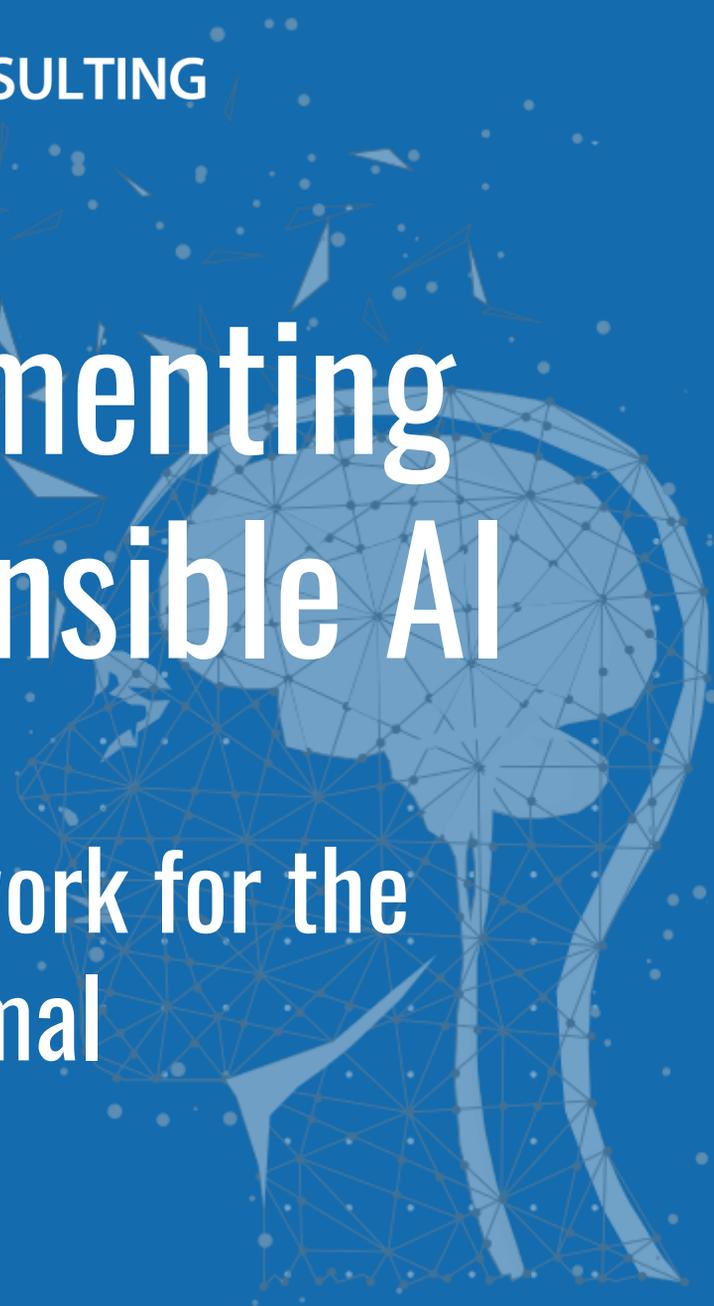# Infosys® | CONSULTING

Implementing Responsible AI

A Framework for the Next Normal

An Infosys Consulting Perspective
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Introduction

A "digital-first agenda" is now the number one priority for businesses, and AI will be a fundamental part of building resiliency in the future - helping us better navigate uncertain supply and demand, adjust to disruptions in operations, and adapt to sharp changes in consumer priorities.

> "AI is the "runtime" that is going to shape all what we do"
>
> – Satya Nadella, Microsoft CEO

More than ever, data scientists and machine learning (ML) engineers are designing AI applications and embedding these solutions into all operational processes. At the same time, algorithms are executing the work in real-time: setting up a price on Amazon, recommending a movie on Netflix, scoring job applicants, qualifying a customer for a loan, interacting with customers – processes that traditionally have required human expertise.

Post-covid-19, we know that a large portion of operational activities will now be executed by AI powered applications in the near future, enabling teams to focus on higher value and customer facing tasks. But with increased reliance on technology comes the need for self-regulation, and businesses will also be expected to manage the ethical considerations of these new technologies: how to deploy smart AI while ensuring privacy safeguards, preventing bias in algorithmic decision-making, and meet guidelines in highly regulated industries.

In this POV, we look at the potential implications of AI on businesses and society, and outline our responsible AI framework to help organizations use AI responsibly, accurately and ethically.

