TATA CONSULTANCY SERVICES

TATA

From potential to performance by design

TCS AI for Business Study

Key Findings Report

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FOREWORD

Reimagine your business with AI

by K. Krithivasan
CEO, Tata Consultancy Services

I am delighted to release this TCS AI for Business Study key findings report, which shows the majority of senior executives are optimistic about AI's potential impact on their business and 94% have active plans or have deployed it already in their business – showcasing the fast penetration of this technology wave. This report shares this and other unique insights about how organizations around the world in every industry are responding to AI's transformative potential.

This study contains perspectives from nearly 1300 senior leader from 24 countries, making it one of the largest surveys of its kind, and continuing TCS' commitment to use our position of privilege of working with the world's leading corporations to unlock the collective knowledge we all have, and create an ecosystem of insights and learning.

The latest evolution of artificial intelligence—with its generative AI capabilities—has the potential to help companies reimagine entire value chains, experience pervasive performance improvements, and create new ways of working. At the same time, the findings from our AI study, as well as our own experience working with large organizations, show that **most companies are also thinking of how to balance risk with opportunity as they move forward with their AI strategy**. Interestingly an overwhelming 81% of the leaders polled have asked for a more 'global' set of regulations and standards on AI.

Right now, most organizations use AI to assist humans. As it matures, we will increasingly see AI used to augment human activities and ultimately, transform businesses by elevating human thinking with the ability to ideate based on machine output. **According to the study, most executives think human creativity or their strategic thinking will be an essential competitive differentiator in the next three to five years. AI can help scale this creativity to new, unprecedented levels**.

The study also shows that **to fully leverage the latest wave of AI and mitigate its risk, nearly three-quarters of companies are already revamping their strategy or operating model**. It's not surprising that many organizations are yet to create an effective long-term AI strategy and KPIs, given the continual and rapid pace of change in its evolution.

AI is creating an unprecedented opportunity for organizations around the world to capitalize on their unique contextual knowledge to elevate and maintain elite performance. And at TCS we are proud to be part of the AI revolution, collaborating with companies to help them effectively create an industry-led, ecosystem-enabled and data-fueled "enterprise-wise" foundation that by design, turns the potential of AI into sustainable performance.

I am very proud of the TCS contributors who worked on this study, our clients and partners who contributed generously with perspectives, and I hope this unique research will add to the evolution of our thinking, bringing a fresh, data-driven perspective to the larger AI conversation.

INTRODUCTION

How AI is redefining business

The latest wave of artificial intelligence is not only reshaping the landscape of society, it also offers new opportunities to radically reinvent the way we do business. The emergence of generative AI combined with traditional AI can now elevate human contributions in business and empower organizations to get the most value from their unique data.

This comprehensive research report from the TCS Thought Leadership Institute reveals a positive sentiment around AI from most executives. In fact, the majority said they are optimistic about the potential impact of AI on their business. Most senior leaders also believe that AI will continue to assist and augment human activities in the next few years, not replace them in the workplace. And while the daily use of GenAI by employees is expected to increase, human creativity and strategic thinking will remain essential for competitive differentiation.

About the study

In early 2024, the TCS Thought Leadership Institute conducted a comprehensive global survey on the state of AI adoption and its impact on businesses across various industries.

The study surveyed nearly 1,300 CEOs and other senior executives with P&L responsibility. The companies spanned 12 industries and 24 countries around the globe. About half the companies have annual revenue between US $1 billion to $5 billion and the other half have over US$5 billion in revenue.

We also wanted to understand what the most financially successful companies in our survey are thinking and doing around their AI strategy; where relevant, we compare them to other respondent companies. Throughout this report we refer to these top performers as Pacesetters while Followers are the less successful companies.

A discovery from the research was that although corporate leaders see the value of investing in AI, most of them lack a cohesive strategy or ways to measure the success of their AI implementations—which may not be wholly surprising, given the accelerated pace of AI's continued evolution. Yet it will likely be challenging to get boardroom buy-in for AI implementations without success metrics. Company leaders recognize, too, that to fully leverage all that AI has to offer, they will need to make big changes to their business models—and to their infrastructure. Managing a culture of AI-readiness and talent development also ranks high for organizational leaders. This report reveals these and other insights from leaders of large enterprises around the world in nearly every industry.

> "The report represents a comprehensive overview on the state of AI for business leaders. It gives us very good insights on what's important for corporations right now, with the dawn of GenAI, like what companies are focusing on for AI, how companies expect AI will impact their business, and what companies expect governments to do in the global regulatory landscape. It is a must read for companies creating a strategy for AI."
>
> *– Claudionor N. Coelho Jr, PhD/MBA, Chief AI Officer, Zscaler, Inc.*

The study investigates:

How are CEOs and other senior decision makers around the world responding to AI's transformative potential?

How are they managing their AI strategy?

As the pace of artificial intelligence accelerates, is their organization AI-ready?

Do they understand the potential value of AI for their business?

Are they balancing those opportunities with the risk?

Will they manage AI implementations in-house or work with a technology partner to chart their unique approach to AI?

AI can make companies more productive and profitable. But can it also make them better?

The research explores:

- Top business objectives driving AI implementations
- Planned direction for AI strategy
- Current organizational state and perceptions around AI and associated KPIs
- How much AI is expected to enhance overall business performance
- Implications for employee experience, skills and roles
- Impact to customer engagement and creating better customer experiences

AI DEFINED

For this study, AI is defined as Generative AI, as well as more established AI tools such as predictive analytics and forecasting, personalization and recommendation engines, robotics, intelligent automation, simulations, machine learning, and more.

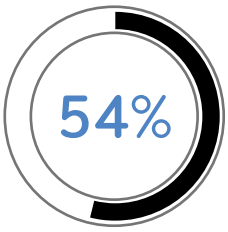
The report contains unique insights and directional information for top executives seeking to navigate through the hype more effectively and lead their enterprise into the rapidly evolving Era of AI.

HIGHLIGHTS

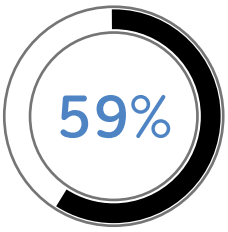
The transformative potential of AI for business

Few technology advancements have gripped the public imagination like artificial intelligence. The study findings showed a majority of senior executives anticipate AI's influence to be on par with, or even exceed, the transformation brought about by the advent of the internet and smartphones.

The majority of executives believe AI's impact on their business model will be greater or at least equal to earlier disruptive technologies.



believe its impact will be greater or equal to the internet



say the impact of AI on business will be greater to or equal to smartphones

Q. How would you compare AI's potential impact on your business model with the following technological developments?

Global executives are also optimistic about the potential of AI to transform their business.

AI holds the promise of reshaping operations, creating new value chains, and redefining the customer experience.

57%

say they are excited or optimistic about AI's potential impact on their business

Q. Which of the following is closest to how you're feeling about AI's potential impact on your business?

The industries most optimistic about AI's potential:

- Banking, Financial Services & Insurance
- Technology
- Manufacturing

> We believe that strategic AI implementations, such as those made possible with Google's Gemini family of models, with its potential for complex reasoning and multi-modal capabilities, will drive business growth, innovation, and productivity gains by augmenting human capabilities.
>
> To realize the outcomes of this in-depth study by TCS, by leveraging Google Cloud AI's comprehensive solutions, enterprises can implement innovative generative AI to achieve better agility, responsiveness, and resilience, leading to improved efficiency and new ways of working.
>
> This has the potential to improve almost every aspect of day-to-day work, tackling complex tasks and generating more insightful and innovative outputs at a much faster rate.
>
> *– Dr. Ali Arsanjani, Director, AI/ML Partner Engineering, Google Cloud*

Success story #1

Real-world AI implementation: A masked interview with a large enterprise

Drilling down to what customers want and need

AI capabilities enable large mining company to experience greater revenue from subscription services, improve forecast accuracy through a 20% reduction in error rates, and gain greater customer satisfaction

Country:
Sweden

Type of company:
Mining machines manufacturer

Role:
Head of AI & Automation

Revenue:
USD $10 billion to less than $20 billion

> Last year, after ChatGPT came in, people were head over heels. They said, 'Oh, what can we do around AI?' And I'm like, come on, let's start with the 'business why.' If we do anything, it's always like, 'Why am I doing this? What business problem am I trying to solve? What is my top business challenge? What am I trying to do here?' So you start always with design thinking and all of that. Of course, you need an ecosystem of all the technologies and platforms available at your disposal to resolve those business challenges. But it's not the other way around that you have targets around AI that, 'I want to do ten use cases.' It doesn't help, right?... [We should] focus more on the game-changing AI where you talk about innovation. 'Do you know how you differentiate [us] from the competition?' That's where we want to invest.

Overview

This Swedish firm has seen significant benefits from AI, including predictive and generative AI. It regards AI in a kind of "opportunity radar" with four quadrants. In the first quadrant, AI is part of the products and services the company buys (for example, GitHub, Microsoft Copilot, other off-the-shelf offerings). More and more of these in the future will be infused with AI. Its second quadrant is customer experience, which is more likely to include generative AI solutions. The third quadrant focuses on internal efficiencies, like the supply chain, using AI for quality inspection, demand forecasting, and so on. The fourth quadrant is the competitive differentiator: putting AI into the products. The company has more than 1,200 mining machines that are connected to AI and use it for predictive and prescriptive maintenance. This allows the company to proactively provide a solution before the machines fail and helps protect workers deep in the mines. When they sell their machines to mining companies, their predictive maintenance options is one of the strongest use cases for AI—but, as this executive indicated, there are many more benefits.

