



# Enterprise AI Research Study 2023-24 Financial Services Focus for WSTA

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# About Nemertes

## Nemertes Background and Focus

- **Business impact of emerging technology**
  - Success metrics and KPIs
  - ROI/TCO
  - Trends and challenges
- **Industry-leading research methodology**
  - Enterprise/end-user benchmarks comprising interviews and surveys
  - World-class data integrity
  - Vendor interviews and technology analysis
- **Actionable recommendations**
  - Technology strategy and selection
  - Investment/ROI strategies
  - Go-to-market/service delivery strategies
  - Adaptive leadership training
- **Founded in 2002, privately held**

## Nemertes Research Areas



# Executive Summary

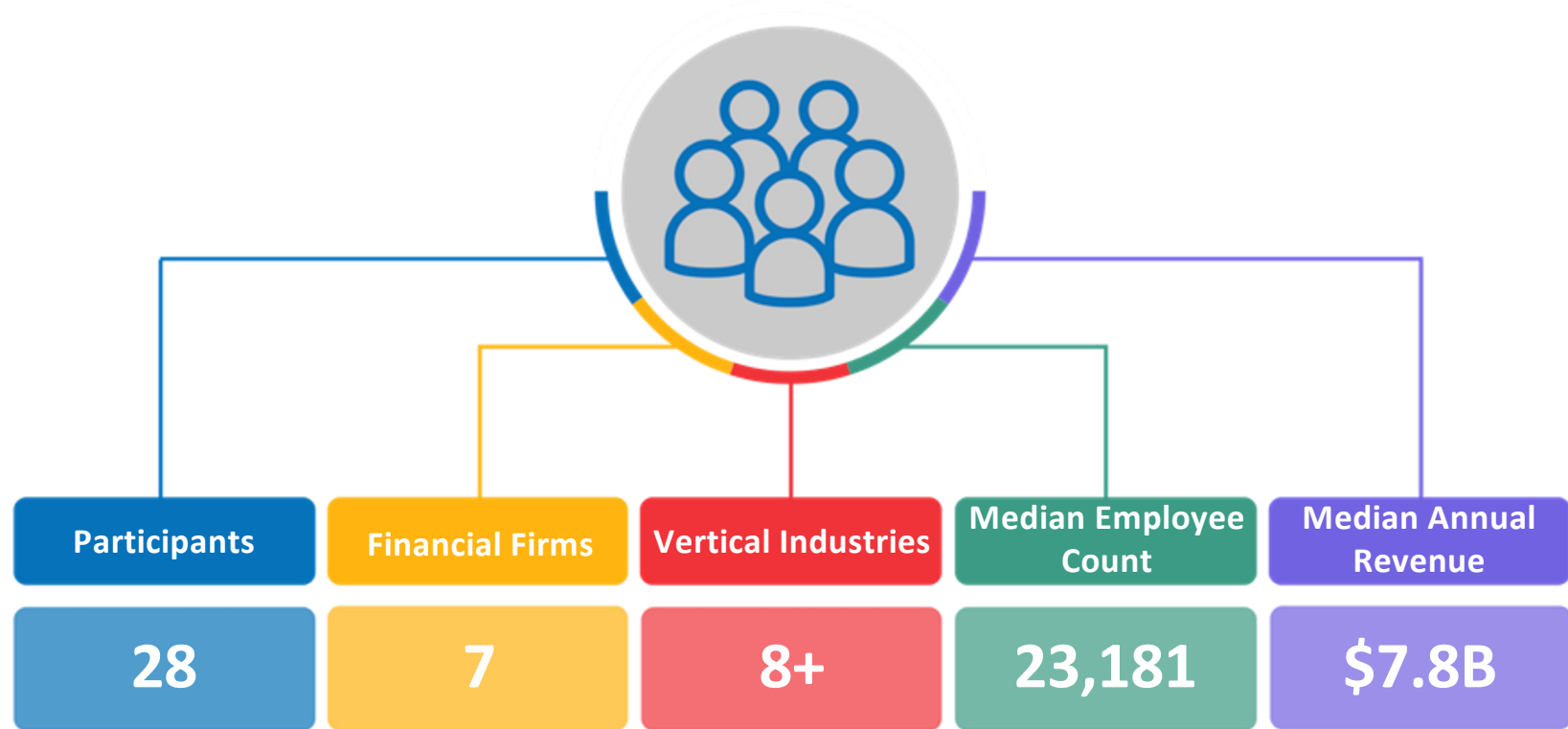


# Study Process



- Nemertes interviewed all participants (no surveys!)
- We asked open-ended questions, and classified/categorized responses after the fact to avoid injecting bias
- Participants typically included CIOs, VPs, and directors of IT with solid knowledge of AI strategy and operations at their organizations

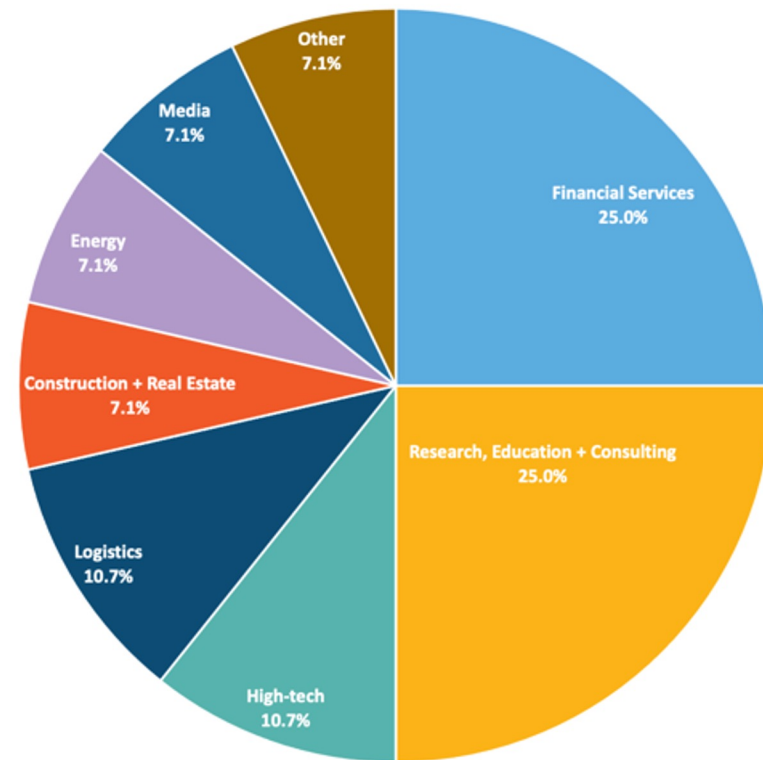
# Demographics At a Glance



# Vertical Industries

Description	Definition
Financial Services	All forms of banks, insurance companies, credit unions, etc.
Research, Education, and Consulting	Universities, think-tanks, consulting companies
High-tech	Organizations whose primary product or service is IT-related hardware or software
Logistics	Shipping, transportation, and logistics companies
Construction and Real Estate	Eponymous
Energy	Eponymous
Media	Advertising, PR, publishing companies
Other	All other organizations

Participants by Vertical



# Subcategories and Comparisons

Culture	Definition
Conservative	We view technology <i>exclusively</i> as a cost-reduction measure and are relatively slow to adopt new technology
Moderate	We view technology <i>mostly</i> as a cost-reduction measure and are somewhat slow to adopt it
Aggressive	We view technology as a competitive and strategic advantage and like to adopt it in a timely manner
Leading edge/bleeding edge	We view technology as a competitive and strategic advantage and like to adopt it ahead of others

Size	Definition
Small	Revenue less than or equal to \$300 million
Midsized	Revenue between \$300 million and \$1 billion
Large	Revenue between \$1 billion and \$10 billion
Very large	Revenue over \$10 billion






Productivity Level	Definition
Highly productive	Revenues of \$1 million per employee or higher
All others	Revenues of less than \$1 million per employee

Nemertes compared responses by company ***culture*** (conservative/moderate vs. aggressive/leading edge), ***size*** by revenue (small/midsized vs. large/very large) and ***productivity***. We also split out the ***financial services vertical*** and compared those organizations against all others. In summarizing our comparisons, we highlight results from aggressive/leading edge, large/very large, highly productive, and financial firms (all results are included in detailed findings).

Nemertes has found that historically, aggressive/leading edge organizations are the early movers on new technology; interestingly, that's not the case here.



# Enterprise AI Maturity

Component	All companies 	Aggressive 	Large 	Productive 	Financial 
Using enterprise AI today	60.7%	58.8%	77.8%	50%	85.7%
Using AI within IT	75%	70.6%	88.9%	83.3%	85.7%
Using AI within LOB	78.6%	76.5%	83.3%	83.3%	85.7%
Enterprise AI teams within IT	50%	56.3%	56.3%	40%	71.4%
Enterprise AI teams within LOB	61.5%	64.7%	75%	40%	57.1%
Using AI to enhance internal operations today	57.1%	47.1%	72.2%	100%	57.1%
Have Digital Ethics policies today	35.7%	29.4%	44.4%	50%	42.9%
Average	59.8%	58.1%	71.1%	63.8%	69.4%

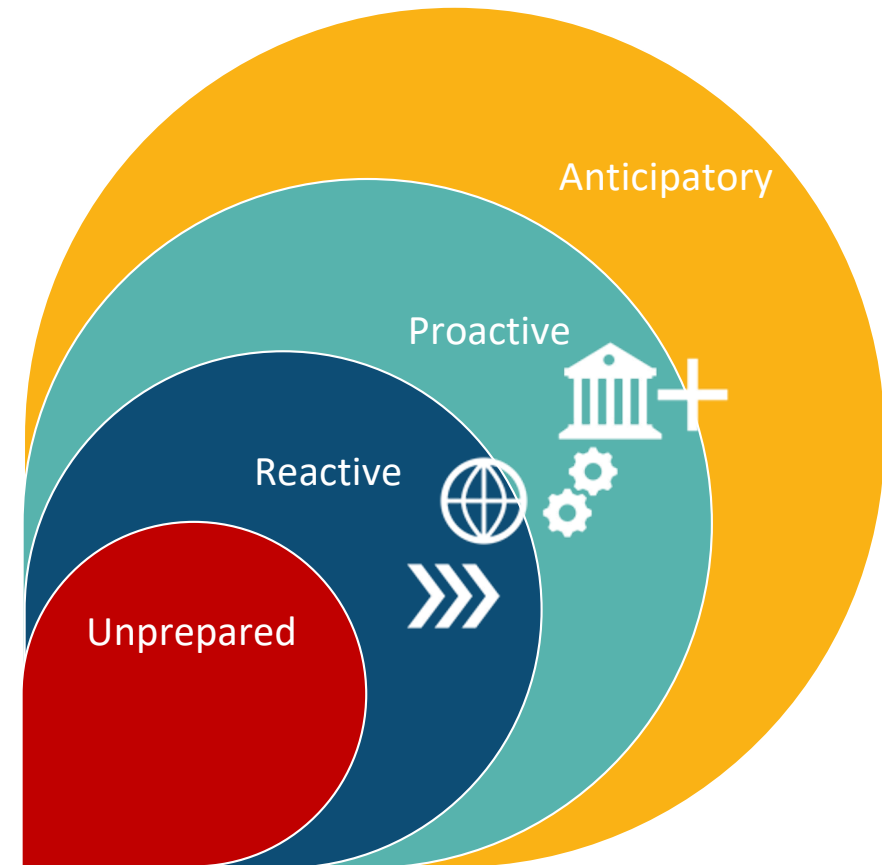
# Enterprise AI Maturity

**Anticipatory:** Have platforms, structures, organizational processes to proactively address future issues and challenges






**Proactive:** Have platforms, structures, organizational processes to proactively address current issues and challenges

**Reactive:** Have basic platforms and structures to react to business requirements; cannot proactively prevent problems from arising

**Unprepared:** Lacking necessary information to take effective action; unaware of or unable to respond to current or emerging issues



# Enterprise AI Technology Adoption (Today)

Component	All companies 	Aggressive 	Large 	Productive 	Financial 
ChatGPT/Open AI/Microsoft	53.8%	46.7%	64.7%	50%	66.7%
Google Bard/LaMDA	33.3%	28.6%	40%	25%	16.7%
Amazon Bedrock	15.8%	14.3%	18.2%	25%	60%
NVIDIA AI Enterprise	20%	23.1%	25%	0%	0%
BLOOM	0%	0%	0%	0%	0%
LLaMA/Alpaca	10%	7.7%	15.4%	0%	0%
Hugging Face	0%	0%	0%	0%	0%

# Participant Observations on AI Over All (1)

AI may change what certain people do but won't reduce headcount. Remember in the 1970s the think tanks were saying we would have all this leisure time with the computer? They totally missed it!