Problematic AI: An increasing concern

Every day, Alibaba Cloud blocks 150+ million brute force attacks, 20 million web hacking attacks, and 1000+ DDoS attacks. The scale, frequency and impact of cyberattacks are daunting; the growth of AI – and the accumulation of the massive datasets required to feed it – will only compound the problem.

- Microsoft's TAY: In March 2016, Microsoft released Tay (Thinking About YOU) via Twitter to learn from online interactions and replicate better human communication and personality traits. The users fed the chatbot with bigoted rhetoric. Within 24 hours, it converted the polite bot into a vehicle for hate speech and anti-Semitism.

- Amazon's recruiting engine: In Oct 2018, Amazon's AI specialists uncovered a big problem: their new online recruiting engine did not like women. The engine was built with 10-years of historical data and scored each job applicant on a score of 1-5. Unfortunately, the algorithm penalized women's resumes due to bias in the training data set.

- Equifax privacy breach: In Sep 2017, Equifax revealed a privacy breach that exposed PII data of 140+ million Equifax customers. Wall Street Journal reported this "nightmare scenario" as could have been avoided.

We can group ethical challenges of AI into four main categories – digital amplification, bias, security and control and inequality. The problems created by these challenges apply to all businesses when data, analytics, and AI powers the "runtime" operating model. In both digitally native and traditional firms, leaders should be aware of how their newly developed digital capabilities can be used and misused in ways they never intended or imagined. They need to ensure they are governing AI in a responsible and moral manner to overcome this new wave of challenges.
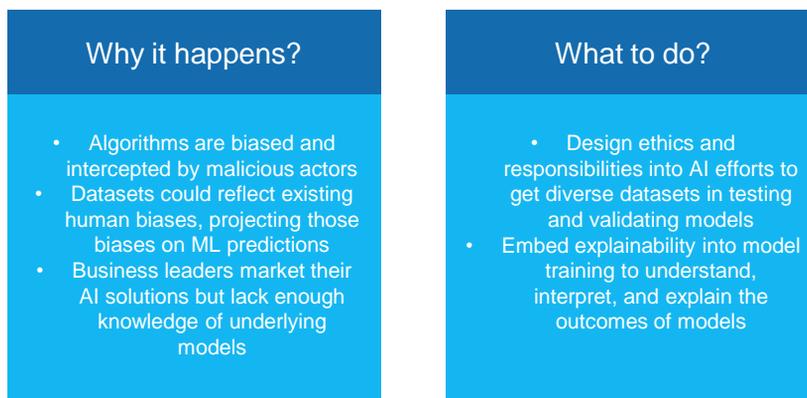
Why it happens?	What to do?
• Algorithms are biased and intercepted by malicious actors • Datasets could reflect existing human biases, projecting those biases on ML predictions • Business leaders market their AI solutions but lack enough knowledge of underlying models	• Design ethics and responsibilities into AI efforts to get diverse datasets in testing and validating models • Embed explainability into model training to understand, interpret, and explain the outcomes of models

Exhibit 1 – Problematic AI

Impact of responsible AI

As business processes become increasingly digitized post-Covid-19, AI and analytics will drive an increasing proportion of operating activities and managerial decisions.

This will inevitably free up human time, allowing employees to focus on value-added activities that require empathy, creativity, judgement and accountability. In response, leaders will need to find innovative ways to lead their increasingly digital businesses with AI technology that augments human capabilities, rather than displacing them – replacing a labor-saving and automation mindset with a maker and creator mindset.

According to our recent research, there is a strong positive correlation between governing AI responsibly and financial performance. When designed, governed, and implemented correctly, responsible AI can:

* Mitigate adverse or negative impacts on society

* Help create trust

* Maximize long term value creation

Our Responsible AI Index (RAII) scored respondent firms on a scale of 0–100 across 6 key principles – Fairness, Protection, Accountability & Explainability, Inclusive, Societally Beneficial & Job Positive. Firms fell into one of four categories – "watchers", "explorers", "performers", "visionaries" – depending on the respondents.

Exhibit 2 – % of organizations across different categories

In this analysis of 690+ organizations, we found that organizations can increase operating margins by as much as 5% as they improve their RAII, with the effect being highest in life sciences, CPG and insurance industries (exhibit 3).