For example, with AI-enhanced demand forecasting, they've seen a 20% improvement in error rates. They've also found higher revenue and sales by moving from selling products to offering AI-driven product-service bundles, which reduces downtime and offers cost-saving benefits for customers.

Business objectives

- Reduce high net working capital (NWC) by focusing on sales forecasting, demand planning, and inventory planning
- Convert machine sales into product-service subscription revenues
- Use KPIs to focus on performance improvements, minimize downtime, and increase customer satisfaction using a remote monitoring service. (For example, use predictive AI to proactively improve maintenance of machines and safety of workers, and to prevent unnecessary machine maintenance by customers)

Benefits and implications of AI implementations

- Transforming the company from a product sales organization to a bundled product-service subscription business.
- Predictive maintenance has generated revenue through software subscriptions and increasing machine sales while ensuring sustainability by optimizing servicing schedules, reducing downtimes and creating cost-savings for customers.
- Measurable performance gains in demand forecasting, with a 20% reduction in error rates, enhancing forecast accuracy.
- Greater innovation within the organization's specific areas, particularly in predictive maintenance, reconditioning plants, and production line automation.
- AI is playing a vital role in improving productivity and quality inspection processes, which ultimately enhances the overall quality of products.
- With Generative AI, customers can address a substantial portion of issues independently, diminishing the need for a large service technician workforce. Satisfied customers result in higher sales and subscriptions, further boosting revenue.
- The integration of AI into ERPs is also anticipated to enhance internal efficiencies.
- AI is differentiating the company from its competitors, prompting strategic considerations of building versus buying AI solutions.

Lessons learned

- Leverage edge computing for data access
- Get buy-in and trust of business leaders in AI initiatives
- Use central funding to create success stories
- Ensure internal oversight of external data partnerships
- Recruit top talent
- Establish centralized AI enablement teams to navigate decentralized organizations effectively
- Maintain a focus on digital upskilling, ethical considerations, and fostering a community of practice to ensure successful AI integration while addressing evolving technological and organizational needs

> The Generative Era is not only about doing more with less, but also generating actionable business value. We should measure the impact of AI against our ability to predict and personalize before we look to productivity.
>
> *– Phil Fersht, CEO and Chief Analyst, HFS Research*

And they recognize they need to make a lot of changes to take advantage of AI's capabilities and benefits.

55%

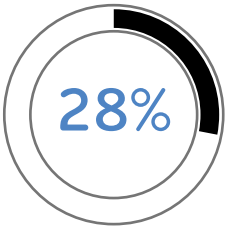
are currently making changes to their business models, the roles of their stakeholders, or changes to their offerings and how they sell them

17%

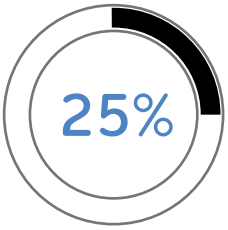
are discussing AI and making enterprise-wide plans for it

Q. Have you given any thought to how your company's strategic direction needs to be revised due to AI's potential benefits or risks for your organization or your industry?

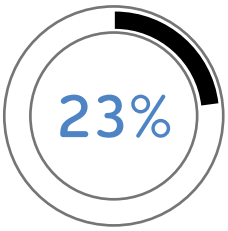
Yet the study reveals there is no consensus on AI adoption strategy.



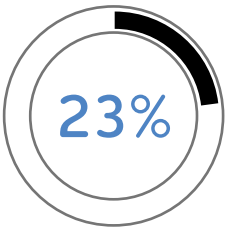
want to establish an enterprise-wide AI strategy to maximize its benefits to the company



say they want to stay true to their purpose and success model in exploring how they might leverage AI



want to experiment and take risks with AI to maximize its benefits

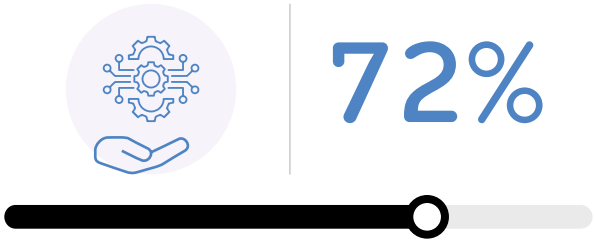


want to wait and see how AI gets use in their industry and follow the lead of others

Q. Rank three areas in order of importance to your company's leadership regarding the use of AI in the enterprise.

And not enough metrics to measure success.

Without KPIs, organizations will struggle to demonstrate AI's value and gain internal traction for its adoption.



say they need better KPIs to measure the success of AI implementations

Q. Which statement most closely matches how you feel about measuring the success of and financial return on AI implementations?

Although the appetite for organizations to become "AI-ready" is high, there are plenty of obstacles to getting there, including unclear paths forward, the need to revamp the company's operating model, and determining how to best measure the success of AI implementations.

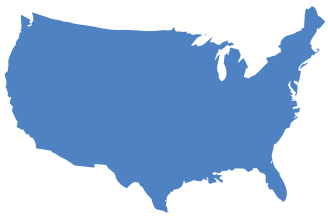
> With the proliferation of large language models (LLMs), more and more enterprises will opt to create their own custom models as their use of the technology matures. GenAI is about creating data and content specific to our needs—it is an extension of our people, our data and our processes and needs to be adapted to enterprises to drive maximum value.
>
> *– Phil Fersht, CEO and Chief Analyst, HFS Research*

Success story #2

Real-world AI implementation: A masked interview with a large enterprise

Teaching through learning

Life Sciences firm gains knowledge-driven operations and improved bottom line from AI integrations and data-centric strategies



Country:
US

Type of company:
Biotech/pharma

Role:
Head of AI/GenAI & Natural Language Processing

Revenue:
$2 billion business unit of a $35 billion company

> People are still trying to experiment. [But we have] to consider the trust aspect, ethics, and compliance aspect. And there is this whole aspect: 'Should we stop, or should we just keep doing something?' So I think a large portion of this industry has kind of come together, sort of indirectly aligned, so that we can use technologies like OpenAI, large language models, and ChatGPT to take on some low-hanging-fruit items, which is what we are actually doing today.
>
> "[Most] of our uses cases today are [applicable across our] broad industry, and 50% of the use cases are handled by these chat technologies... We're moving the rest of our data to the cloud and rationalizing it so it can be used by new AI capabilities.
>
> "One of the examples is where we're really trying to develop interfaces … to integrate a lot of questions that we get in our [service management] environments, which is like customer desk, customer support, call center, etc. and for all of these we have knowledge-based articles. So, we are compiling all of these and providing answers to our employees at their fingertips just by providing large language models. That's our number one use case in my company today, and I think the adoption is by more than 15,000 or 20,000 users.

Overview

In biotech/pharma, it is especially necessary to take a conscientious approach and ensure effectiveness and accuracy before diving in and blindly adopting the latest technology. Cautionary tales of companies in other industries facing lawsuits due to AI-driven decisions are increasing. Such instances have made executives at this company circumspect in their approach to GenAI technologies. Nevertheless, AI has already proven its worth. For example, when this particular biotech/pharma company has a project or product with 20 related documents affected by continually published government updates, GenAI tools are able to quickly update the entire document set. The same applies to information from the many related scientific applications and publications. This means the end users—scientific people, engineers, process people, and factory people—are getting the latest and most relevant government updates, which can also helps in terms of cost savings.

Business objectives

- Integrate GenAI technologies into everyday workflows,
- Harness generative AI to ensure regulatory compliance, continuously updating protocols in response to evolving governmental mandates. This proactive stance enhances cost efficiency and regulatory diligence.
- Leverage GenAI for social listening, analyzing brand perception across diverse social media channels.
- Create KPIs. Define specific objectives tied to implementing AI, focusing on enhancing employee productivity and achieving cost savings. For example:
    - Incrementally integrate at least 50 of the 4000 platforms at a time
    - Reduce resolution times to service requests, costs for licensing disparate platforms, and redundant work
    - Create comprehensive approach to measuring AI impact, encompassing corporate metrics, business unit-specific analyses, and considerations for workforce skill sets and vendor management
- Ultimately, transform the company as a result of AI integrations and data-centric strategies on operations and workforce dynamics.

Benefits and implications of AI implementations

- Users empowered to interface with GenAI technologies, going beyond Q&A interactions to encompass in-house model training. The use of a RAG (retrieval augmented generation) pattern, wherein queries and responses are coordinated between a search engine and a large language model, fosters productivity and agility.
- Significant improvements in response times and time-to-resolution, delivering tangible benefits from AI implementation.
- Better decisions around cost-cutting measures and resource reallocation, which showcases the strategic importance of AI in shaping organizational practices.
- Data standardization and a defined subset of data sources have streamlined operations.
- By distilling user sentiments into actionable insights, the company is able to refine advertising strategies and bolster brand resonance.

Lessons learned

- Prioritize security (in this case by relying on hyperscalers' secure platforms)
- Overcome workforce hesitancy toward AI
- Organize and standardize data across enterprise platforms by aggregating diverse data sources, ensuring data quality to maximize AI effectiveness
- Create various parameters for measuring performance and decision-making impact, aligning with business units and addressing duplication and fragmentation
- Define technical metrics encompassing user interactions, database queries, and license usage, to facilitate insights from system usage and to inform database restructuring

The current state of AI

When we looked how organizations are using AI right now, the research showed:

Most organizations have AI implementations in process or completed.