What calms me down about fears of AI: We had similar concerns about the Internet. If we can build that ethical intelligence, machines will be ethical.

Ideation may be commoditized.

Right now, it's like the wild west. Deploying without thinking about consequences. We are probably going to get unexpected issues in society, from privacy violations, crime, etc. We haven't thought of all the consequences.

AI will reshape the skills we have in our organization. It will reshape how we work, as well as interact and serve clients. We're going to see increased need for continuous learning. We'll get much faster cycle time on skills development. We'll need a different way in collaborating between machines and humans.

# Participant Observations on AI Over All (2)

At Tesla Musk uses AI to make decisions. I could see AI coming in as a referee in decision making.

The plan for us is that AI augments and optimizes the customer experience and the worker experience.

While current technology is pretty embryonic and simplistic, the overall concept is good and where this is going ultimately is likely to be very useful.

Not just NL aspect; also "how do we make engineers better" — how do we better validate not just the code but also the context and intent of the code. Bulk of time wasted in IT is not in configuring the devices but in the change management process itself. Everything has to be scored. If you are going to trust an algorithm to score a change, you have to trust it. So we want to attack both making changes faster to implement and faster to bless.

# Key Findings

- Primary benefits of AI include agility and speed, and improved efficiency/streamlining of operations
- Generally speaking, large organizations are the best prepared to handle the influx of enterprise AI applications (particularly generative AI), with financial services close behind; key factors include:
  - Familiarity with a range of products and technologies
  - Teams to manage AI within both IT and lines of business (LOBs)
  - A governance framework, including digital ethics policies
  - Current use of AI to enhance internal operations
- Interestingly, “aggressive” organizations (those who view technology as a strategic differentiator and competitive advantage) tend to be least prepared at present
- An intriguing gap across almost all organizations: they are not using AI to enhance operations within corporate departments outside IT (e.g. marketing, legal, HR, finance) — they probably should be!
- The looming crisis in enterprise AI: Ubiquity coupled with lack of consistent policies, governance, and—most importantly—enforcement mechanisms. No group is authorized to act as the “organizational policy police”; IT typically does this for most technologies, but use of enterprise AI has already spread far beyond IT’s remit. How, then, will organizations enforce policies and regulations concerning how AI can and cannot be used, once they exist?
  - This goes double for the AIs themselves: how the organization will deal with AIs that develop agency (doing what they want instead of what we ask) or that create invented content where factual content is required (a.k.a. hallucination, machine creativity, fabrication, whatever)

# Takeaways + Recommendations

Organizations should:

- Move quickly to establish organization-wide governance and policies (including digital ethics)
  - Include consideration of what to do about what AIs do on their own, not just what they are asked explicitly to do
- Define effective enforcement mechanisms and groups:
  - Difficult for IT to enforce policies in LOBs, other groups, so who is responsible for enforcement?
  - Logical home for enterprise AI initiative is within IT's big data or data analytics team (if present) as these groups typically have the governance, maturity, and sophistication to handle the challenges posed by enterprise AI
  - Engage existing risk management and compliance teams (if present)
- IT should develop service offerings to deliver AI to other groups (particularly but not exclusively back office and admin)
- Put off standardizing on a single vendor/technology; there's an ongoing "arms race" among vendors, and premature standardization limits opportunity
- Focus attention on using AI to automate in standard administrative departments (legal, HR, etc.) and explore AI tools that can do one-shot/low-shot learning and that have been specifically trained to these problem domains

# Financial Firms Breakout





# Enterprise AI: Financial Services Demographics

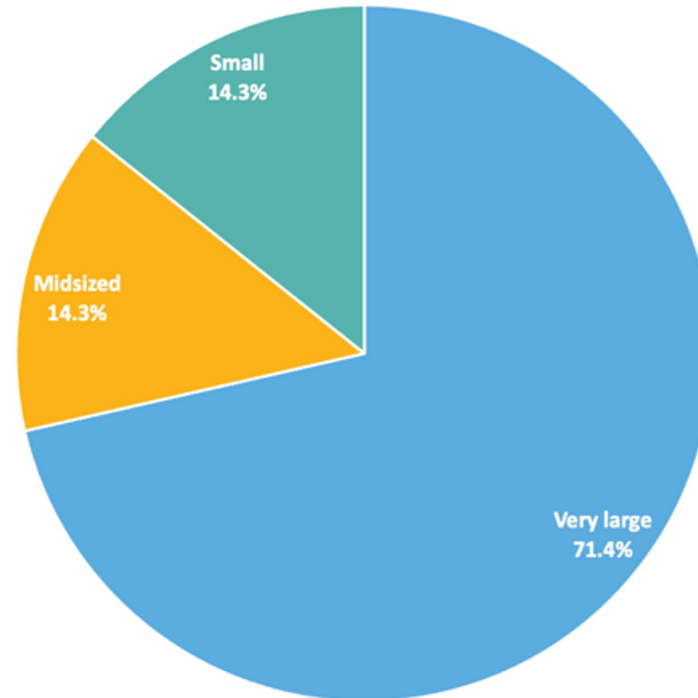


# Size by Revenue



Description	Definition
Small	Revenue less than or equal to \$300 million
Midsized	Revenue between \$300 million and \$1 billion
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Very large	Revenue over \$10 billion

**Participants Size by Revenue  
(Financial Services)**

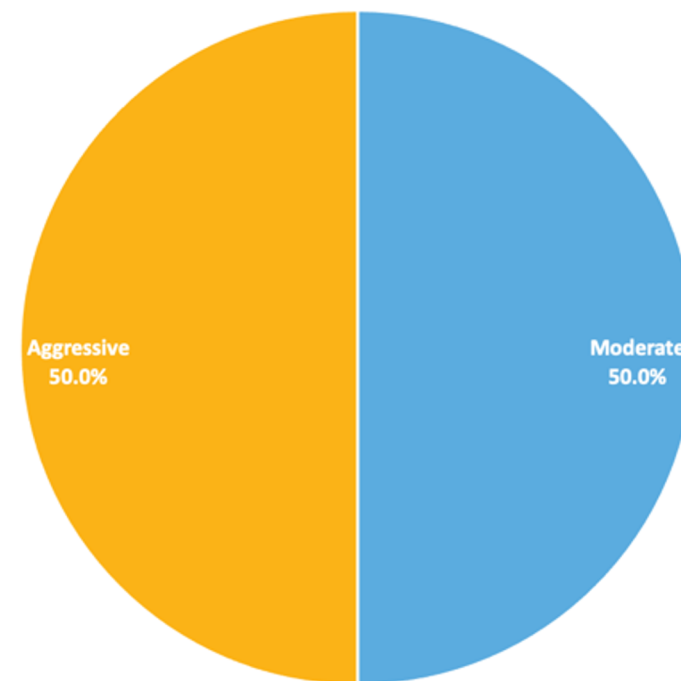


# Organization's View Towards IT



Description	Definition
Conservative	We view technology <i>exclusively</i> as a cost-reduction measure and are relatively slow to adopt new technology
Moderate	We view technology <i>mostly</i> as a cost-reduction measure and are somewhat slow to adopt it
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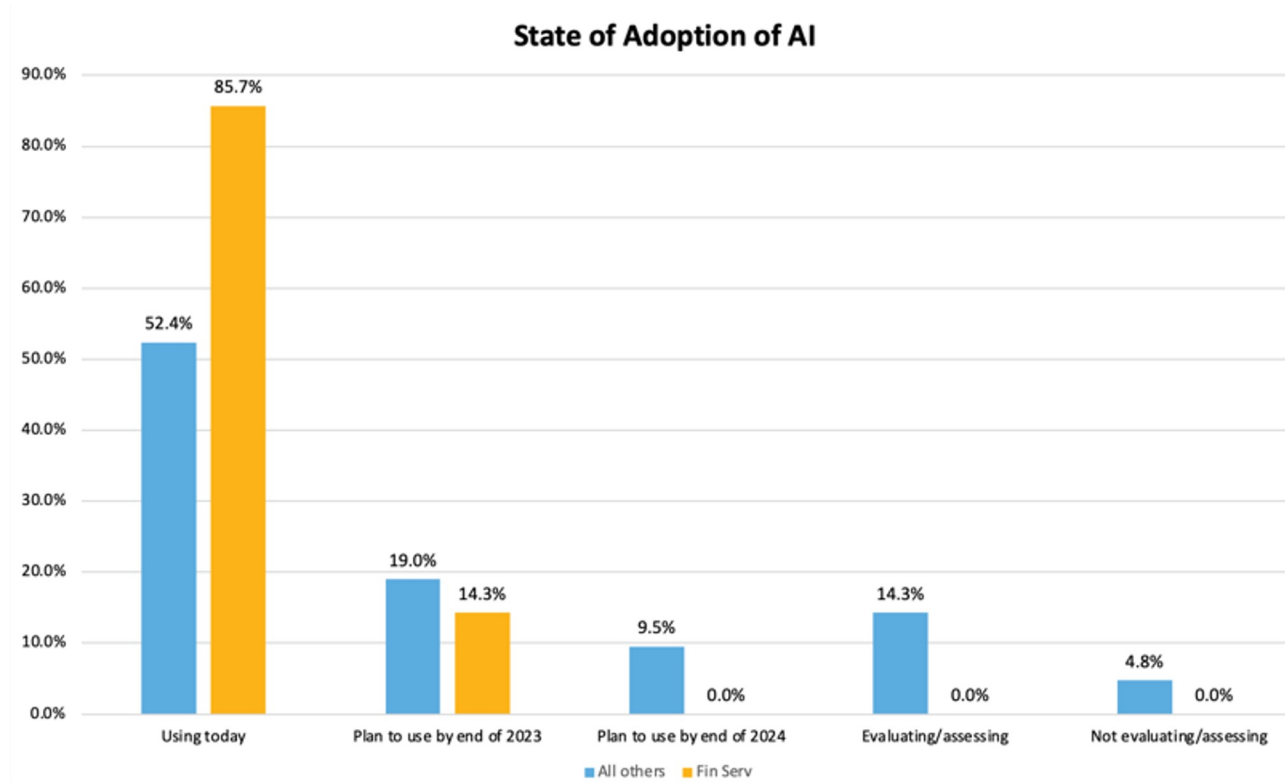
Participants by Culture  
(Financial Services)