Operating Margin

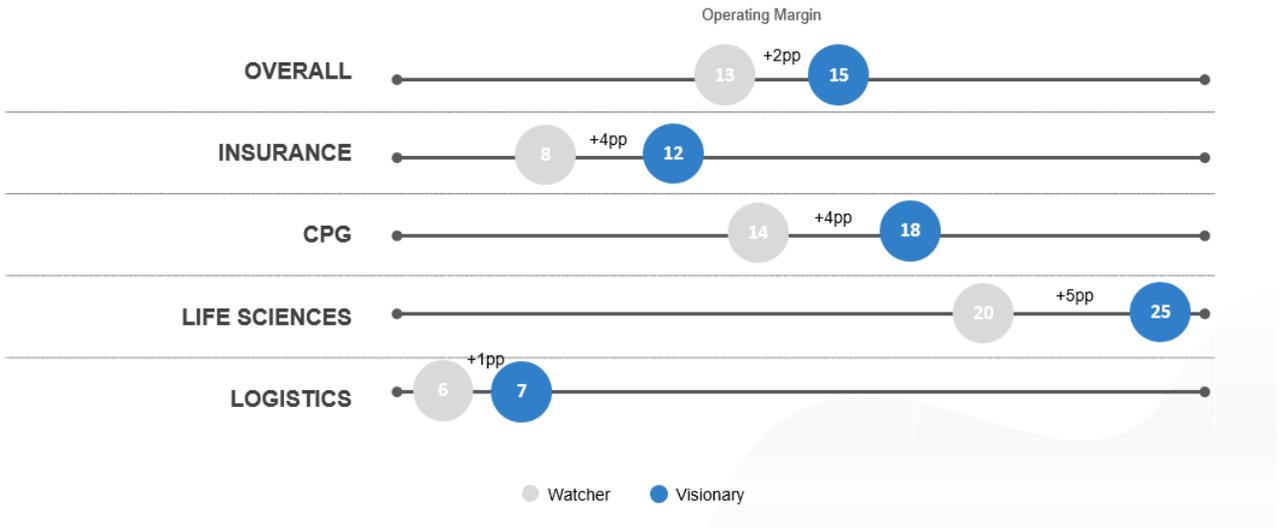|				
OVERALL		13	+2pp	15
INSURANCE	8	+4pp	12	
CPG		14	+4pp	18
LIFE SCIENCES			20	+5pp 25
LOGISTICS	6 +1pp 7			

○ Watcher ● Visionary

Exhibit 3 – Correlation between governing AI responsibly and financial performance

As well as mitigating risk, organizations who are at least performing (Performing+) in responsible AI have seen positive impact across financial and experience metrics.
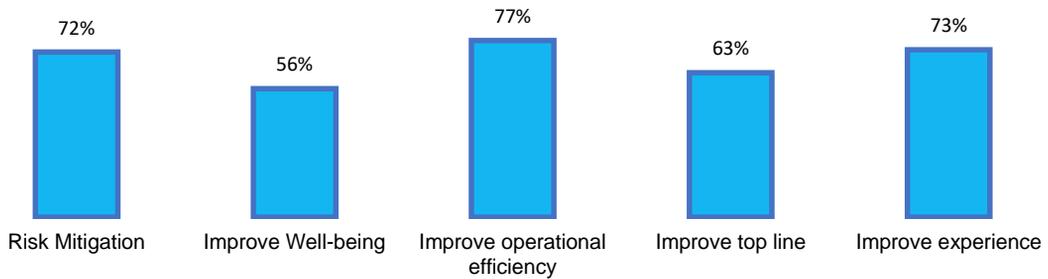
72%	56%	77%	63%	73%
Risk Mitigation	Improve Well-being	Improve operational efficiency	Improve top line	Improve experience

Exhibit 4 – Benefits of governing AI responsibly

However, even though 67% are operating one or more AI applications at scale, only 19% of the organizations are leading in their responsible AI journey.
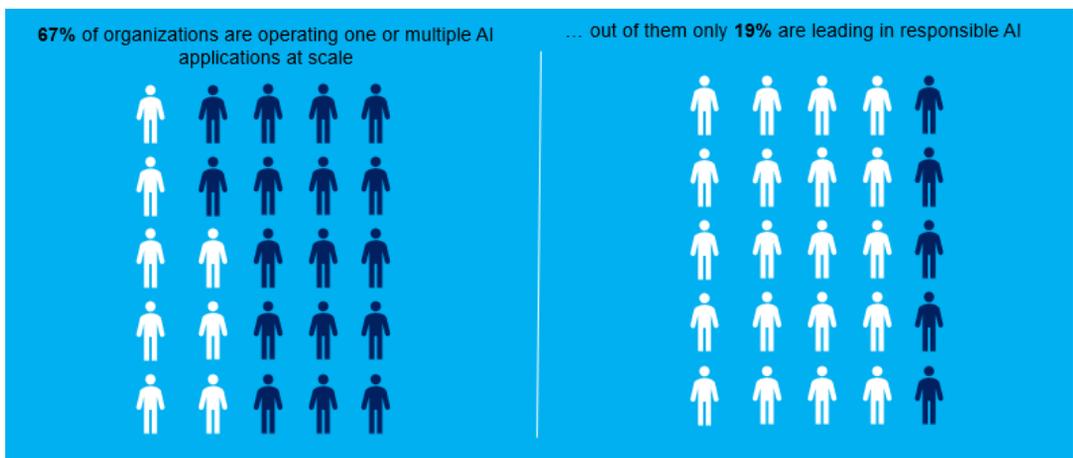
67% of organizations are operating one or multiple AI applications at scale