59%

of corporate functions have AI implementations in-process or completed

34%

of departments are planning AI implementations

Q. What is the state of implementation for AI-enabled operations in the following areas of your company?

In every industry, organizations have either initiated or completed the implementation of AI solutions across every major department and C-suite function. In fact, every executive we surveyed could cite at least one AI project at least currently in the planning stages, and for only 5% of companies were all AI projects still in the planning stages.

Overall, executives reported an average completion rate of 26% across projects in 13 major departments, with the finance/comptroller office having the most completed AI implementations (29%). Marketing and HR are close behind finance in their completion rates (at 28% each).

Corporate functions with the most completed AI projects:

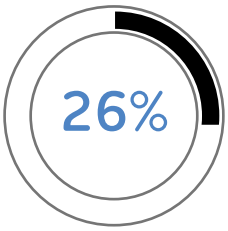
Finance/comptroller

HR

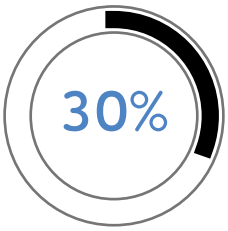
Marketing

> As the rate of change accelerates and business challenges become more nuanced, organizations must create more intelligent outcomes using AI and more effectively use proprietary data. Small and large language models will be critical to unlocking new sources of differentiation for enterprises. Organizations that understand this will become more agile, creative, productive, and resilient.
>
> *– Tarun Chopra, VP, Product Management, Data and AI, IBM*

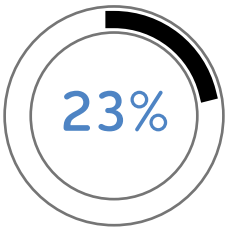
Average completion rates for AI projects across corporate functions and departments:



Overall



Pacesetters



Followers

The high percentages of companies with AI projects in various stages of implementation indicate that AI is no longer a futuristic concept but a reality for most organizations. Businesses are actively exploring and deploying AI solutions to enhance efficiency, productivity, and decision-making across their operations.

Industries with the highest completion rates for AI projects:

- Life Sciences
- Communications, Media & Information Services
- Banking, Financial Services & Insurance

> Leaders expect AI to help augment, accelerate, advise, and automate their businesses. More importantly, the successful adopters understand why it is so important to have a sound data strategy by design in order to prepare for an age of AI.
>
> *– R "Ray" Wang, Principal Analyst and CEO, Constellation Research, Inc.*

Yet very few companies are fully leveraging AI as a transformative factor for their business.

While many organizations are in various stages of AI implementation, the transformative power of AI as a core business driver remains largely untapped. Only 4% of the total surveyed have leveraged AI to such an extent that it differentiates and transforms their business operations; 24% haven't moved beyond the initial exploratory phase. A mere 15% say their employees and operations are using AI to deliver higher value than they could without AI.

Only **4%** are leveraging AI as a differentiating factor that is transforming their business

15% say they are using AI to rapidly deliver much higher value results

27% are using AI to make incremental improvements to their productivity

29% are cleaning up their data and moving it to the cloud

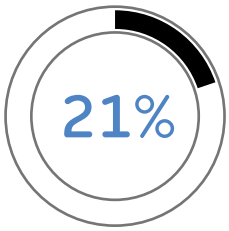
Q. Looking at your organization overall, which most closely describes your company's current relationship to AI?

The data suggests that while AI adoption is becoming widespread, most companies are still in the early to early-middle stages of their AI journey. Many more organizations are focusing on foundational steps, such as data preparation and pilot projects, before moving on to more advanced and transformative AI applications.

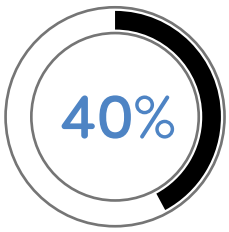
> At AWS, we firmly believe there isn't one foundational model for all use cases and need for choice is critical for an enterprise Generative AI strategy. We are focused on innovation delivered through a range of foundational models which are easy to navigate. With solutions such as Amazon Bedrock and Amazon Q, AWS makes it possible for organizations of all sizes and developers of all skill levels to build and scale generative AI applications with security, privacy, and responsible AI built in from day one. The fine-tuning capabilities will help organizations differentiate with their data and build domain specific models. Together with Tata Consultancy Services, our strategic global partner accredited with the newly launched AWS Generative AI Competency, we are well positioned to assist organizations to realize business value at scale through leveraging AWS generative AI solutions and services.
>
> *– Rohan Karmarkar - Managing Director, Solutions Architecture, WW AWS Partner Organization, AWS*

And most companies still have a long way to go.

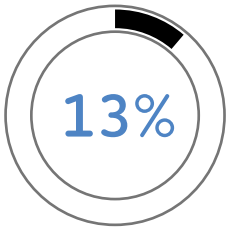
A majority of corporate leaders in the study recognize they are not yet leveraging AI to strategic advantage, but one in 10 need help in understanding how AI can add value to their business model before they can even begin to integrate AI into their business.



have made some progress aligning their company to benefit from AI, but still have areas of their business that need rethinking



still have a lot of changes to make to their business to take advantage of AI—including organizational structures, job roles, data governance, etc



need help to understand how AI can be made relevant to their current business model

Q. How easily can your current business model accommodate and leverage AI's capabilities and benefits?

Industries making the most progress realigning their companies for AI:

- Life Sciences
- Healthcare
- Banking, Financial Services & Insurance

> The game changer with generative AI is that it doesn't just fix problems, it creates content and actually identifies problems I didn't know I have.
>
> *– Johan Brammer, CEO, Tryg*

Success story #3

Real-world AI implementation: A masked interview with a large enterprise

A revolution in retail

An e-commerce firm integrates AI across sales forecasting, inventory management, infrastructure provisioning, customer service, and fraud detection

Country:
Australia

Type of company:
E-commerce retailer

Role:
Head of Analytics & Strategy

Revenue:
USD $20 billion to less than $50 billion

> "The exploration of adopting AI technologies is extremely broad. We are trying to see how AI could be leveraged in each and every area of the organization. Some areas include forecasting sales, predicting which products will be in demand, how much, during what season, and inventory planning. Another area is customer service, in which we're using automated chat to respond to customers without the staff involved. Then, we're using AI to scan SKUs in stores: a robot with AI that goes around on its own, plans its route and checks stock levels — so, essentially, inventory tracking and replenishment. Then, we are using AI for fraud detection. We look at all of that. Then, AI was used essentially to figure out, 'How much demand do we foresee on which day?' And we did it very granularly, actually down to the minute and hour."

Overview

This seasonal business has peak demand around Christmas, Black Friday, and a few other promotional dates and was often challenged with shortages. As a result, there was overinvestment in inventory, forcing the company to carry it for a while, which was a loss in profitability. The various promotions, the competition, and activities in the macroeconomic environment made demand forecasting challenging,

The company wanted to use AI to do daily forecast demand, and it was able to do it down to the hour and minute with effective website traffic management. The goal was to manage the entire end-to-end supply chain inventory, store stocking, website traffic, and several load calculations based on AI insights.

AI was able to predict the number of orders to expect and gave the company lead time to order the right products, and ensure the right products were in the right store during any period of demand. Another business challenge was the company website would crash during the biggest promotions, so it needed a way to estimate the website load — essentially, determining how many hits are expected, based on the number of promotions, to allocate enough server bandwidth. AI was able to help the company with both product and cloud-based IT infrastructure allocation.

Business objectives

- Integrate AI technologies to enhance efficiency and elevate customer experience across various domains while maintaining operational excellence
- Ensure KPIs — including Net Promoter Score (NPS), customer response time, and the ratio of queries serviced to team size — were significantly improved
- Improve customer satisfaction and cost through increased number of customer queries via chat functionality
- Improve revenue through reduced number of lost sales
- Achieve better inventory forecasting
- Ensure website has enough bandwidth allocated to deal with seasonal traffic increases

Benefits and implications of AI implementations

- The implementation of AI-driven chatbots facilitated swift and effective responses to customer inquiries, substantially reducing wait times and operational overheads.
- Having the chatbot talk with customers freed customer service teams to be less tactical and more innovative by providing strategic suggestions to the robot.
- Through rigorous analysis and strategic alignment, the company witnessed a substantial reduction in operational overheads and an exponential increase in customer satisfaction metrics.
- These initiatives, underpinned by predictive analytics and data-driven insights, enabled the company to anticipate consumer demand with unprecedented granularity, thereby mitigating stockouts and enhancing overall operational efficiency.

Lessons learned

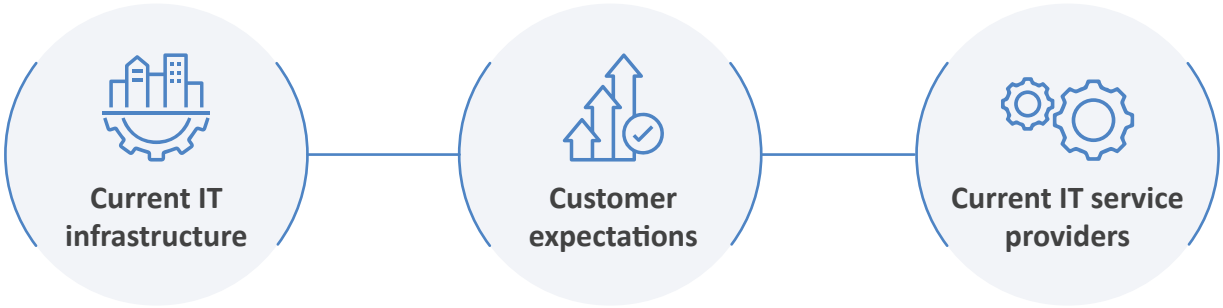
- Plan appropriately for lead times
- Invest heavily in the input data — including taking human expertise and feedback seriously
- Ensure the quality of the data
- Embrace a multifaceted approach encompassing change management frameworks, continuous calibration of AI models, and investments in data infrastructure
- The seamless integration of AI across the organization underscored the need for a commitment to adaptability and forward-thinking across the company; excellent communications and training are essential

Top challenges for AI implementations

The journey to AI is not without obstacles.