# Enterprise AI: Financial Services State of Adoption, Benefits, Roadblocks, and Concerns



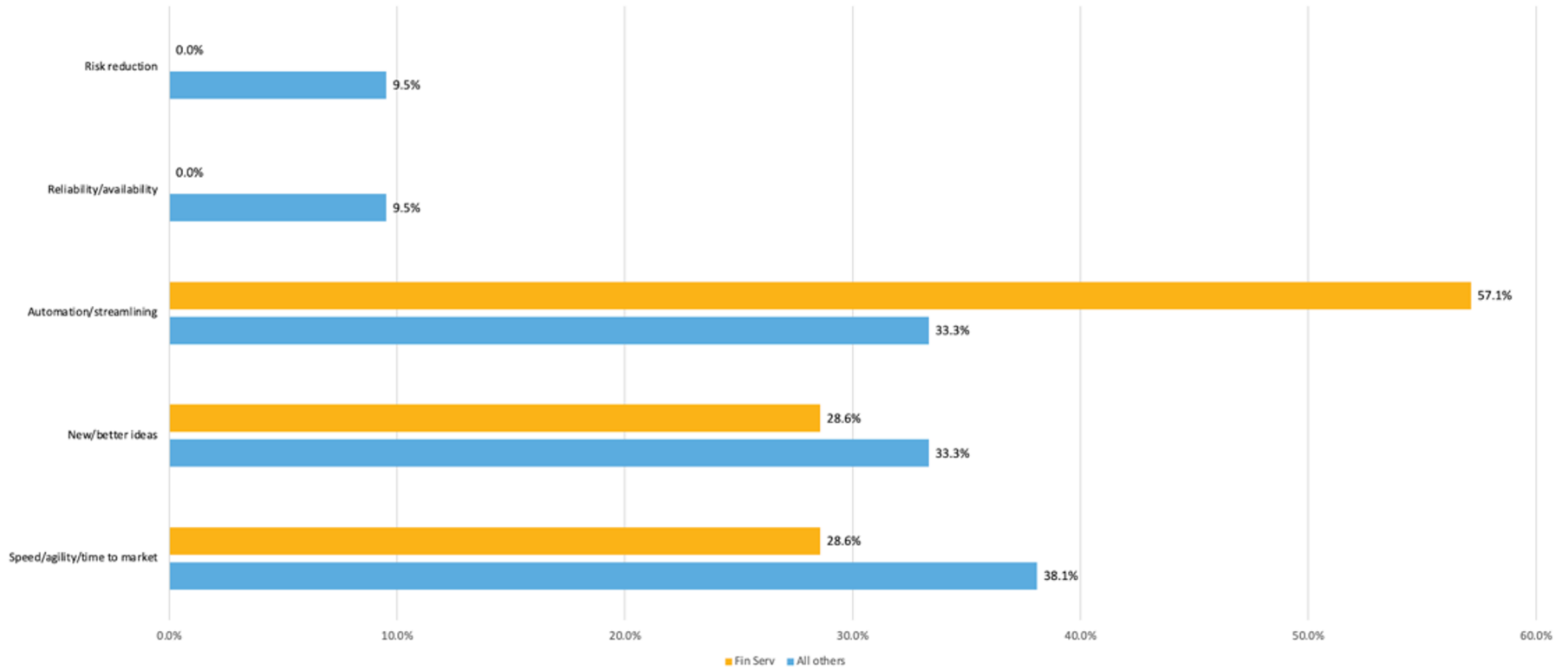
# State of Adoption



# Benefits of AI



Current and Anticipated Benefits of AI



# Definitions

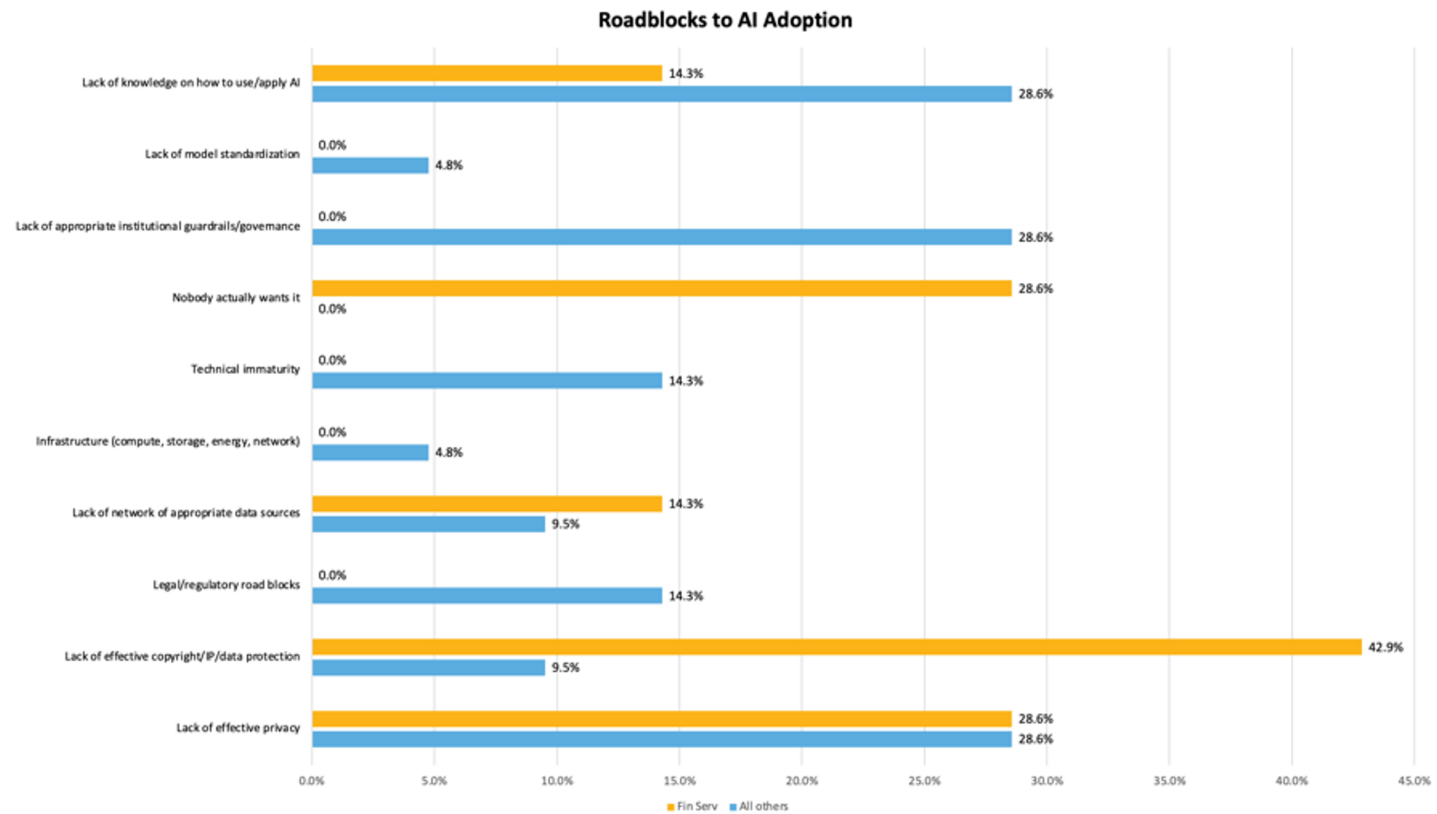
Roadblock = Obstacle. We asked participants for reasons AI is not being deployed or is being deployed more slowly than desired/anticipated.



Concern = Sentiment. We asked participants about their feelings about AI, and any concerns they personally had or others in the organization had expressed.

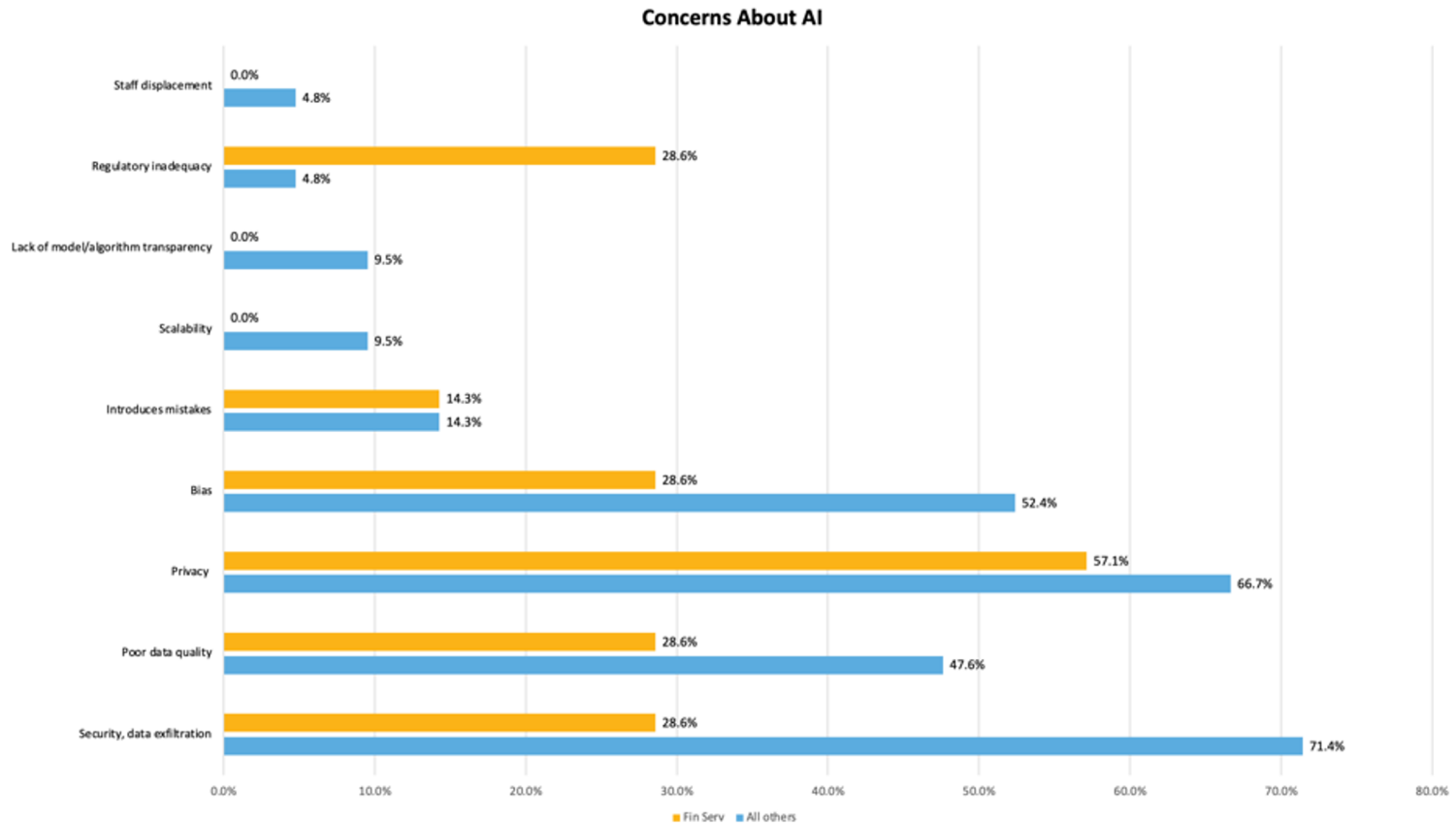


# Roadblocks to AI Adoption





# Concerns About AI



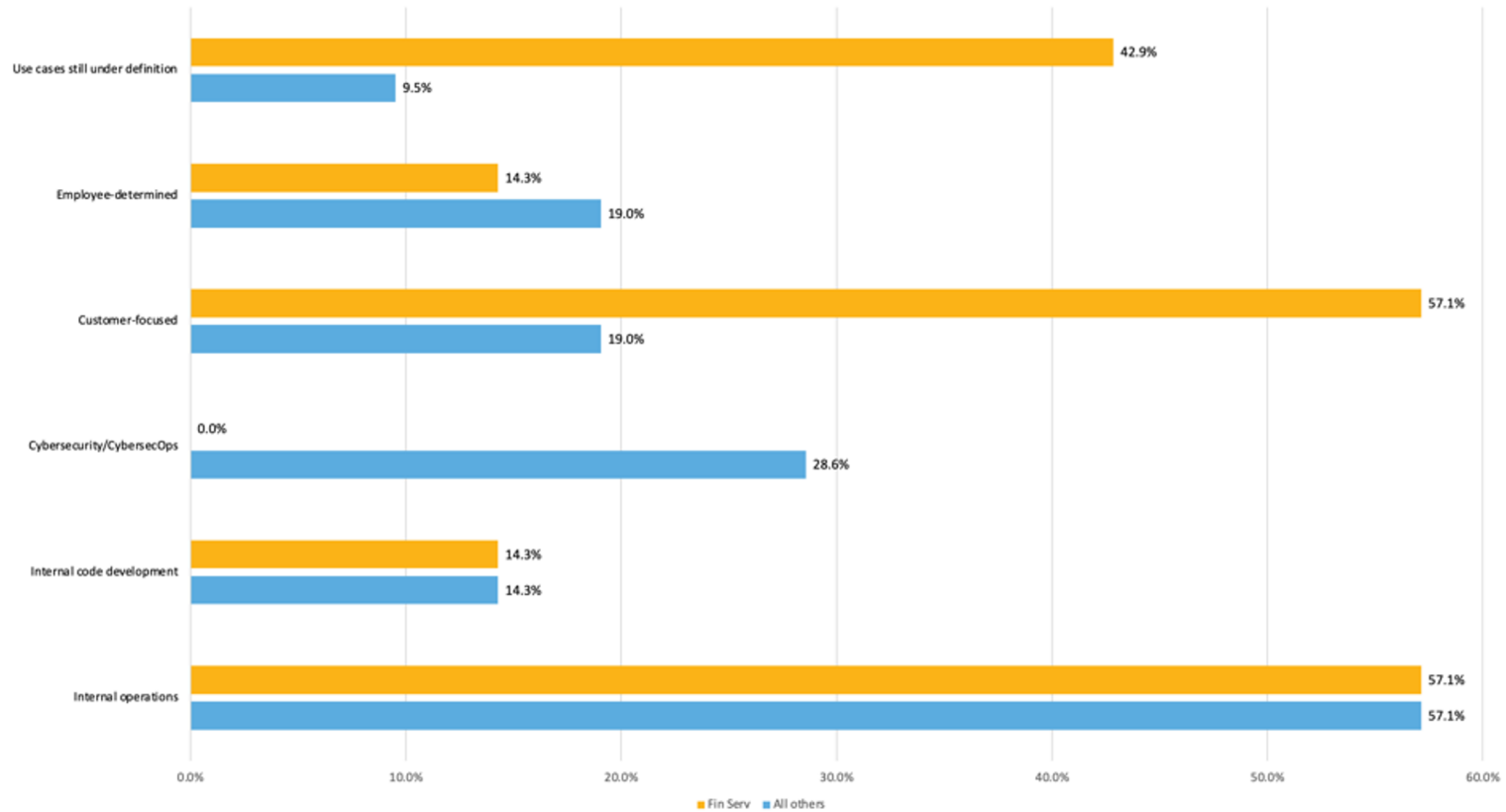
# Enterprise AI: Financial Services Use Cases and Use Within Organizational Groups