... out of them only **19%** are leading in responsible AI

Exhibit 5 – Organizations leading in responsible AI

There is also a discrepancy across regions, with many organizations lagging in implementing Responsible AI.

Europe has the highest percentage of Performing+ organizations (74%), compared with 58% for Americas and 49% for ANZ. Even though the majority of organizations in Europe are Performing+, a huge gap exists between Watchers and Performing+ in RAII, as similar to other regions.
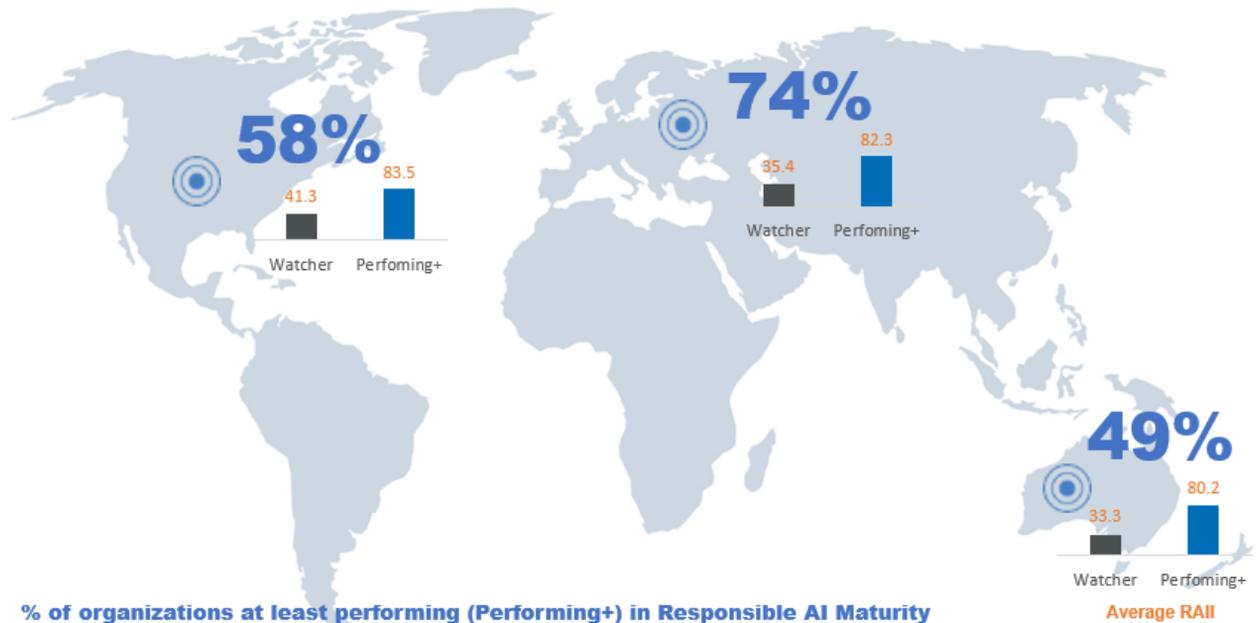

Exhibit 6 – Responsible AI Maturity across geographies

The leadership mandate: improving your RAII

Business leaders are trying to figure out the impact and its implications in the age of AI. Old assumptions no longer seem to apply. Some of that questions organizations must answer to govern AI in a responsible manner include:

- What core values and business ethics can provide direction to navigate AI's moral compass?

- What benchmarks should AI applications include to evaluate protection, fairness and responsibility?

- How can we drive the organization's cultural change to use AI responsibly?

- How can we proactively think about how to reskill people and create new jobs?

- How can we prioritize values so that AI applications can mimic decision-making?