While the proliferation of AI across industries heralds a transformative age for businesses worldwide, the journey is not straightforward. Our study found several key challenges that companies face when integrating AI into their business. These challenges span technical, operational, and strategic dimensions, highlighting the complexity of successfully integrating AI into business processes.

According to the executives in our survey, the top three challenges are:



Q. What are the top 3 challenges to making effective use of AI in your company?

> The AI revolution we are witnessing is largely driven by massive data that allowed us to accelerate this process, unlike many earlier versions of AI that were expert systems based.
>
> *– Dr Farnam Jahanian, President, Carnegie Mellon University*

Challenge #1

Current IT infrastructures

Existing corporate IT infrastructures are often disparate systems which are not set up for seamless integration of AI technologies. Many companies find that their hardware, software, and data ecosystems are not ready for the heavy computational demands of AI. Legacy systems and data silos, in particular, lack the agility and capacity required to support sophisticated AI algorithms. This frustration with their current IT portfolio was especially noted by two industries at opposite ends of the AI sophistication spectrum: Consumer Packaged Goods, the industry most likely still to be in the early phase of its AI explorations and least likely to see AI's relevance to its current business model, and the Technology industry, which has some of the biggest demands for compute power to be able to develop and sell AI software and services to all other industries.

Challenge #2

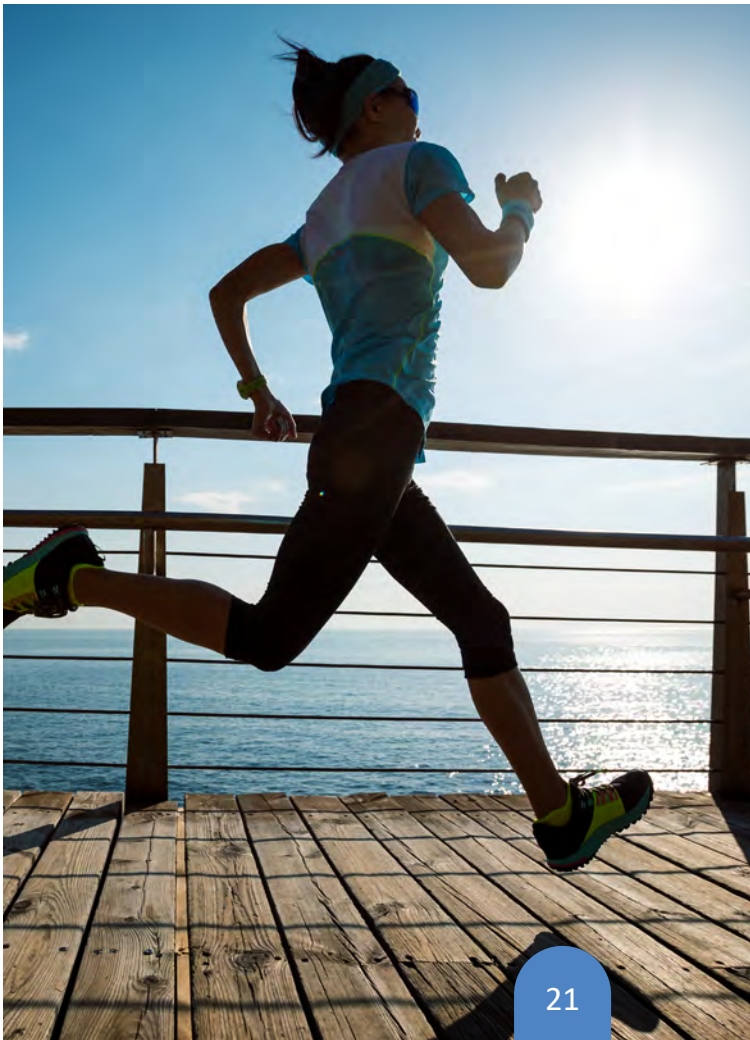
Customer expectations

As AI solutions begin to interface more directly with customers, businesses are trying to ensure these technologies enhance rather than detract from the customer experience. Customer expectations were ranked as the top challenge by the Banking, Financial Services & Insurance sectors and by the Utilities industry — two very different but both highly regulated industries.

Challenge #3

Current IT service providers

Companies often depend on the expertise and prebuilt AI technology solutions of external vendors as well as deployment and maintenance of AI systems, yet the quality and range of services offered can vary widely, affecting the pace and success of AI implementations. (While not cited as the top challenge by any industry, current IT service providers was ranked second for both the Healthcare and the Life Sciences sectors.)



Generative AI brings its own unique set of challenges.

The advent of Generative AI has brought strategic challenges to the forefront. We asked executives about their primary concerns now about AI, in light of the hype around GenAI.

1. Security and privacy

The debut of sophisticated AI applications has intensified the focus on security and privacy concerns. With data breaches and cyber threats on the rise, companies are being pressured to reassess their data protection measures. AI, while a tool for enhancing security, also poses new risks, necessitating a fortified approach to safeguard sensitive information and user privacy.

2. Ethical and responsible AI use

The ethical dimensions of AI use have garnered significant attention. As AI systems begin to replicate complex human decisions, the imperative to ensure these technologies operate within ethical boundaries grows stronger. This concern has propelled industry leaders to advocate for ethical AI frameworks that guide responsible use, especially in sectors where AI decision-making impacts significant socioeconomic factors, such as healthcare and finance.

40%

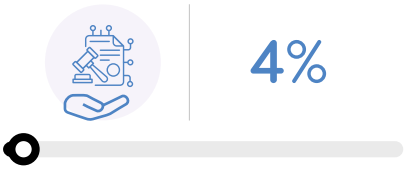
prefer global AI standards regulating specific use cases and outcomes

41%

prefer global AI standards, plus specific regional controls

14%

prefer a heterogenous environment of local regulations

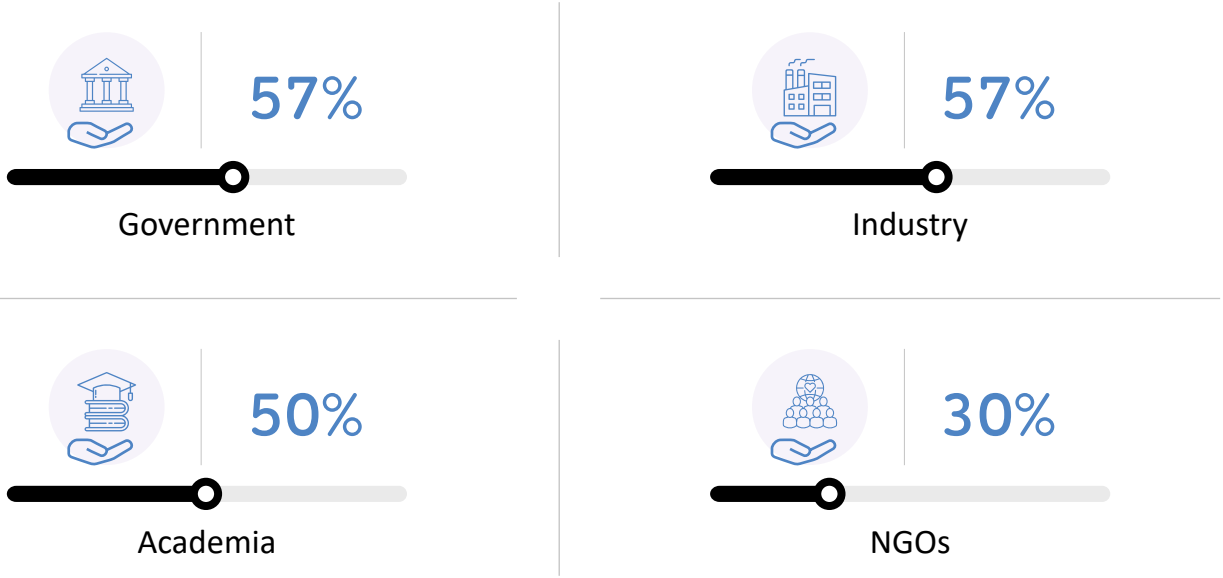


4%

think it's too early or unnecessary to regulate AI

Q. Which regulatory landscape is most appropriate for your business's use of AI?

Most senior executives recognize that leaving such decisions solely up to them and their industry competitors will ultimately serve very few. In our survey, 4 out of 5 respondents believe that global standards around AI are needed, but nearly 3 out of 5 think both government and industry should have an equal voice in establishing AI regulations.



Q. Which organizations should be involved in establishing regulations about AI?

> Whether you're optimistic or wary about the potential implications of artificial intelligence (AI), the topic should be top of mind for all executives and business leaders. As we work to navigate the dramatically changing AI landscape, businesses have a unique opportunity to learn from one another's perceptions, applications, challenges, and successes with this rapidly evolving technology. The study conducted by TCS paints an insightful picture of how 1,300 CEOs representing 12 different industries are currently considering, encountering, and/or utilizing AI in their respective spaces – an excellent place for any leader to begin to understand AI's potential for introducing new and better ways of working, as well as potential pitfalls. While we cannot anticipate every challenge or opportunity that a technology as disruptive as AI will produce, one of the best things we can do as leaders is to learn from one another, and I'm excited to share TCS's report with my own leaders as we continue on our own journey!
>
> *– Janine Seebeck, CEO, BeyondTrust*

3. Lack of IT readiness

The rapid evolution of AI technologies has highlighted that many organizations are underequipped to fully participate because the AI game is continually changing. The realization that their current IT infrastructures are not equipped to support advanced AI functions has prompted a renewed interest in upgrading technical capabilities. Interestingly, our study found this concern is more urgent for major companies in otherwise technically advanced sectors, such as Life Sciences, Banking, Financial Services and Insurance, and the Technology industry itself, where they have already seen more use cases for artificial intelligence and are realizing the possibilities are endless if they could take full advantage of it.