# Primary Use Cases



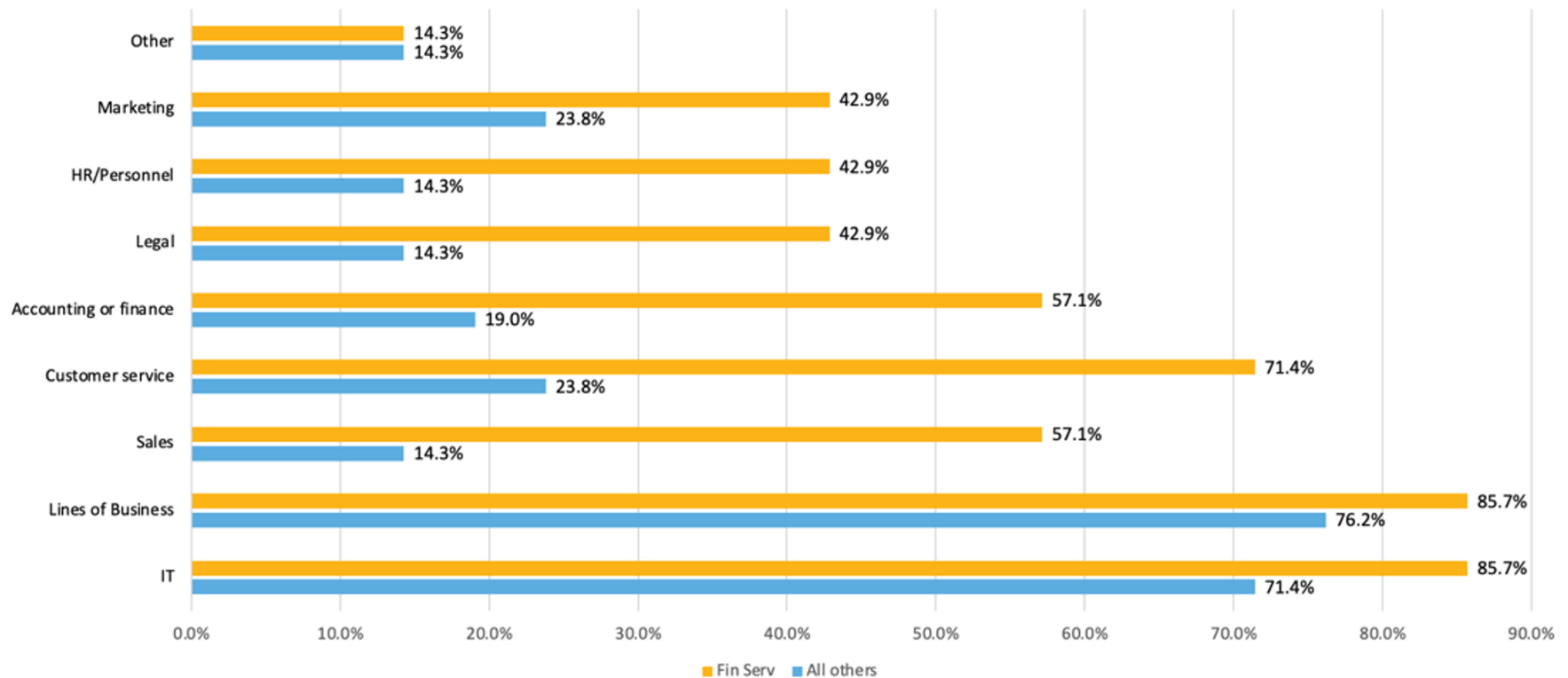
Primary Use Case for AI



# Enterprise Groups in Which AI is Used



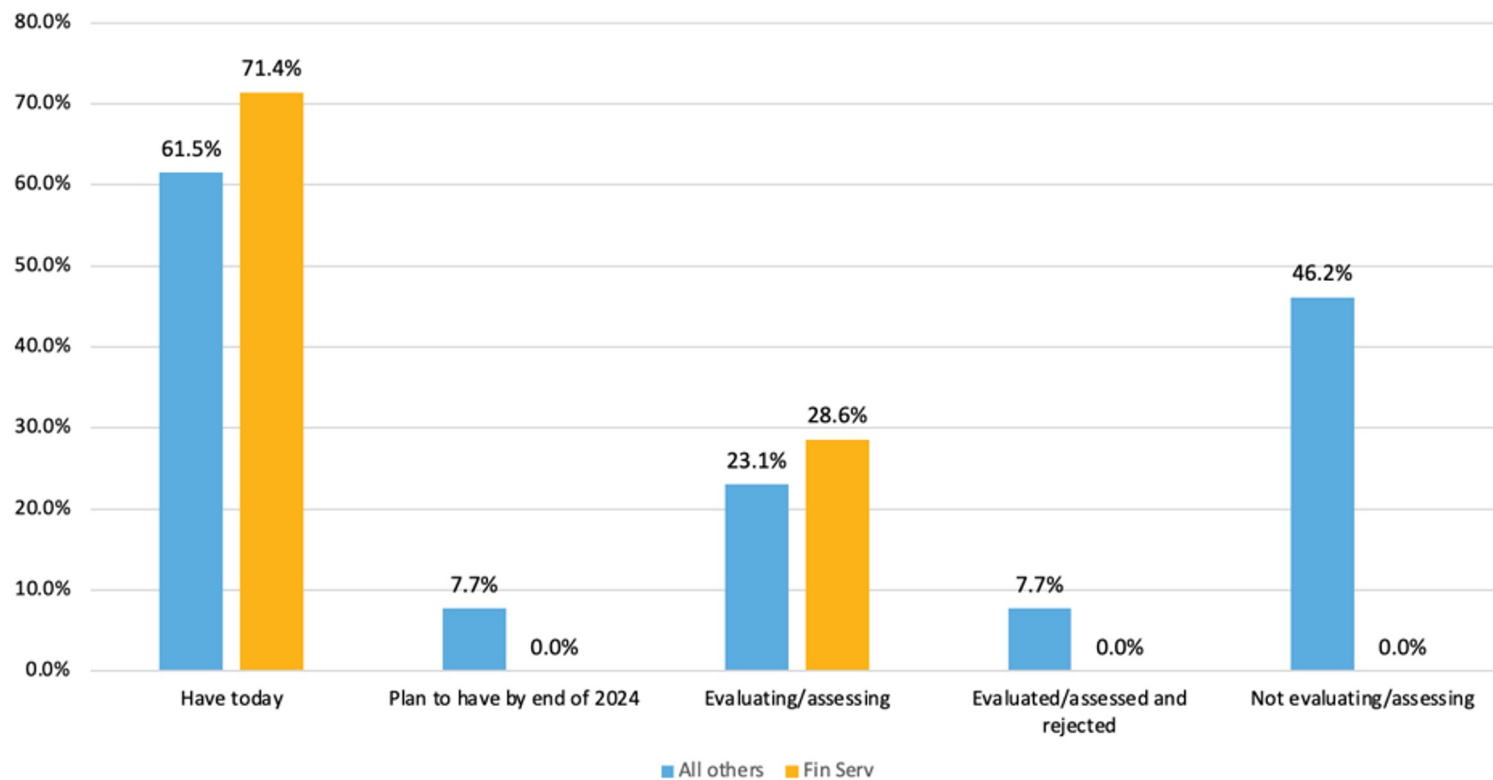
## Organizations in Which AI Is Used



# Teams Within IT Focused on AI



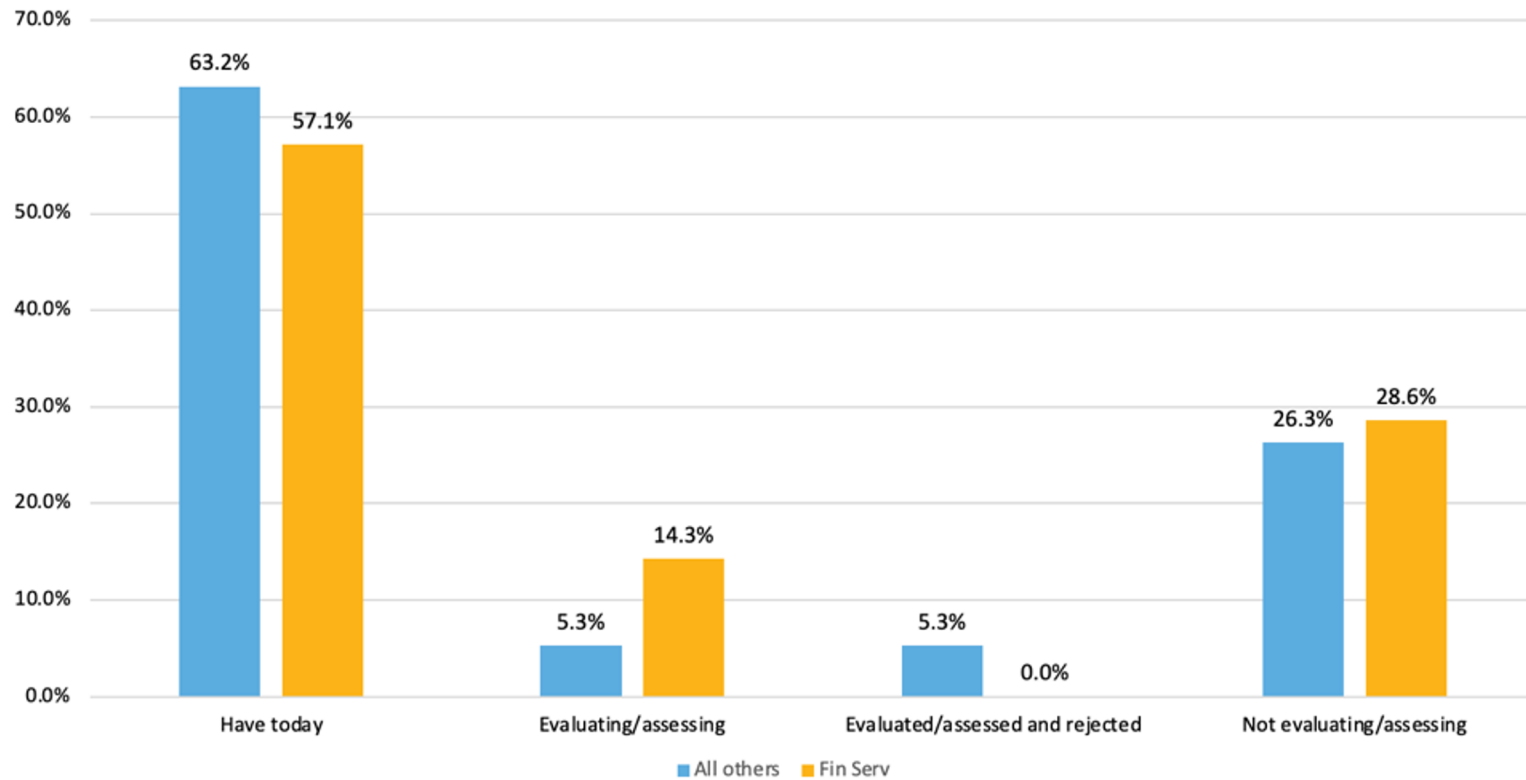
## State of Adoption of Teams Focused On AI Within IT