- How can we audit the AI's actions and ensure it works with a sense of responsibility?

- Who should be responsible for the online governance of AI-driven decisions and fine-tuning of applications?

Our responsible AI framework

Organizations need to ensure a balancing act around responsible AI to mitigate the risks while increasing the benefits. We recommend six fundamental principles to mitigate and eliminate potentially negative effects of AI to society while maximizing long-term value creation.

Minimizing **RISKS**

Fairness
Treat everybody fairly without any bias in systems & models

Protection
Protect individual rights (privacy), resist cyber attacks, and comply with all legal & regulatory environments

Accountability & Explainability
Be accountable & explainable for the decisions made

Inclusive
Equal right to be educated & empowered to leverage AI technology for personal & professional use

Societally Beneficial
Promote well-being of human & animal, protect the environment and raise the quality of life

Job Positive
Proactively reskill people & create new jobs

Maximizing **BENEFITS**

PROFIT — PEOPLE — PLANET

Maximize long term value creation

Exhibit 7 – Responsible AI Framework

1. Inclusive

Everyone in the organization and society has an equal right to be educated and empowered to leverage AI technology for personal and professional use. AI design principles should ensure that no one is behind, making it intentionally inclusive and diverse for all communities of society where the organization operates.

2. Societally beneficial

AI outcomes should promote the well-being of society, protect the environment and raise quality of life. Organizations need to align their AI applications as strategic imperatives to reduce carbon footprint, reduce or eliminate waste while lowering costs and lessening environmental impact.

3. Job positive

As AI will inevitably displace jobs, organizations must think about how to drive cultural change to reskill people and create new employment opportunities.

4. Fairness

We live in a society that is unfair and biased. The AI applications that we design and develop should try to reduce this unfairness in society. The assumptions made by the AI team during the lifecycle of AI initiatives can introduce biases, can reinforce social stereotypes, inject cultural denigration, and increase over and under-representation. Organizations need to ensure AI applications should treat everyone fairly, and ensure they have a diverse AI team responsible for designing and deploying AI systems.

5. Protection

AI applications have increased reliance on data to develop and train algorithms. The increased reliance on data requires additional requirements to keep the systems secure and reliable. Organizations need to ensure their AI design principles have the following considerations:

- Identify data origin and data lineage
- Identify the use of internal and public data for building models
- Potential data corruption and anomaly detection
- Protect individual data privacy rights
- Resist cyberattacks
- Comply with all legal and regulatory requirements

6. Accountability and Explainability

Organizations are accountable for how AI impacts the people and the planet.

Accountability provides the guiding policies, standards and checklists that we need to enforce throughout the lifecycle of AI initiatives. One of the critical components of accountability is that AI applications must be explainable, for example:

- The AI design and the development team should be open about why and how they are using AI and limitation of their applications.
- The customers of the applications should understand the behavior of the algorithms, through improved interpretability or intelligibility.

Explainability helps organizations to achieve a diverse set of objectives to mitigate unfairness in AI systems, help developers debug their AI systems and build trust.

Measuring the business impact

As well as minimizing harmful effects to society, responsible AI can help organizations create long term value for their shareholders.

As part of our framework, we have identified three pillars, 11 themes and 16 operational metrics to measure the business impact of governing AI responsibly, which can be seen in exhibit 8.
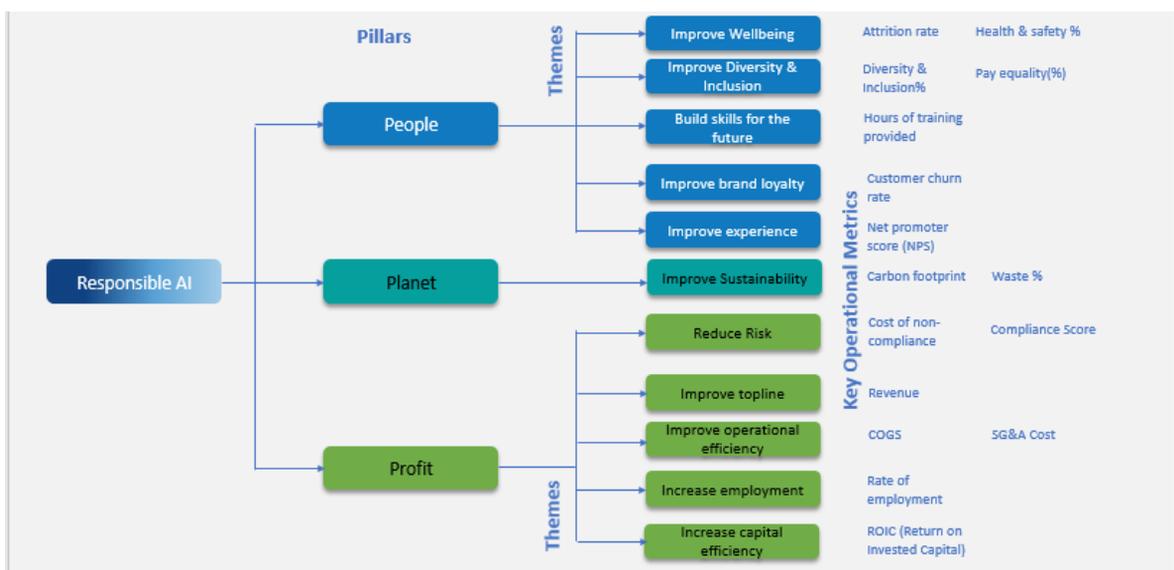