4. Talent development and training

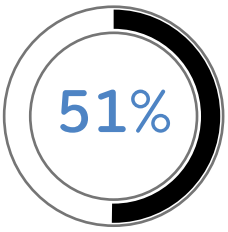
As AI transforms job roles, the demand for AI-related skills surges. Companies are now prioritizing the development and training of their workforce in AI literacy and technical competencies to bridge the skills gap. Industries like Technology and professional services are investing in continuous learning programs to ensure their workforce can not only work alongside AI but also innovate with it, a trend likely to find its way across industries in the next three to five years.

5. Cultural shifts

As AI use moves more widely across the corporate realm beyond proofs-of-concept, its full integration requires corporate cultures that embrace innovation, continuous learning, and adaptability. Corporate leadership teams are now recognizing the necessity of fostering a work environment conducive to AI adoption, where employees are encouraged to engage with new technologies positively. In fact, a quarter of our survey respondents told us that they now see Generative AI as a catalyst for fostering a culture that embraces AI technologies.

With tightening IT spend budgets, the need to demonstrate ROI of AI implementations is essential.

As the integration of AI into business processes accelerates, the financial aspect of its implementation becomes increasingly significant. When asked about enterprise-specific large language models (LLMs), for example, about half of those surveyed said they are planning to build their own for GenAI implementations.



are planning to create their own enterprise-specific LLMs

Q. Are you planning to create your own enterprise-specific LLMs for use in Generative AI implementations?

Although these powerful AI models can bring strategic value to business operations, the cost implications can be prohibitive, with the development and maintenance of LLMs potentially reaching into the millions of dollars. Many companies are looking at smaller language models as workarounds, but these require expertise to customize.

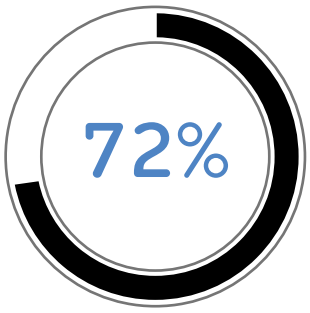
Nevertheless, significant financial outlays were not identified as a top concern in our survey—"cost of deployment" for AI implementations ranked 7th out of a possible 10 challenges—but it presents a substantial consideration for companies, especially when viewed alongside the extensive computational resources and infrastructure that creating an enterprise-specific LLM would likely demand.

But without adequate KPIs for AI-enabled operations, proving ROI is challenging.

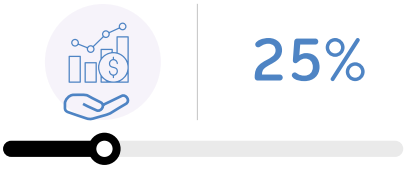
As companies plan their strategy for AI technology investments, the ROI must be evidential via key performance indicators or they risk losing budget. However, our survey reveals that 72% of business executives struggle to measure the success of their AI implementations effectively, making it challenging to secure funding for more advanced AI projects. (Another 8% are not even aware of any useful KPIs they can apply to AI-enabled operations.) Yet given the fast-paced evolution of the AI landscape over the past couple of years, this lack of adequate assessment metrics is not particularly surprising.

> "Large language models basically repackage the internet and that repackaging is useful and helpful in many places. But if the thing that you're interested in automating or doing is not embedded somewhere on the internet, then it's not going to happen. The harder task will be to assemble a package of data that knows the things that are of interest in the business process."
>
> *– Peter Reinhardt, CEO & Co-founder, Charm Industrial*

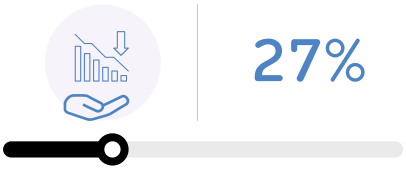
Only 19% say they have “good enough” metrics and KPIs for their current stage of AI deployment.



need better metrics to measure the success of their AI implementations



need better financial KPIs for AI-enabled operations



need better non-financial KPIs for AI-enabled operations

need both

Q. Which statement most closely matches how you feel about measuring the success of and financial return on AI implementations?

The issue of inadequate evaluation methods is further highlighted in the field of Generative AI, specifically. According to the April 2024 Artificial Intelligence Index Report from Stanford University's Institute for Human-Centered Artificial Intelligence: "Robust and standardized evaluations for LLM responsibility are seriously lacking." The report emphasizes that leading developers, such as OpenAI, Google, and Anthropic, primarily test their models against different AI benchmarks, which complicates efforts to systematically compare the risks and limitations of top GenAI solutions.

This lack of standardization in responsible AI reporting poses significant challenges for businesses looking to invest in and implement advanced AI solutions. Without a clear, industry-wide framework for assessing the effectiveness and responsibility of AI models, organizations may struggle to make informed decisions about which technologies to adopt and how to measure their success. As a result, businesses may miss out on the potential benefits of AI.

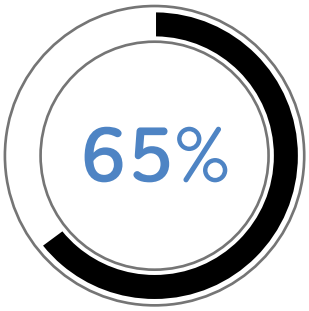
To address these challenges, it is crucial for industries to collaborate on developing robust, standardized evaluation methods that enable businesses to assess the performance and responsibility of AI implementations accurately. By establishing clear benchmarks and reporting standards, organizations can make more informed decisions about their AI investments, ultimately leading to more successful implementations and greater overall business value.

Future of AI

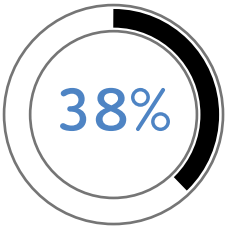
Although the discussion around the future of jobs continues, most executives say they will continue to heavily rely on human creativity and thinking to drive competitive advantage for the foreseeable future.

Most executives believe that rather than replacing human workers, AI will augment and enhance human capabilities, enabling people to focus on higher-value activities that require creativity, empathy, and strategic thinking.

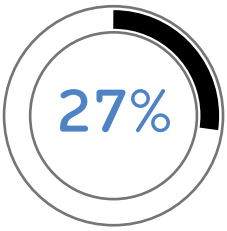
The study found that two-thirds of executives believe that human creativity or strategic thinking will remain their company's competitive advantage.



say human strategic decision making, intuition, and creativity will remain essential to their company's competitive advantage



expect AI to make more tactical decisions, freeing up workers to think more strategically

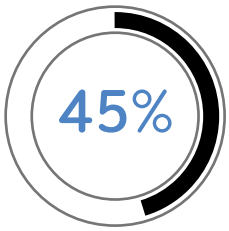


believe human intuition and creativity will remain central to their company's competitiveness

Q. In your business, which of these statements most closely matches your own expectations for how AI will impact decision making in the next 3-5 years?

As AI becomes more advanced and ubiquitous, the role of humans in the workplace is likely to evolve.

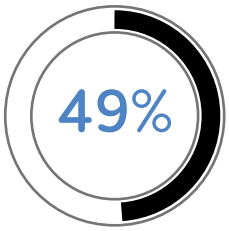
Productivity has and will remain a key benefit of AI, and this applies to people being assisted by GenAI at work on a daily basis within the next few years. Not only will human productivity improve, so will our strategic thinking and focus.



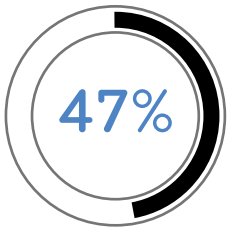
believe up to one-half of their employees will be using GenAI daily in 3 years

Q. In three years, what percentage of your employees do you believe will be using/interacting with Generative AI capabilities on a daily basis?

How will AI affect the number of job roles? It is fairly evenly divided among the executives we surveyed.



think AI will increase or have no impact on the number of job roles created



expect more roles will be eliminated than will be created

Q. How do you foresee the balance between roles created and roles eliminated as a result of AI's use at your company?

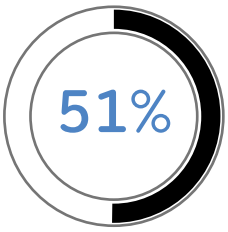
> I like to think about the AI tools we have today as assistants that provide you with suggestions, so that you as a human can make better decisions.
>
> *– Daniela Rus, Director, MIT Computer Science & AI Laboratory*

The human elements of creativity and strategic insight will remain at the forefront of business differentiation.

This consensus among two-thirds of business leaders seems clear: AI is becoming a powerful tool, but the human elements of creativity, empathy, and strategic insight will remain at the forefront of business differentiation. The task for humans is to seek ways to collaborate with AI, not merely use it, and thereby make AI better serve the needs of people and companies. As businesses harness the strengths of AI, they also will need to invest in their human capital, ensuring that their workforce is not only technically proficient but also equipped to think critically, innovate, and lead in an AI-augmented world.