# Teams in LOB Focused on AI



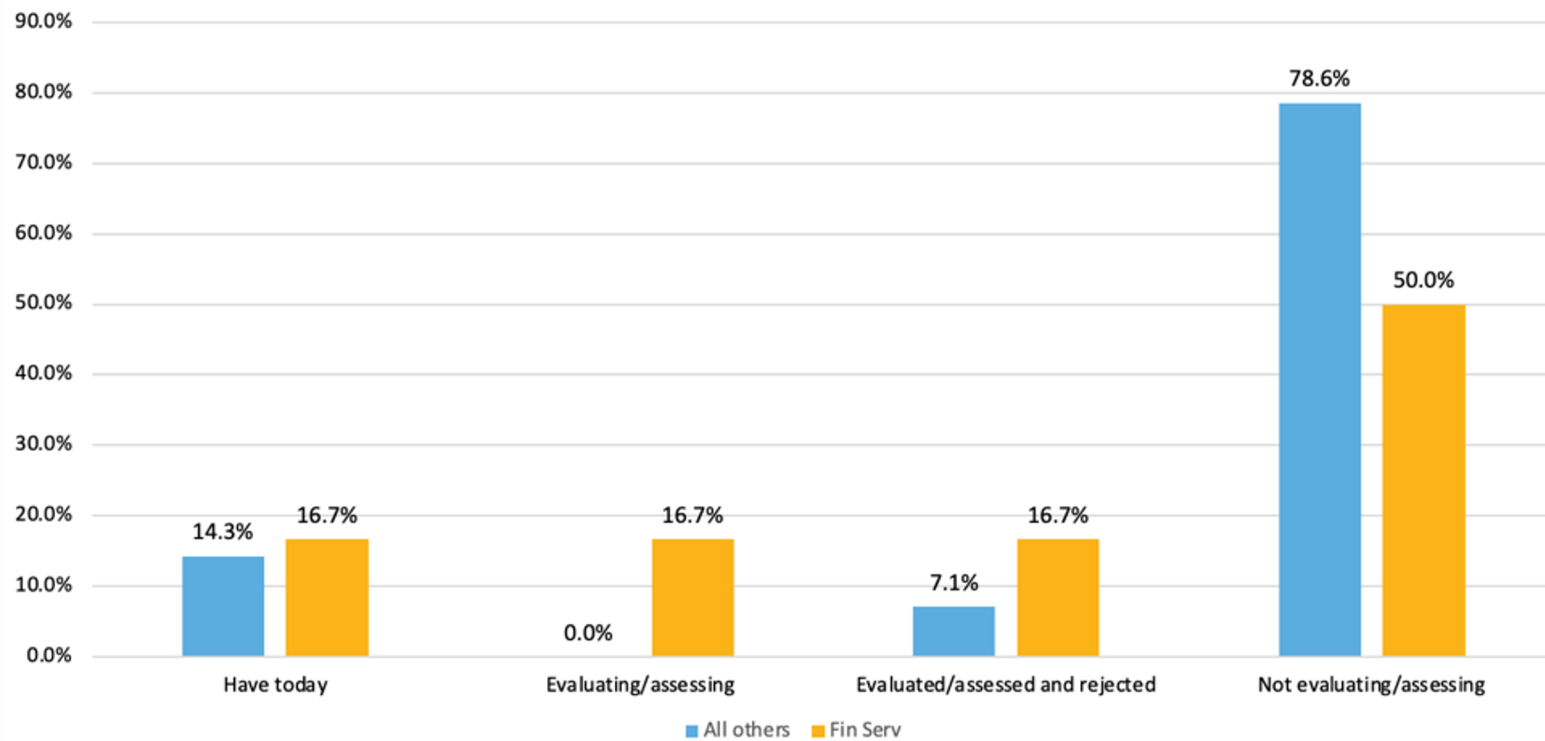
State of Adoption of Teams Focused On AI Within Lines of Business



# Administrative Teams Focused on AI



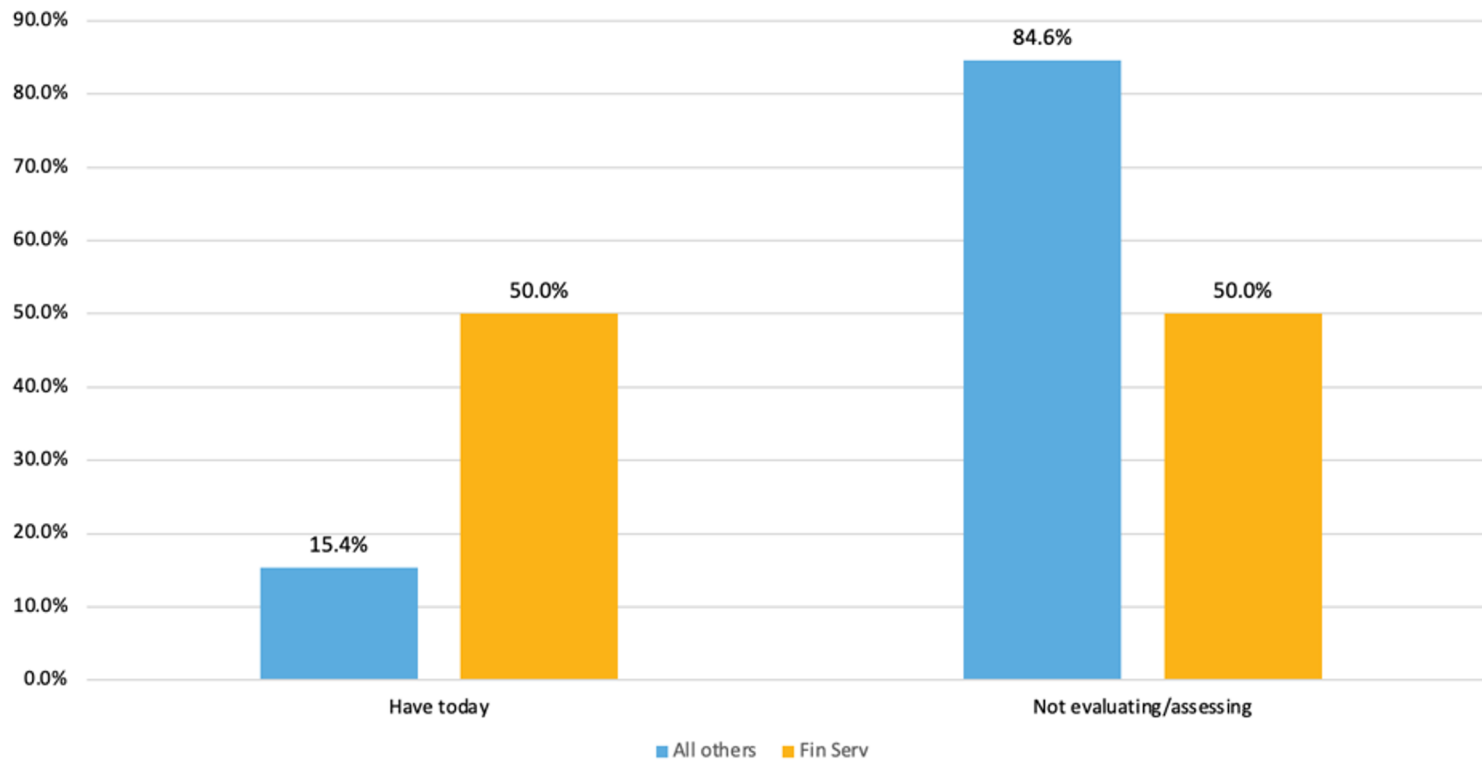
State of Adoption of Teams Focused On AI Within Administrative Departments



# Teams in Other Groups Focused on AI



State of Adoption of Teams Focused On AI Within Other Groups










# Enterprise AI: Financial Services Impact on Headcount



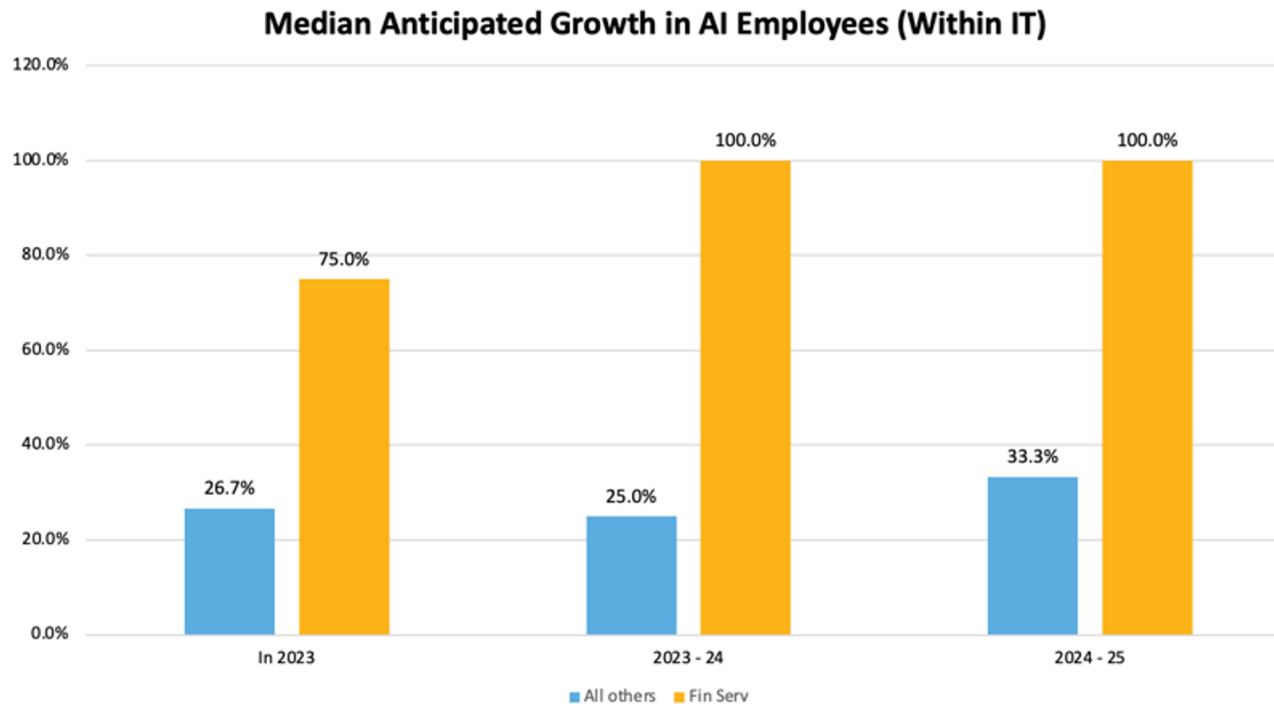
# AI Team Size By the Numbers (Within IT)

Component	All companies 	Aggressive 	Large 	Productive 	Financial 
Median team size today (mid-2023)	15	12.5	50	1	16
Median team size by end of 2023	24.5	37.5	100	1	62
Median team size by end of 2024	49	62.5	85 <sup>1</sup>	2	150
Median team size by end of 2025	95	90	100	5	200

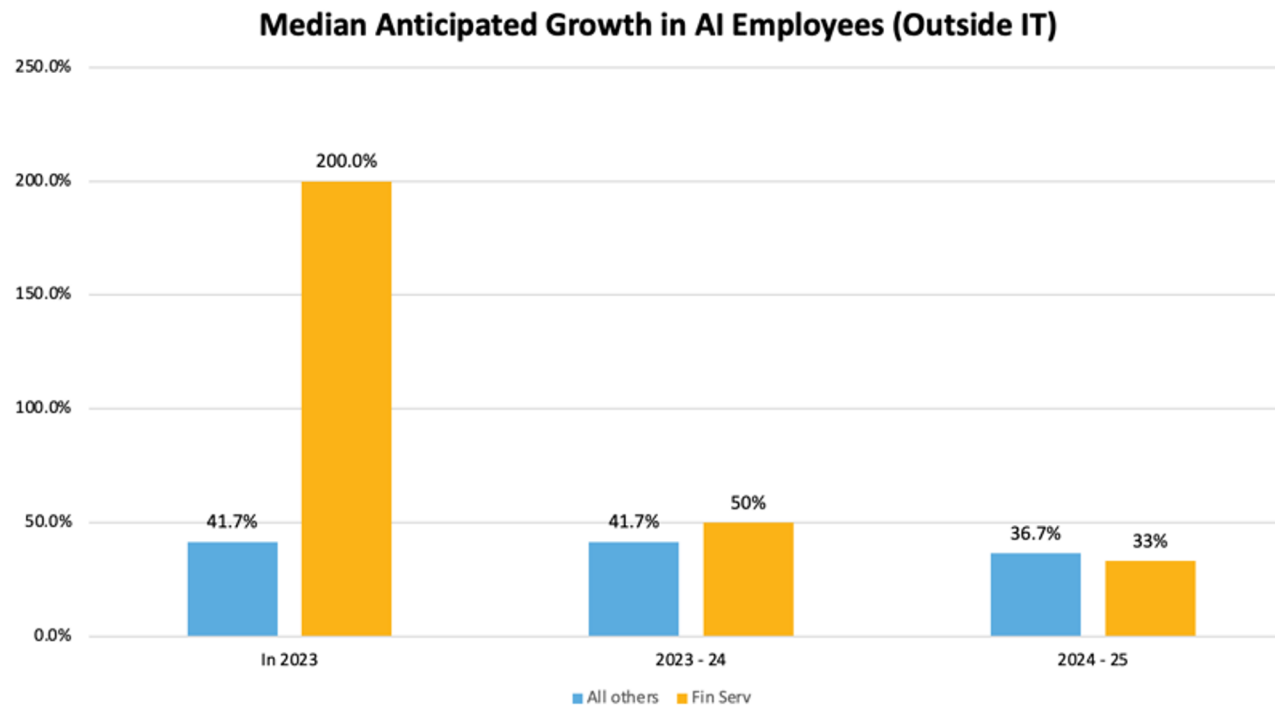
Note: Average (mean) team sizes are considerably higher (ranging from 285 in mid 2023 to 675 by end of 2025), thanks to a handful of very large companies with AI team numbers in the thousands. We selected medians as the clearest way to focus on growth rates; any individual company should plan to apply the growth rates to their existing team sizes

