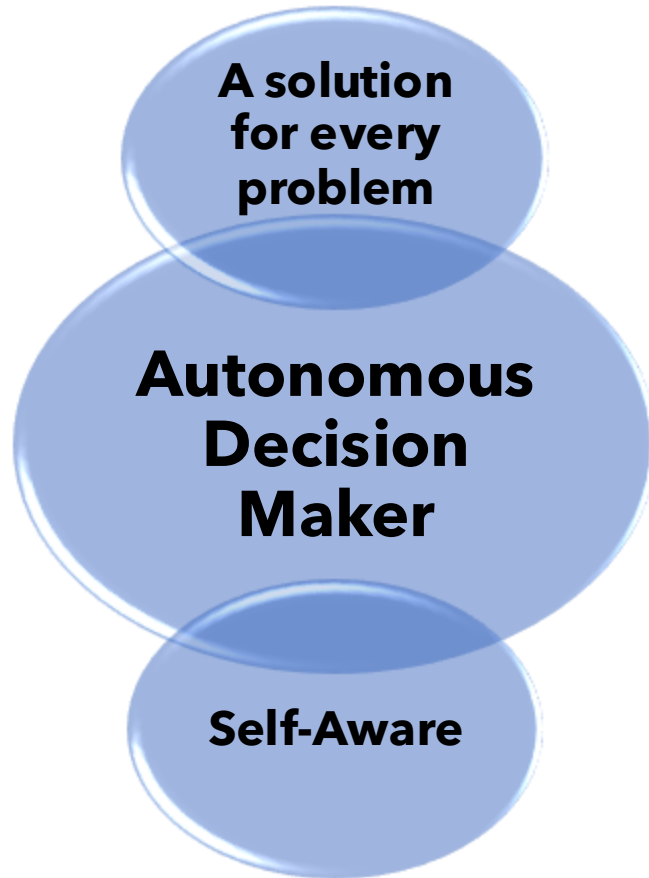


Figure 10: AI Future In Firms

# What is AI?



# What AI is Not





# Evolving Skillsets for Design Firms

- Data Science
  - Machine Learning (ML) basis
  - Data hygiene and governance
- Prompt Engineering
  - Working with Large Language Models (LLM)
- Supplement Administrative and Technical Work
  - Using generative AI tools to produce project artifacts
  - Streamlining and automating workflows
- Advanced Simulation and Modeling
  - Building Information Modeling (BIM) Integration

# Innovation Incubation

- Innovation Kitchen is an idea development and implementation program designed to foster a culture of innovation
- Serves to generate firmwide project opportunities through technology transfer

**innovation  
kitchen**

The logo for Innovation Kitchen features the word "innovation" in a bold, black, sans-serif font. The letter "o" is replaced by a stylized orange lightbulb with radiating lines above it. Below "innovation" is the word "kitchen" in the same font. The letter "i" is replaced by a grey fork.

# How Kittelson & Assoc. is Using AI To Build Tools

- Internal
  - ShannonBot
  - ResumeBuilder
  - KODEX
- External Products
  - Safe Routes for All (SR4A) Using AI-Based Image Recognition and Machine Learning

# The Cultural Impact of AI Technologies

- Benefits

- Increased efficiency
- Reduced overhead
- Innovation and creativity boost

- Risks

- Over-reliance on technology
- Data privacy and security concerns
- Bias and accuracy Issues

- Oversight

- Validation by users
- A skeptical mindset
- Ongoing monitoring and audits
- Ethical and transparent use

The information contained herein is intended for informational purposes only. Insurance coverage in any particular case will depend upon the type of policy in effect, the terms, conditions and exclusions in any such policy, and the facts of each unique situation. No representation is made that any specific insurance coverage would apply in the circumstances outlined herein. Please refer to the individual policy forms for specific coverage details.

AXA XL is a division of AXA Group providing products and services through three business groups: AXA XL Insurance, AXA XL Reinsurance and AXA XL Risk Consulting. In the US, the AXA XL insurance companies are: Catlin Insurance Company, Inc., Greenwich Insurance Company, Indian Harbor Insurance Company, XL Insurance America, Inc., XL Specialty Insurance Company and T.H.E. Insurance Company. In Canada, insurance coverages are underwritten by XL Specialty Insurance Company - Canadian Branch. Coverages may also be underwritten by Lloyd's Syndicate #2003. Coverages underwritten by Lloyd's Syndicate #2003 are placed on behalf of the member of Syndicate #2003 by Catlin Canada Inc. Lloyd's ratings are independent of AXA Group. Not all of the insurers do business in all jurisdictions nor is coverage available in all jurisdictions. Information accurate as of November 2024.

AXA, the AXA and XL logos are trademarks of AXA SA or its affiliates. © 2024