AI will be used to improve the customer experience with extreme personalization, improved sales support, expanded use of chatbots and deeper insights.

Support for marketing initiatives and post-sales support are expected to be the most popular uses of AI for customer engagement



of Pacesetters are using AI to engage customers with more personalized interactions with their marketing initiatives and for post-sales support — beyond chatbots. (Only 41% of Followers said they plan to do that for marketing initiatives and 38% for post-sales support)

Q. In what ways are you exploring AI's impact on your relationships with customers?

> Information or decision making will become more much more efficient and much more effective. You don't need to spend six months planning for something anymore. Four people can get together and perform what used to be a six-month assignment for an economist, a consulting firm, or a strategy team.
>
> *– Ehab Aziz, Group Chief Financial Officer, Agility*

AI'S FUTURE IMPACT

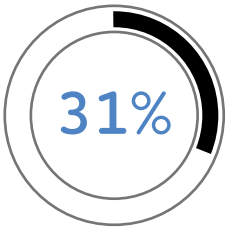
While there has long been an understanding that the future of IT is the future of AI, there is an increasing realization that the future of medicine, of home construction, and of energy production and delivery is also the future of AI.

Companies across industries are looking to move beyond proofs-of-concept and one-off solutions to find the ways AI can impact, improve, and transform their business. As they examine AI in the context of their overall strategic goals — and examine their business models in the context of the benefits and risks of AI — executives are seeking not merely a tool for immediate operational enhancement but a catalyst for a virtuous cycle of continual advancement across the tactical-strategic spectrum.

The path forward is marked by a sequence of progressions that companies can enter at any stage, depending on their readiness and strategic objectives.

Optimization will become a necessary-but-not-sufficient aspect of strategic AI implementations.

The study found that almost a third of companies cite optimization and efficiency as a leading motivation for their AI initiatives.



are currently more focused on using AI to lower costs and optimize operations than on innovation and growing revenue

Q. On a scale of 1 to 10 — where 1 is solely interested in using AI to lower costs and optimize operations and 10 is solely focused on spurring innovation and revenue growth — where would your company's current approach toward AI fall?

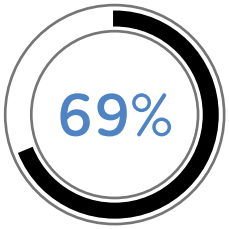
AI AND LOGISTICS

The entry point for many companies in their AI journey is often optimization and cost-cutting. For example, trucking companies use AI to optimize vehicle maintenance and fuel consumption. Consumer businesses deploy chatbots for "Level 1" support and sale engagements with customers, routing more complex issues to customer service agents.

By leveraging AI to streamline processes and reduce resource consumption, businesses can achieve quick wins and lay the foundation for more advanced applications.

Innovation and revenue growth will be a focus for future AI implementations.

The study found that over two-thirds of respondents consider their AI initiatives as being more on the innovation side of the spectrum, and nearly half say they're focusing heavily on innovation and revenue growth.

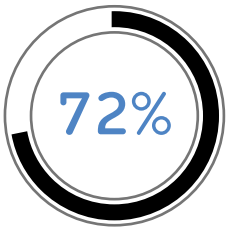


are more focused on using AI to spur innovation and increase revenue than on lowering costs and optimizing operations

Q. On a scale of 1 to 10 — where 1 is solely focused on using AI to improve quality and 10 is solely focused on using AI to enhance productivity — where would your company's current approach toward AI fall?

Enabling higher productivity with AI will also remain a business imperative.

Nearly three-quarters of survey respondents said that enhancing productivity was a leading motivator on where they were currently focusing their AI implementation efforts. Deploying AI to enhance the speed and volume of output is among AI's most frequent applications today.



are currently more focused on using AI to enhance productivity than on improving quality

Q. On a scale of 1 to 10 — where 1 is solely focused on using AI to improve quality and 10 is solely focused on using AI to enhance productivity — where would your company's current approach toward AI fall?

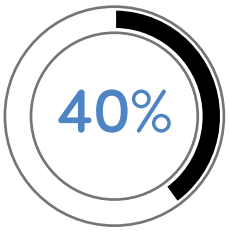
AI AT WORK

Customer support productivity

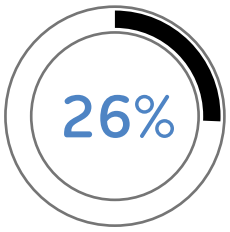
Today's customer service agents who are handling the more complex issues increasingly have intelligent assistants that can quickly provide answers and information relevant to the customer and context of a particular situation to decrease call times and handle more customers in a more personalized, proactive way.

Deploying AI to enhance the speed and volume of output is among AI's most frequent applications today.

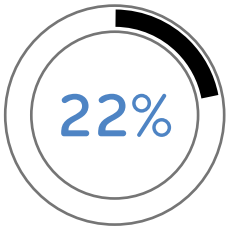
When asked about how much AI is predicted to improve productivity, the respondents were fairly conservative, with a plurality believing it will drive incremental improvements.



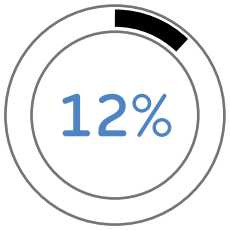
think it will incrementally improve productivity



expect AI to double enterprise productivity



think AI will increase productivity by 4X or more

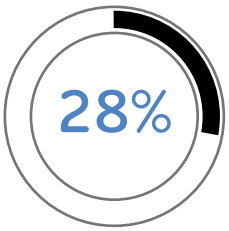


say they aren't expecting much impact to their company's productivity

Q. What kind of impact do you expect AI to have on your organization's overall productivity in the next few years?

Improving quality may prove to be where AI is the biggest business game-changer.

Although only a little over a quarter of executives surveyed said they are currently focusing on using AI to improve quality, in the future, this is where organizations may see the biggest benefit.



are currently more focused on using AI to improve quality than they are on enhancing productivity

Q. On a scale of 1 to 10 — where 1 is solely focused on using AI to improve quality and 10 is solely focused on using AI to enhance productivity — where would your company's current approach toward AI fall?

AI is already used to measure and maintain quality — for example, major manufacturers now use AI-powered systems to monitor production equipment, predict potential issues, and detect anomalies in the output. And the industries where "quality" is more likely to be cited as a primary motivator for AI deployment are those industries where there is less room for error — where significant declines in quality can have serious negative effects: Consumer Packaged Goods, Utilities, and Healthcare. For example, AI is enabling doctors to make major strides in the use of AI-assisted cancer diagnoses and robotics-assisted endovascular neurosurgery, among other recent developments.

As the sophistication of AI's capabilities increases, it will be applied more widely across enterprises in every industry to raise the overall level of excellence an organization can produce and innovate upon.

Increasingly, however, as AI makes employees more efficient, more productive and more innovative, its consistent decision-making capabilities will also help raise the bar across companies, improving the overall quality of not just products and services, but elevating entire operations, functions, customer relationships, and brand values to continuously higher levels of performance.

Technology enables the business—period

"Did we have any goals around this initiative? No. It was the other way around. We always have goals around business. Technologies and digitalization enable the business. It's not an outcome in itself. Ultimately, you must make or save money for the company, period."

—From a masked interview with Head of AI and Automation for a large mining machines manufacturer

Despite these areas of focus, corporate strategy is multidimensional—and must encompass optimization, productivity, innovation and quality concurrently.

In practice, the strategic focus of companies must pursue these objectives (optimization, productivity, innovation and quality) concurrently with a keen awareness of their interdependence. Businesses may leverage AI for process optimization while simultaneously exploring AI-driven product development, ensuring that gains in one area fuel progress in another. This dynamic balance is reflected in organizations that are able to harness AI to improve customer experience or services (quality) while also using it to streamline supply chain management (productivity).

This closed-loop intelligence — from human to technology, from technology to human, made exponential by human collaboration and technology integration — is poised to become iterative and dynamic for many industries, reflecting the ongoing nature of AI evolution within businesses.

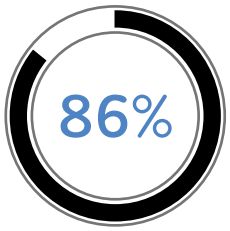
As companies achieve higher quality and greater innovation, they will naturally loop back to consider how to maintain these standards more efficiently and productively, propelling them into the next wave of AI-driven transformation.

Turning AI's potential into performance: 6 recommendations

1

Focus on the value, not the technology

One of the key findings of the study is the importance of focusing on the business value of AI, rather than just the technology itself. While IT considerations are certainly important, this research suggests that companies should create an AI strategy based on prioritized initiatives and use cases that have the potential to drive tangible business outcomes, such as revenue growth, cost savings, and improved customer experience.



are using AI in some way to enhance current revenue streams or to create entirely new revenue streams

Q. In terms of revenue growth, which area are you most actively pursuing (regardless of whether that growth has been achieved yet?

However, to grow revenue appears to be more of an afterthought or an add-on benefit of using AI rather than a strategic choice: out of 18 possible business objectives driving current AI investments, "expanding revenue opportunities" ranked 17th. And without sufficient KPIs, it is challenging to tie AI to revenue.