<sup>1</sup>The apparent dip from 100 to 85 is due to the fact that some participants with large staff counts did not predict staff counts out that far

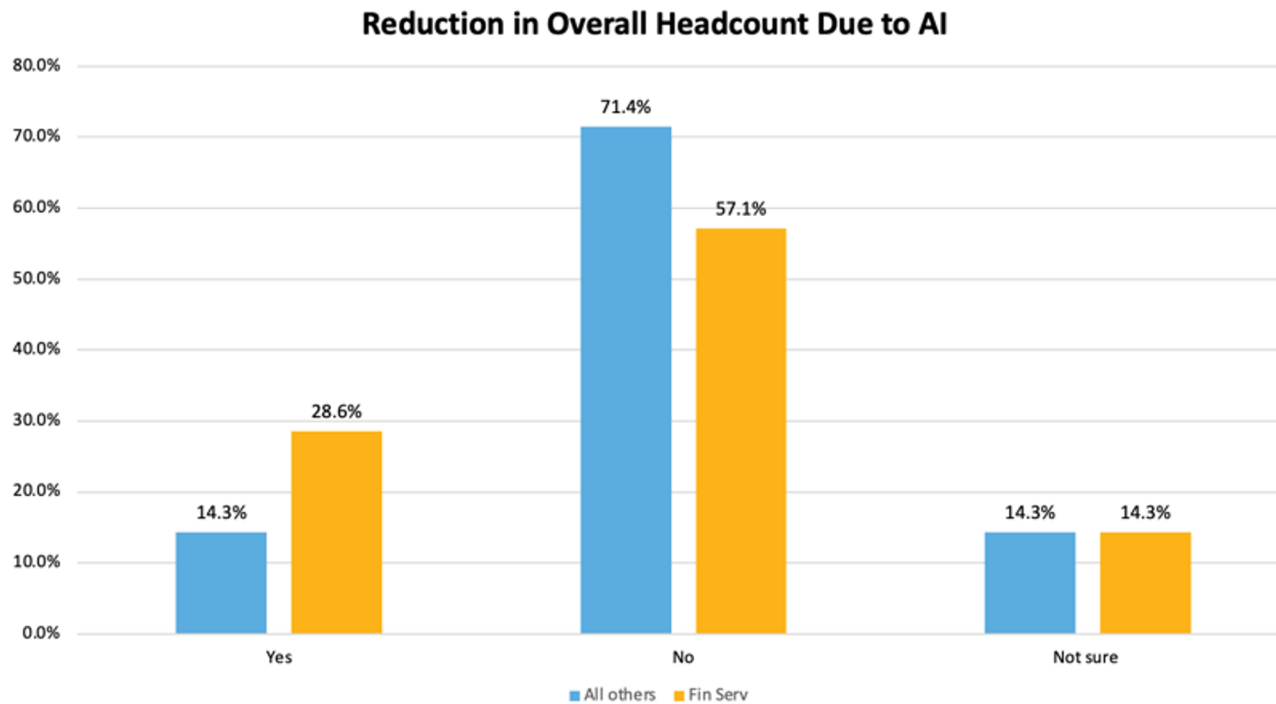
# Median Anticipated AI Employee Growth (IT)



# Median Anticipated AI Employee Growth (Outside IT)



# Reduction in Headcount Due to AI



# Enterprise AI: Financial Services Digital Ethics

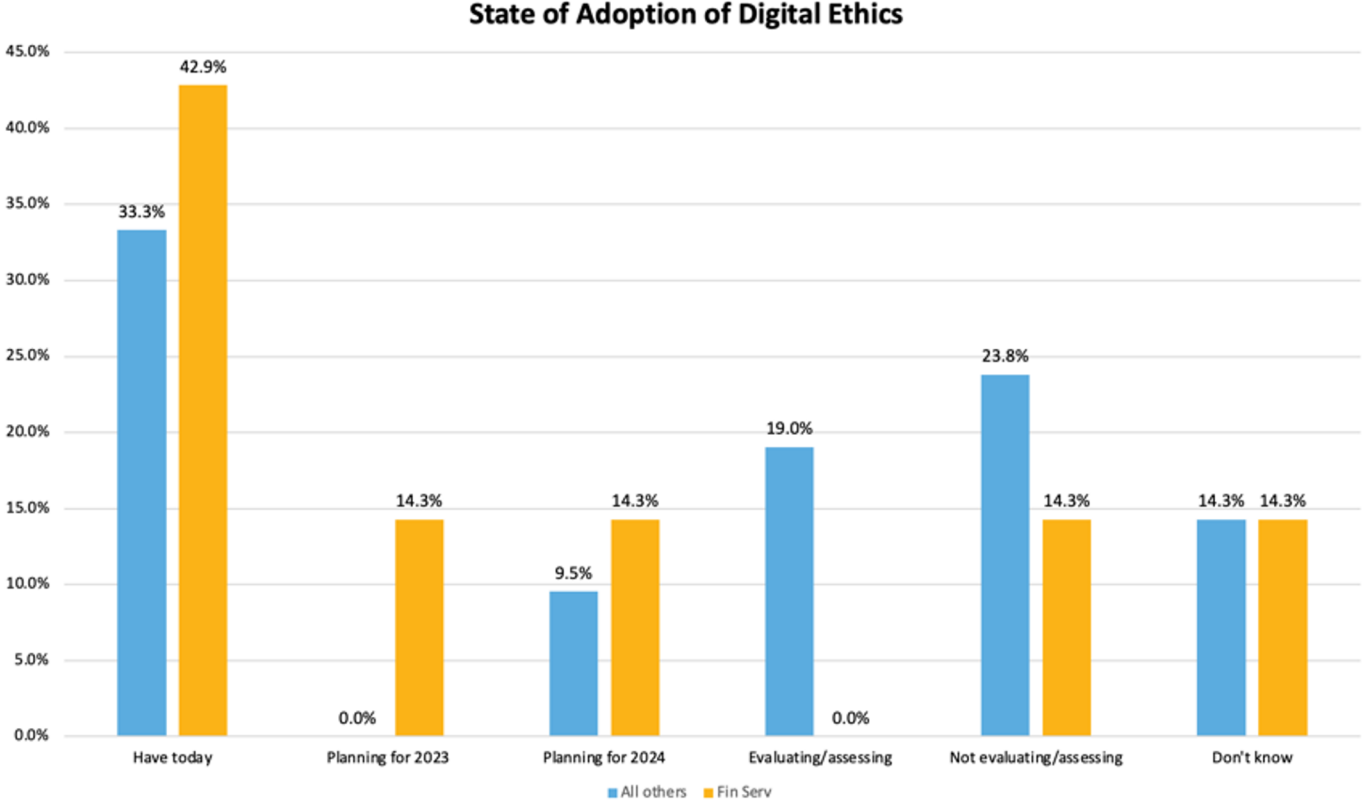


# Definition: Digital Ethics

Nemertes defines a “digital ethics” program as a set of policies and associated processes to manage the use of AI within an organization, including but not limited to issues concerning privacy protection (learning more about employees and customers than is appropriate or legal), bias (algorithms skewed by race, gender, etc.), and general ethical behavior.