Exhibit 8 – The business impact of driving AI responsibly

Conclusion

The landscape of AI is evolving rapidly and creating a multitude of benefits for organizations across industries. Responsible AI solves ethical challenges and creates long-term value and business benefits across the three pillars – People, Planet and Profit. However, aiming for operating AI at scale without implementing enterprise wide governance for responsible AI will significantly limit potential.

To kickstart your responsible AI journey, it is necessary to have the right policies and guiding principles that help extract maximum value out of your digital transformation – as well as understanding your current RAII. At Infosys Consulting, we have developed a framework to help organizations maximize long term value creation and govern AI responsibly. To find out more about our responsible AI offering, reach out to our global experts.

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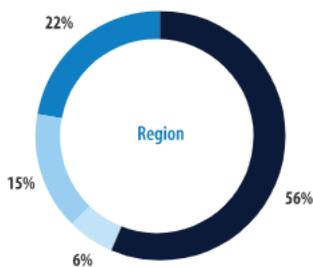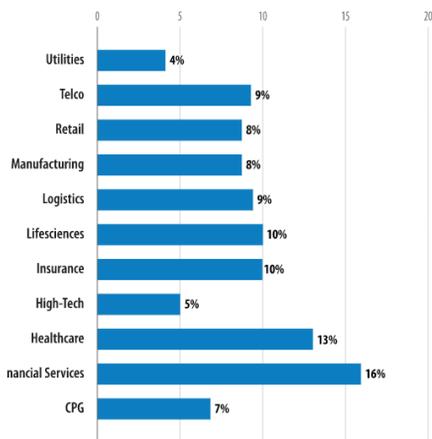
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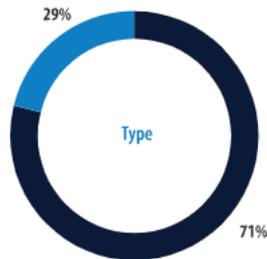AI Transformation Consulting India - AI&A
practice

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Methodology

For our 'Implementing Responsible AI' report, we studied the AI journey of 690+ organizations, analyzing 100+ quantitative and qualitative metrics. Our Responsible AI Index (RAII) scored respondent firms on a scale of 0–100 across 6 key principles – Fairness, Protection, Accountability & Explainability, Inclusive, Societally Beneficial & Job Positive. Firms fell into one of four categories – "watchers", "explorers", "performers", "visionaries" – depending on the respondents. The respondents were C-suite executives, directors, SVPs, VPs, and AVPs. The split of firms across sector, geography, digital tenure, and revenue bands was as follows:

Horizontal bar chart showing sector split:
- Utilities: 4%
- Telco: 9%
- Retail: 8%
- Manufacturing: 8%
- Logistics: 9%
- Lifesciences: 10%
- Insurance: 10%
- High-Tech: 5%
- Healthcare: 13%
- nancial Services: 16%
- CPG: 7%

Region:
- Americas: 56%
- Europe: 22%
- APAC: 15%
- ANZ: 6%

Type:
- Digital Immigrants: 71%
- Digital Natives: 29%
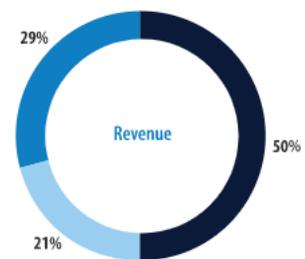
Revenue:
- $1 Billion to $2.99 Billion: 50%
- $3 Billion to $4.99 Billion: 21%
- >=$5 Billion: 29%

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