> "Enterprises should view scaling AI adoption as a business transformation endeavor, not a technology implementation project. To embark on this journey, enterprises should start with a top-down vision to enhance stakeholder value, and then engineer and orchestrate activity-specific purposive AI agents (that blend traditional and generative AI methods judiciously) to achieve the value targets.
>
> These purposive AI agents will need to be consistent, efficient and responsible. Further, to prevent AI legacy, these agents will need to be built for rapid adaptations, not just functionality. Achieving this at scale is a team sport that involves business, technology, data, legal, risk and compliance, as well as talent engagement teams. Therein lies the biggest challenge for building AI-mature enterprises."
>
> *– Dr. Harrick Vin, Chief Technology Officer, TCS*

2

Adopt a value-chain based approach to your AI strategy

Most companies need to take a more strategic approach to AI adoption, one that prioritizes initiatives that have the potential to drive meaningful business value. There are two common approaches to AI implementations: the first approach recommended by TCS is value chain scaling. This approach takes a particular value chain — for example, manufacturing — and identifies the personas and then builds a bot customized for each persona. The second approach is to do horizontal scaling to line of businesses using smart agents that often address a specific task.

Revenue growth is an important metric, but other strategic goals — such as building brand recognition, entering new markets, forming strategic partnerships, and increasing market capitalization — represent a multi-faceted definition of value that extends far beyond revenue metrics alone.

In addition to focusing on business cases, companies should also consider the broader strategic value of AI initiatives. For example, AI can be used to improve operational efficiency, reduce risk, and enhance decision-making, all of which can contribute to overall business performance. By taking a holistic view of the value of AI, companies can make more informed investment decisions and prioritize initiatives that have the greatest potential impact.

> “With the new tools we can get access to a set of superpowers, starting with speed and productivity, and then moving to knowledge. And from knowledge, we move to insight and creativity and foresight and mastery and empathy. And all of these together are empowering people to do more and better.”
>
> *– Daniela Rus, Director, MIT Computer Science & AI Laboratory*

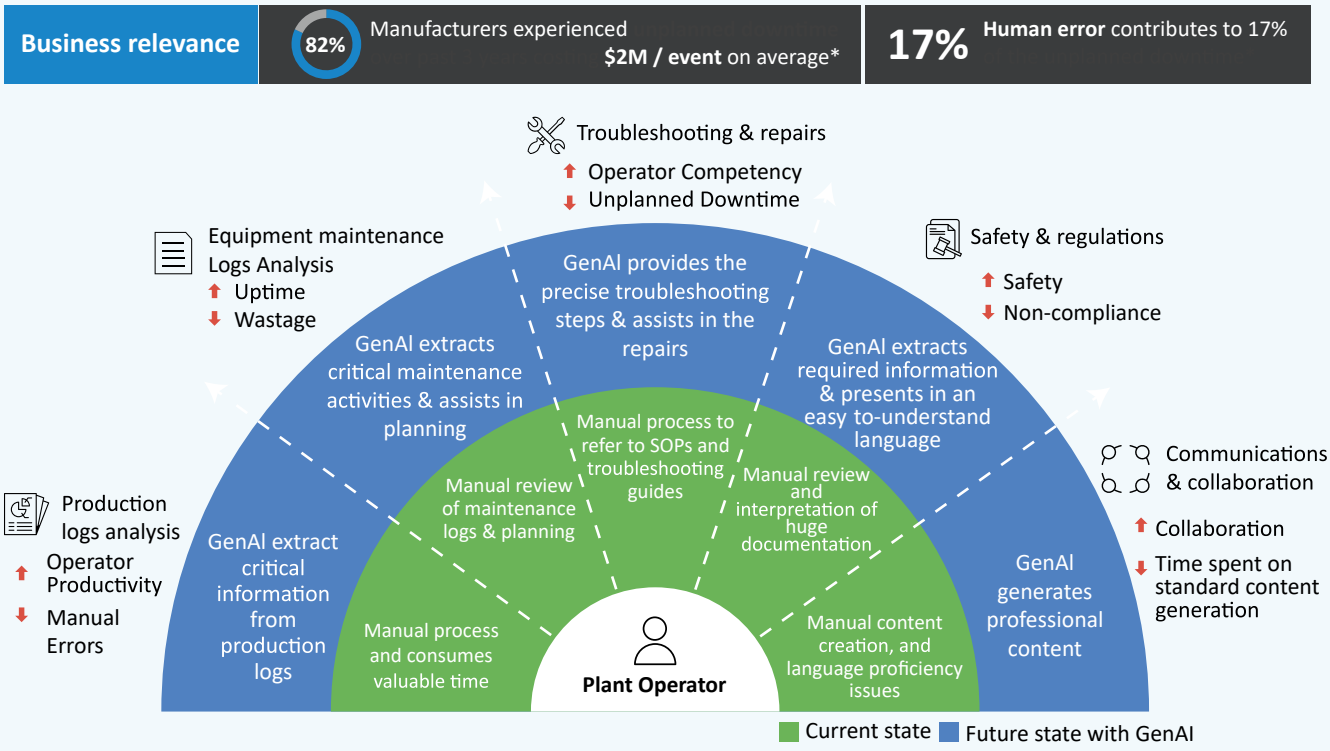
> Enterprises need to get the most from AI by taking a multilayered approach to accelerate productivity, foster innovation, and improve quality across enterprise infrastructures.
>
> This means ensuring the business has access to the compute power AI implementations require and using AI strategically to assist, augment and transform the different value chains of their business.
>
> *– Siva Ganesan, SVP and Head, AI.Cloud, TCS*

Retailer uses AI to control more variables

> When we built these models, we realized that a few things impact or change the demand significantly, and many need to be added to the radar of leadership or management. So, we brought to the latter that these are key variables, which is what makes customers buy more or less — like product placement. And we say, 'You put it here, and you'll see 30% more.' So, it also gave us levers to control demand.
>
> "It is not just forecasting demand but changing demand in the future because many variables are external, but quite a few are internal and within our control, like product placement and promotions. We can tweak those variables to change the demand to be within boundaries.
>
> "This sets up a chain of innovations and new ways of thinking about not only how we get to demand but also how we create the right demand for us. And then you can play around with, 'Which products are more profitable? Which products are less profitable? Where do I have more supply or less supply?'
>
> *— From a masked interview with Head of Analytics and Strategy for an e-commerce retail company*

Case in point: Plant operations

We empower companies to jump-start their generative AI-led business reimagination journey. For example, TCS infuses GenAI into the daily activities of plant operators as a smart agent template to help solve pressing business challenges like troubleshooting and maintenance.



Case in point: GenAI infusion in to the daily activities of the "plant operator" persona

**Potential benefits based on TCS' experiential and contextual knowledge, domain expertise and internal model estimates; actual results may vary.*

3

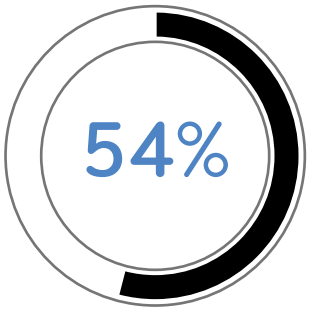
Make the business and culture AI-ready

The distinction of data

Companies must look to AI not just as a means of automating processes but as a transformative force capable of reshaping the competitive landscape and a company's success within it. And that requires data.

But to fully leverage AI, corporate leaders must create an organizational environment that is conducive to AI adoption and success. This involves not only investing in the necessary technology and infrastructure, but also fostering a culture that embraces change, experimentation, and continuous learning.

Most companies remain in the nascent stages of figuring out how to benefit from AI's capabilities and mitigate its risks.



admit their company is a long way from fully leveraging AI, with the primary barrier being the quality and availability of enterprise data

29%

are still moving data to the cloud and rationalizing it so it can be used by new AI capabilities

24%

are still in their initial stages of exploring AI

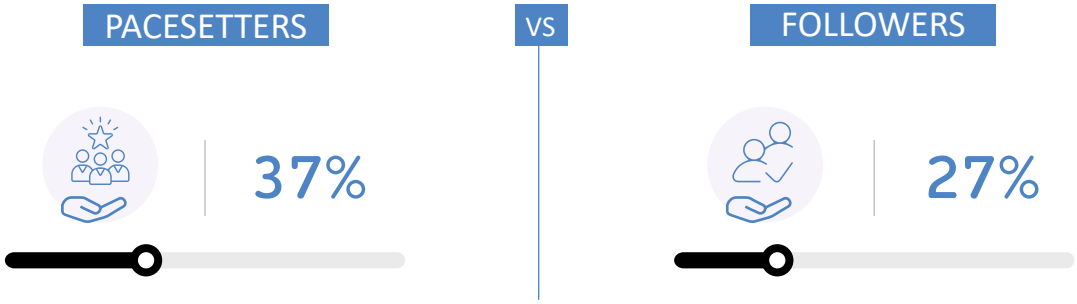
Q. Looking at your organization overall, which most closely describes your company's current relationship to AI?

That so many companies still can't leverage their own proprietary information highlights the critical importance of data in AI adoption. Without high-quality, reliable data powered by adequate computational resources and processing, even the most advanced AI algorithms will struggle to deliver meaningful results. Companies that want to succeed with AI must invest in building robust data infrastructure and governance processes that ensure data is accurate, consistent, and accessible across the organization.

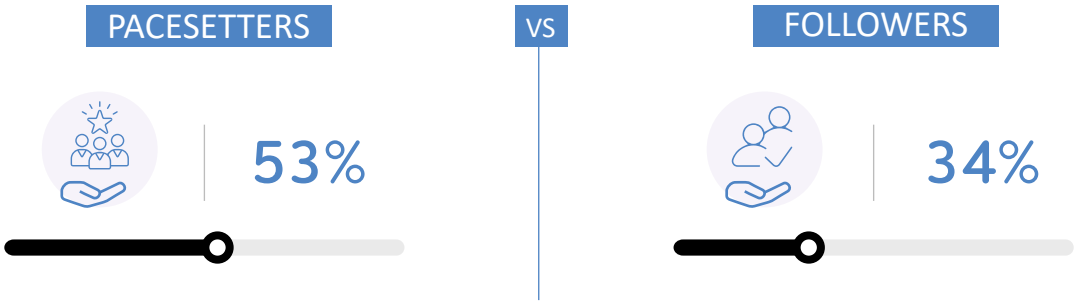
Culture is crucial

In addition to investing in data infrastructure and ensuring there is enough computational processing power, companies must also focus on creating a culture that is receptive to AI and willing to embrace change. Change management processes can help organizations develop a shared understanding that integrating with AI involves a redefinition of work that can make their jobs easier, not a replacement for those doing it.