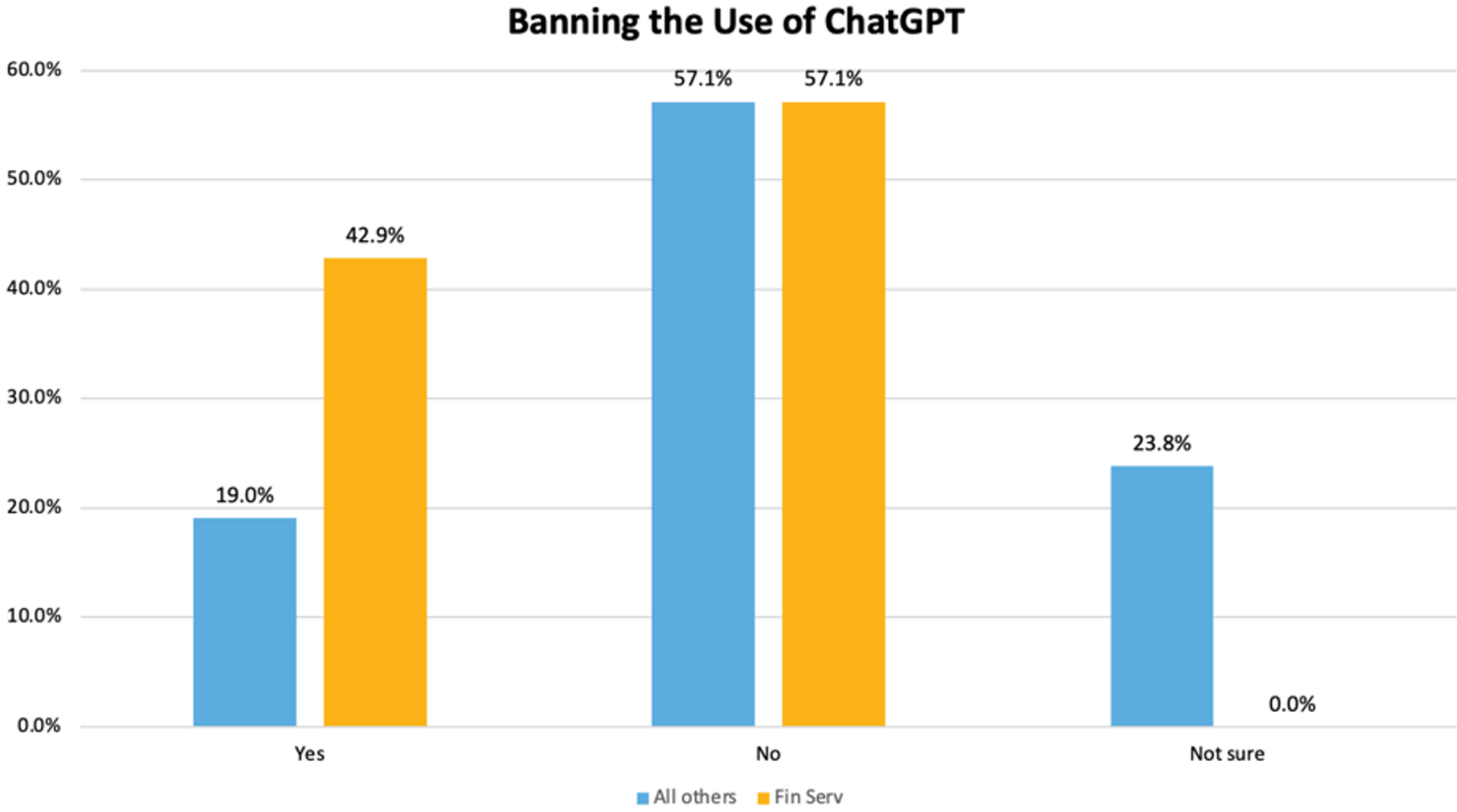


# State of Adoption of Digital Ethics










# Banning the Use of ChatGPT



# Enterprise AI: Financial Services Products and Technologies



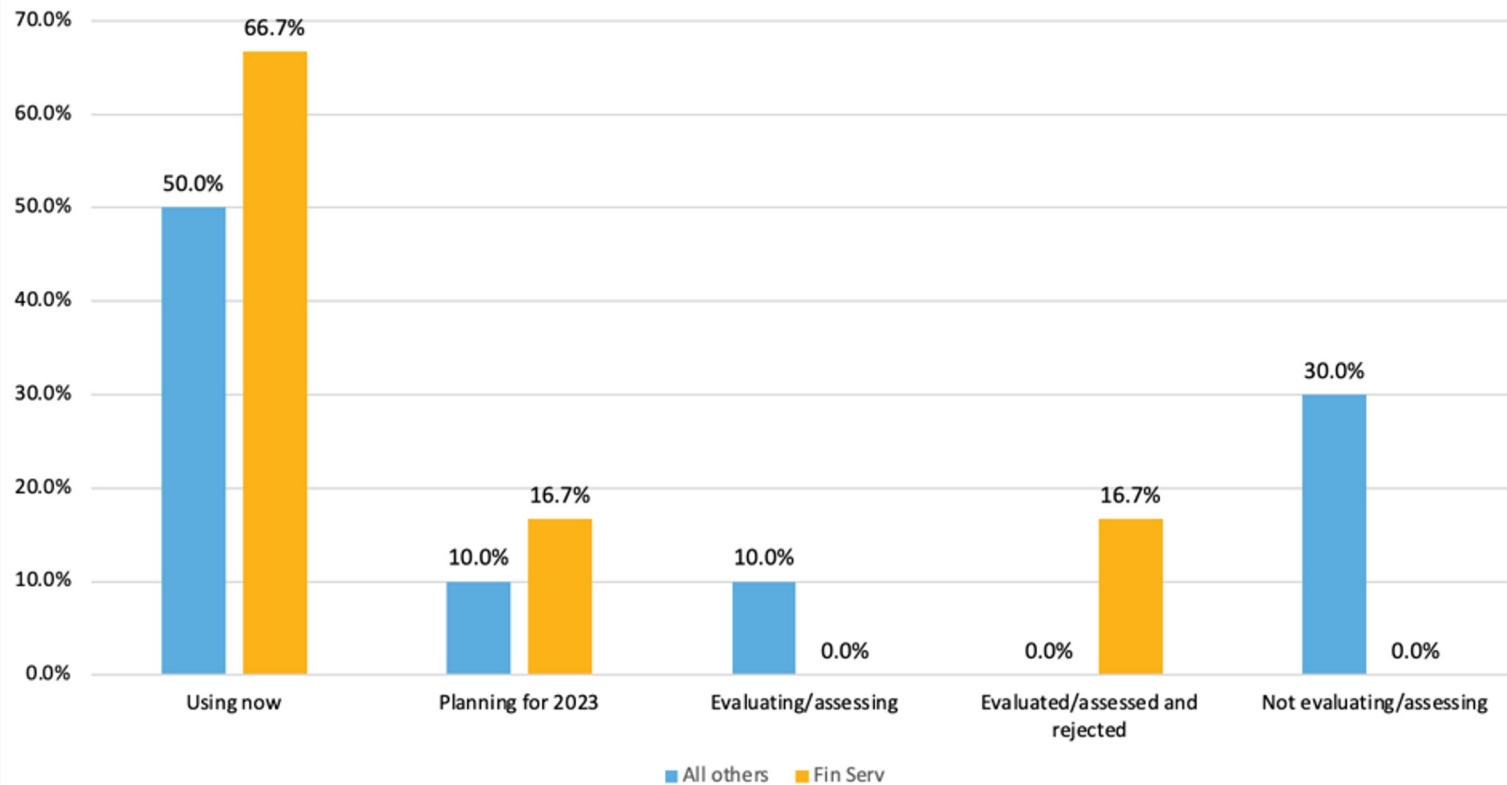
# Enterprise AI Technology Adoption (Today)

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Google Bard/LaMDA	33.3%	28.6%	40%	25%	16.7%
Amazon Bedrock	15.8%	14.3%	18.2%	25%	60%
NVIDIA AI Enterprise	20%	23.1%	25%	0%	0%
BLOOM	0%	0%	0%	0%	0%
LLaMA/Alpaca	10%	7.7%	15.4%	0%	0%
Hugging Face	0%	0%	0%	0%	0%

# State of Adoption: ChatGPT



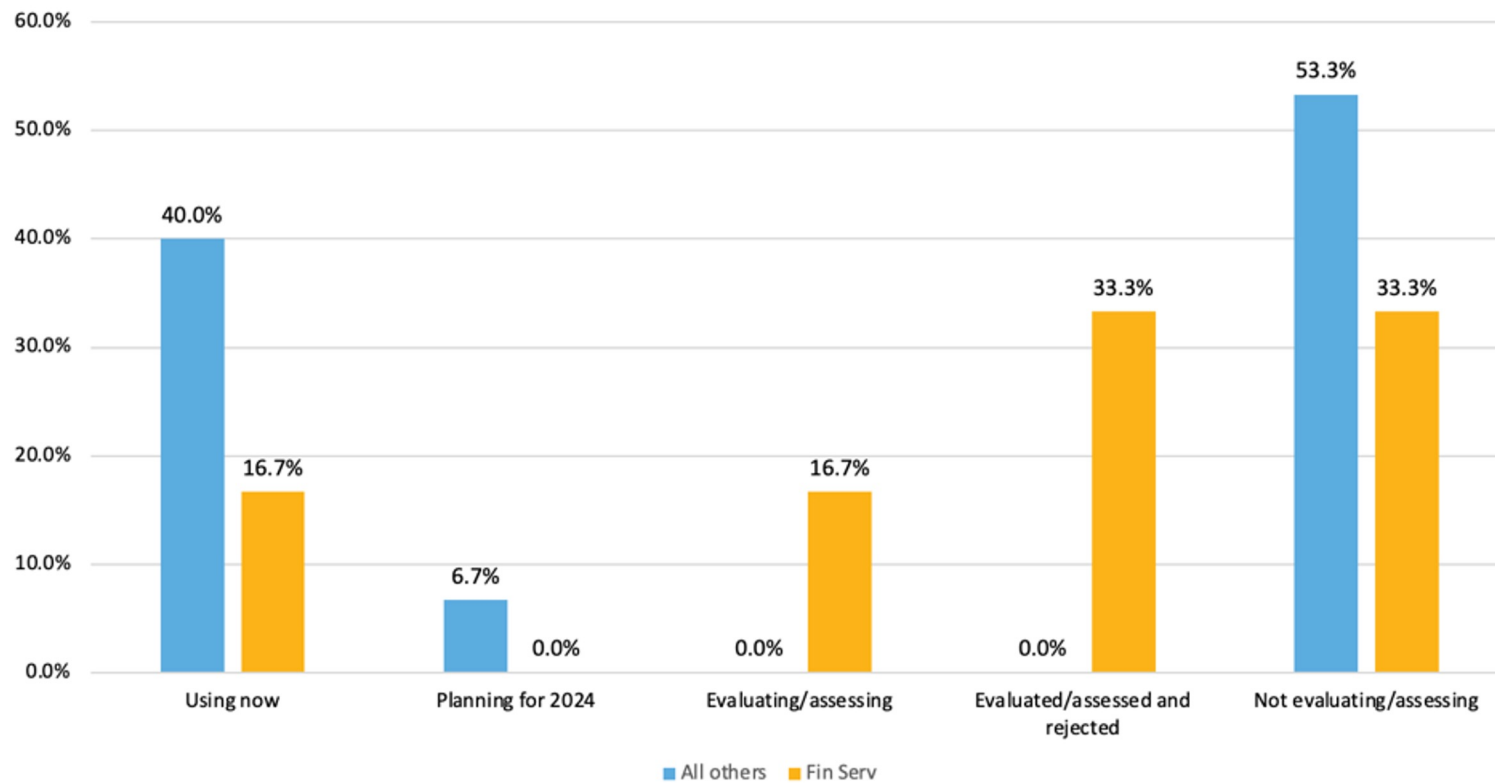
## State of Adoption: ChatGPT/OpenAI/Microsoft



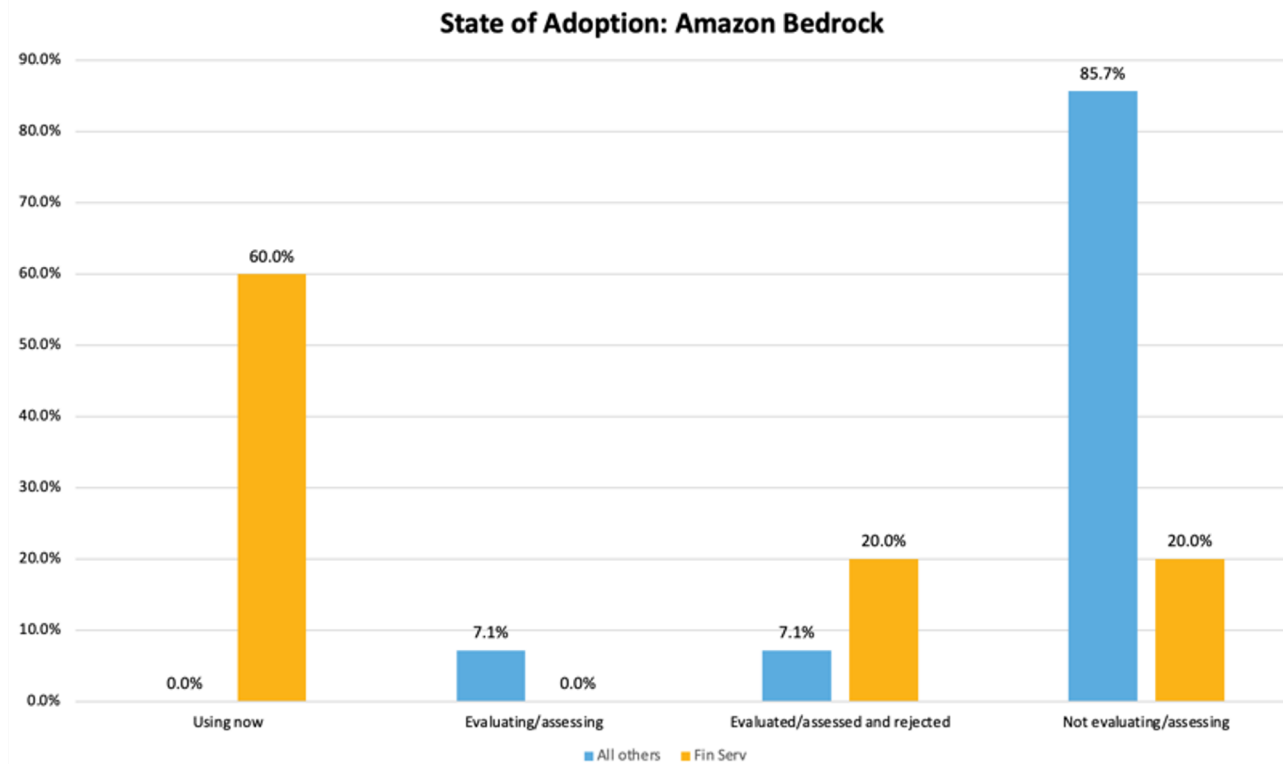
# State of Adoption: Google Bard/LaMDA



State of Adoption: Google Bard/LaMDA



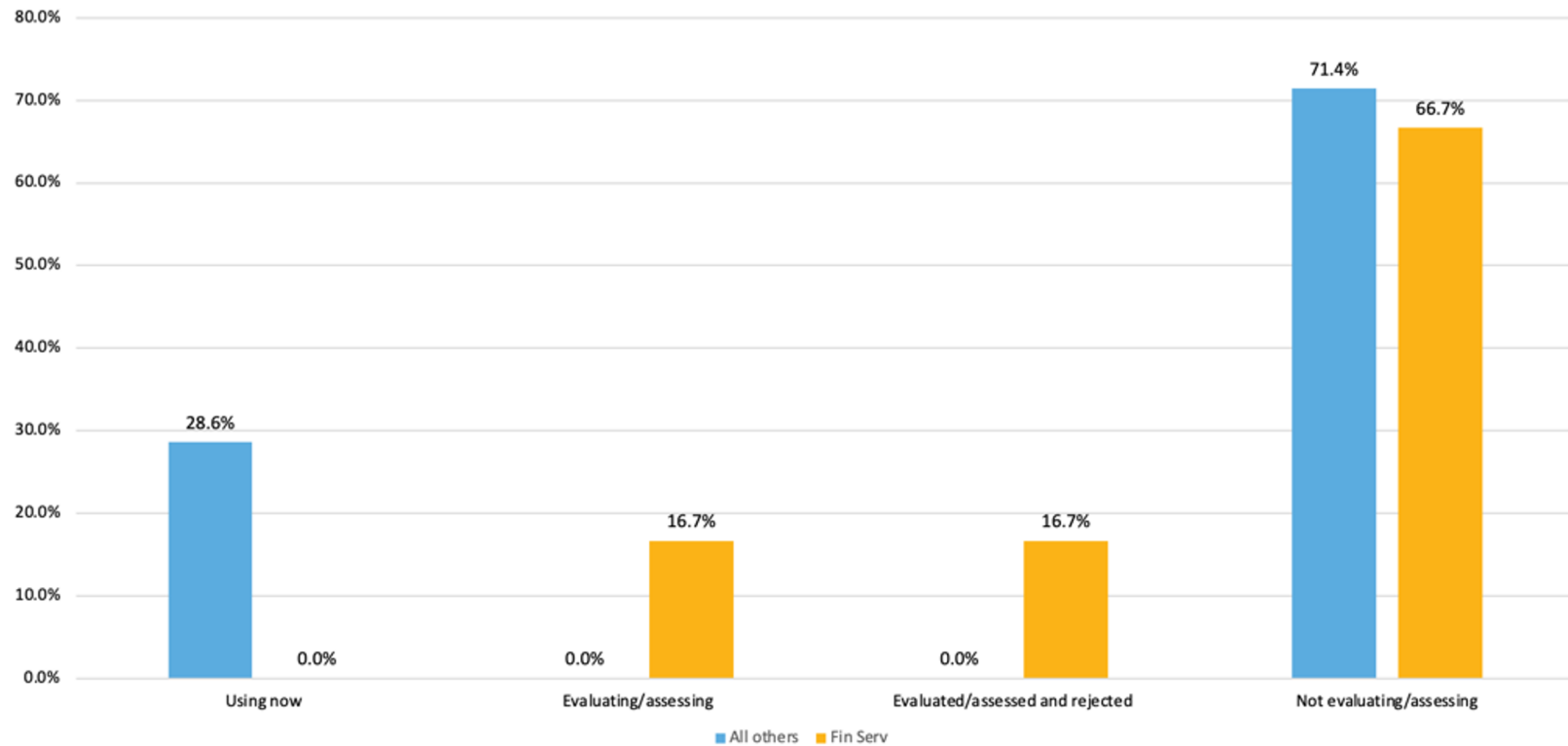
# State of Adoption: Amazon Bedrock



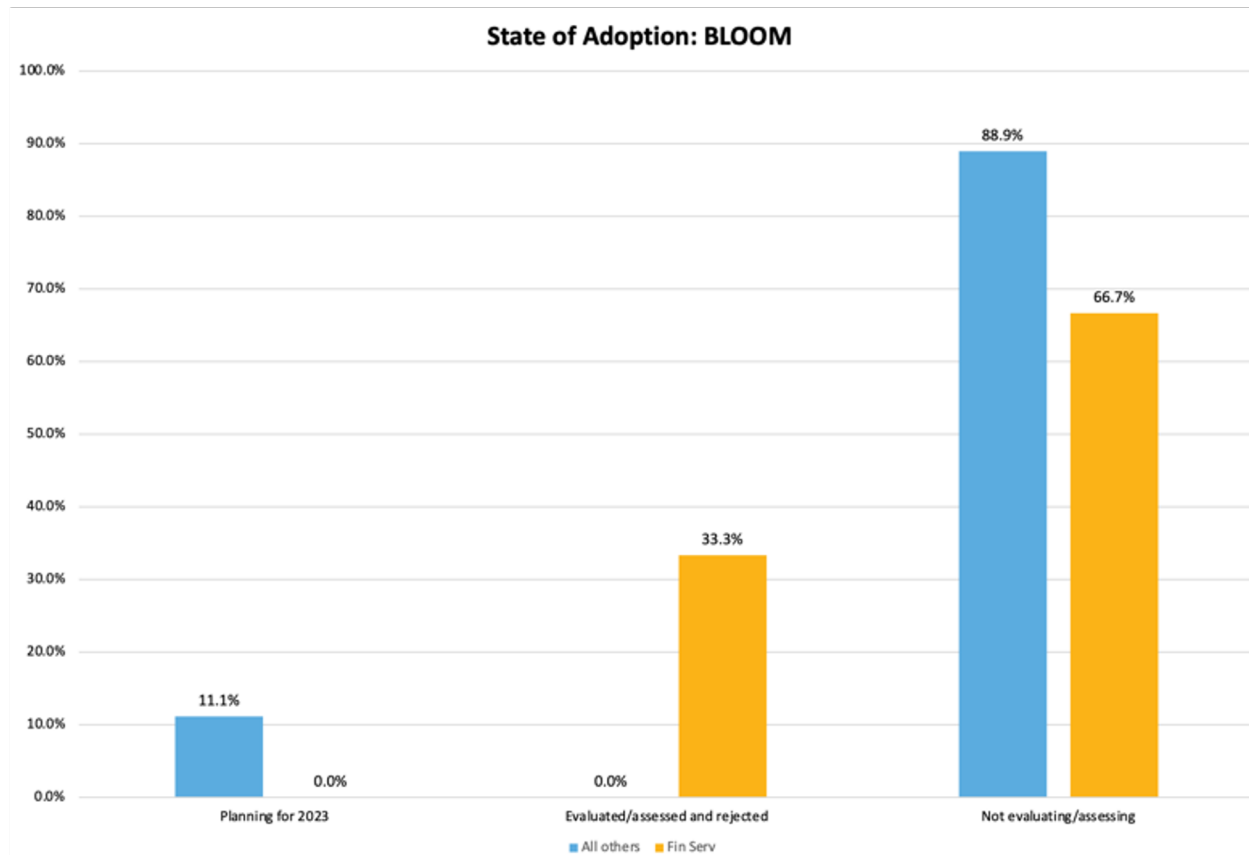
# State of Adoption: NVIDIA



State of Adoption: NVIDIA AI Enterprise



# State of Adoption: BLOOM

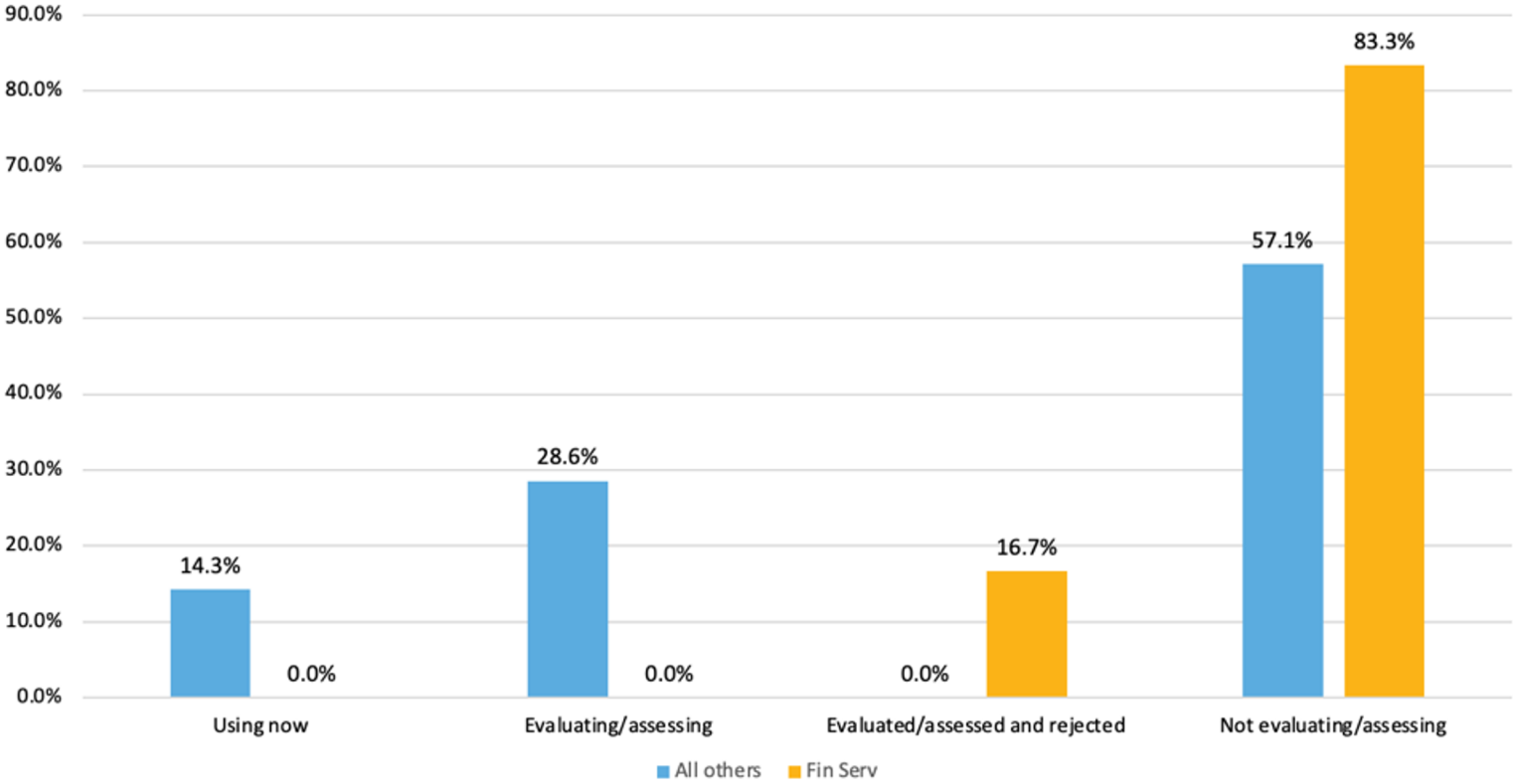




# State of Adoption: Stanford LLaMA/Alpaca



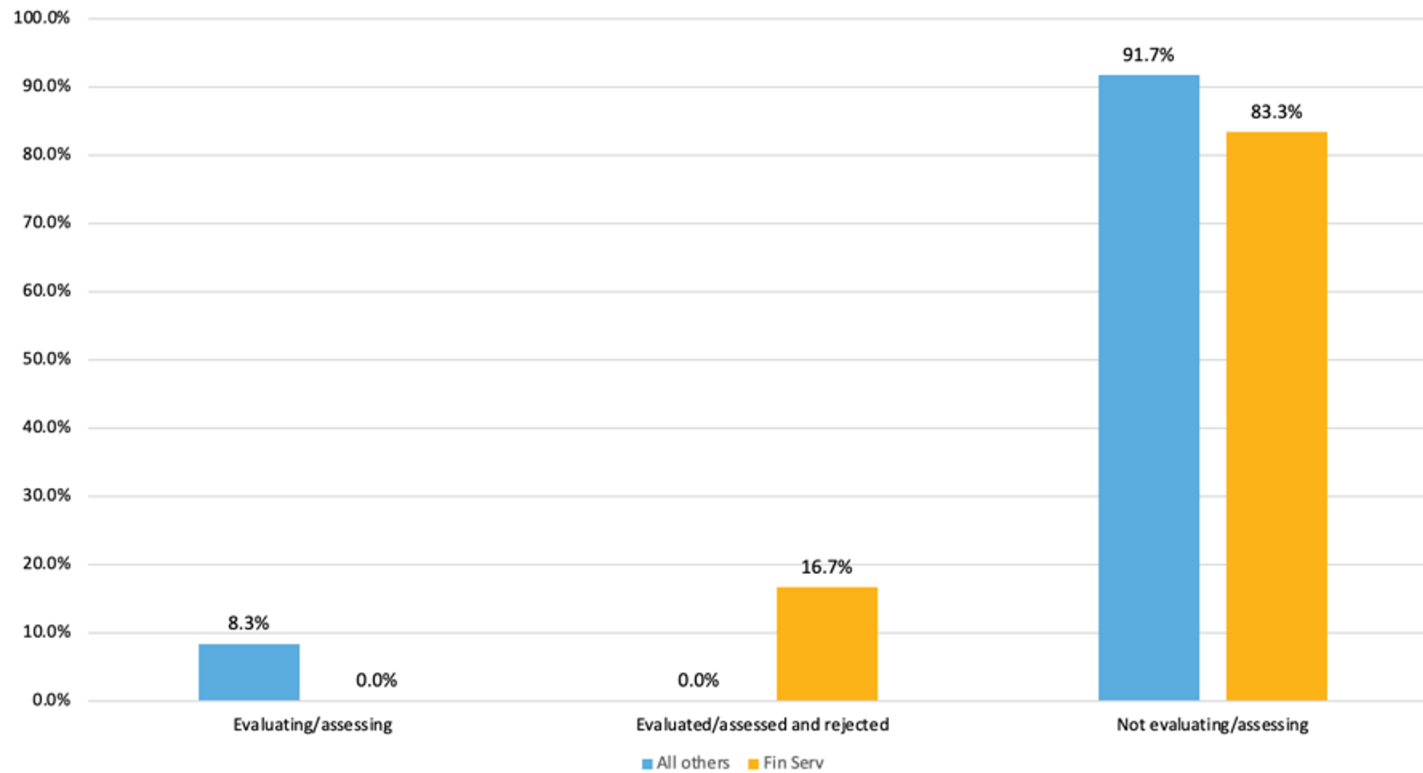
State of Adoption: Stanford LLaMA/Alpaca



# State of Adoption: Hugging Face



State of Adoption: Hugging Face



THANK YOU

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