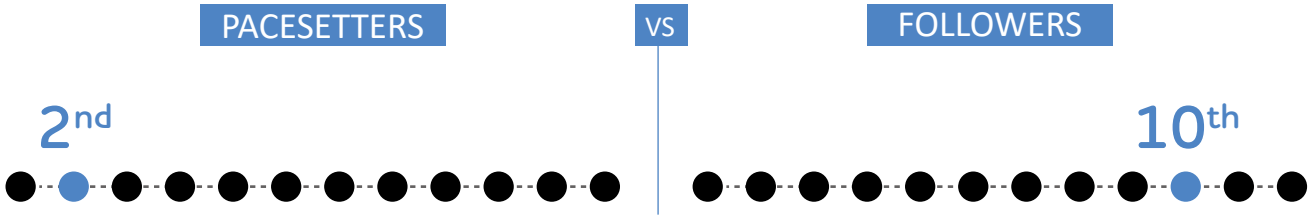
The study found that companies with the highest financial performance in their industry — the Pacesetters — are more likely to have undertaken change management processes. And over half of the higher-performing companies across industries are also more likely to expect their employees to be using GenAI on a daily basis over the next few years.



are undertaking a change management process and rethinking their business and operating models, and the roles of their employees, vendors and distributors, in light of AI's benefits and risks



think most of their employees will need to use GenAI as a daily part of their job in 3 years



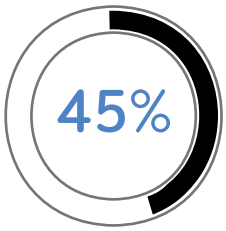
rank using GenAI "as a catalyst for fostering a culture that embraces AI technologies" among the ways they've recently reassessed AI's benefits and risks

Q. In three years, what percentage of your employees do you believe will be using/interacting with Generative AI capabilities on a daily basis?

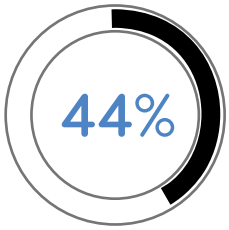
4

Create higher-level relationships with customers

Creating higher-level relationships with customers is essential for companies that want to stay competitive in the AI-driven future. By leveraging AI to deliver personalized, proactive, and valuable experiences across the customer journey, companies can differentiate themselves from competitors and build long-term customer loyalty.



are exploring more personalized interactions with marketing initiatives (other than chatbots)



are exploring more personalized interactions for post-sales activities (other than chatbots)

Q. In what ways are you exploring AI's impact on your relationships with customers?

This requires a strategic and holistic approach to AI, as well as a deep understanding of customer needs and preferences. Some companies are leading the way in this regard, exploring a wide range of AI applications for customer engagement and focusing on creating value at every touchpoint. (And among our survey respondents, the less financially successful their company is, the less likely they are to be exploring the use of AI in any customer interactions.)

As AI technologies continue to advance, the ability to create meaningful and individualized customer relationships will become an increasingly important source of competitive advantage.

5

Don’t go it alone

Leverage expertise for strategic benefit

In the realm of AI, where the complexities and pace of evolution can be daunting, TCS suggests a collaborative approach. Corporate business and IT staffs should be encouraged to focus on their core competencies and strategic objectives, seeking partnerships and leveraging external expertise where appropriate, rather than shouldering the entire burden of AI implementation internally. The study found that about half of companies are handling all or most of their AI implementation work in-house. Only 23% are relying on external vendors for all or most of their AI implementation initiatives.

Interestingly, our study also found that companies in the Technology sector are the most likely to rely on technology service providers for their AI implementation work. And the more financially successful a Technology company was — a Technology Pacesetter in other words — it was even more likely to partner with an external vendor to do the work of AI integration than to rely on their own IT talent.

> “This approach [to speed up response times to broker partners’ requests] was one of the first ... in the automation space in the E&S [excess and surplus] business segment. We started brainstorming on how to intelligently solve for the problem so that the process runs very efficiently and ideally as automated as possible. We take the data that comes in, regardless of format or type. We extract it with our AI base tool, ingest it into AmTrust's technology stack, run all the automations, and create the results back. In a short amount of time, the underwriter has an account, clearance in place, and a shell quote ready to go.”
>
> *– Ariel Gorelik, Group Chief Operating Officer, AmTrust*

> “This tool strengthens the relationship between our underwriters and our broker partners. It was viewed as a success all the way around. One of our partners came back and said, ‘I like what you guys have done — it's making our relationship stronger.’”
>
> *—Erich Bublitz, Senior Vice President and Head of Excess & Surplus Insurance, AmTrust*

23%

of companies rely on external vendors for all or most of their AI implementation work

25%

of Pacesetter companies rely on external vendors for all or most of their AI implementation work

27%

of Technology companies rely on external vendors for all or most their AI implementation work

38%

of Technology Pacesetters rely on external vendors for most or all of their AI implementation work

Q. On a scale of 1 to 5, how much are you relying on external vendor and partnerships (including academic or government partners) for your AI implementations and how much are you doing in-house?

This finding suggests that even companies with strong technical capabilities recognize the value of partnering with external experts for AI implementation. Partnering with technology service providers allows companies to access specialized skills and knowledge that may not be available in-house, as well as to scale up or down as needed based on project requirements.

Moreover, the study found that companies that partner with service providers for their AI implementations their AI implementations are nearly 1.5 times more likely to say they are excited or optimistic about AI than companies that handle most of the work in-house. This finding suggests that this approach can help companies feel more confident about the outcomes of their AI initiatives.

1.5X

Companies that leverage external partners for their AI implementations are nearly 1.5X more likely to say they're excited or optimistic about AI than are companies handling all or most of their implementations with in-house talent

Harness resources for AI development

In addition to partnering with external experts, companies should also look to leverage existing resources and platforms to accelerate their AI initiatives. This includes taking advantage of open-source AI frameworks and libraries, as well as partnering with technology providers that offer prebuilt AI solutions and services.

Open-source AI tools offer a wealth of resources that companies can use to jump-start their AI initiatives. They provide a tested foundation upon which businesses can build custom solutions, significantly reducing development time and cost. For example, a company can use open-source machine learning libraries as a starting point for developing predictive models, focusing their efforts on tailoring those models to their specific business needs.

Open-source AI frameworks, such as TensorFlow, PyTorch, and scikit-learn, provide a rich ecosystem of tools and resources for developing and deploying AI models. By leveraging these frameworks, companies can reduce development time and costs, as well as tap into a vast community of developers and researchers for support and collaboration.

Similarly, partnering with technology providers that offer prebuilt AI solutions and services can help companies quickly and easily integrate AI capabilities into their products and processes. These solutions often come with pre-trained models, APIs, and other tools that can be customized and extended to meet specific business needs.

Further, strategic partnerships with AI research institutions, technology vendors, and industry consortia can also expedite the AI development process. These partnerships can provide access to cutting-edge research, specialized AI talent, and shared data pools that would be challenging to develop independently.

For instance, a manufacturing company might partner with an AI research lab to explore advanced robotics, combining their domain expertise with the lab's technical knowledge to push the boundaries of automation within their production facilities.

6

Plan for success, not scarcity

The potential impact of AI on jobs and the workforce is a complex and sensitive topic that has garnered significant attention in recent years.

The study found that senior business executives are divided in their opinions on the ways AI will affect jobs.

This split in opinion reflects the ongoing debate surrounding AI's impact on employment. TCS' perspective is that the impact of AI will largely depend on how it is implemented by companies. When AI is implemented to expand revenue, opportunity, and innovation, it has the potential to create new jobs and enhance human capabilities.

The study found that among the more successful companies across industries, 4 out of 5 say they are more focused on using AI for innovation and revenue growth, with lower performing companies almost two times more likely to be focused on cutting costs.

Where executives expect AI to increase or hold steady the number of jobs:

- Healthcare
- Banking, Financial Services & Insurance
- Manufacturing
- Technology

PACESETTERS

80%

VS

FOLLOWERS

62%

are prioritizing innovation and revenue growth over optimization and cost cutting

Q. On a scale of 1 to 10 — where 1 is solely interested in using AI to lower costs and optimize operations and 10 is solely focused on spurring innovation and revenue growth — where would your company's current approach toward AI fall?

To prepare for the AI-driven future, companies and governments will need to rethink traditional approaches to education and training. This may include developing new curricula and programs that focus on AI skills and knowledge, as well as promoting lifelong learning and continuous upskilling.

AI IN MANUFACTURING

In the manufacturing industry, AI is being used to optimize production processes and improve quality control.

However, this is also creating new skill requirements for workers who need to interact with and maintain AI systems.

To address this challenge, some manufacturers are partnering with educational institutions and training providers to develop specialized AI programs and certifications.

For example, Rockwell Automation, an industrial automation company, has partnered with the Milwaukee School of Engineering to develop an AI-focused curriculum for manufacturing workers.

CONCLUSION

Performance. By Design.

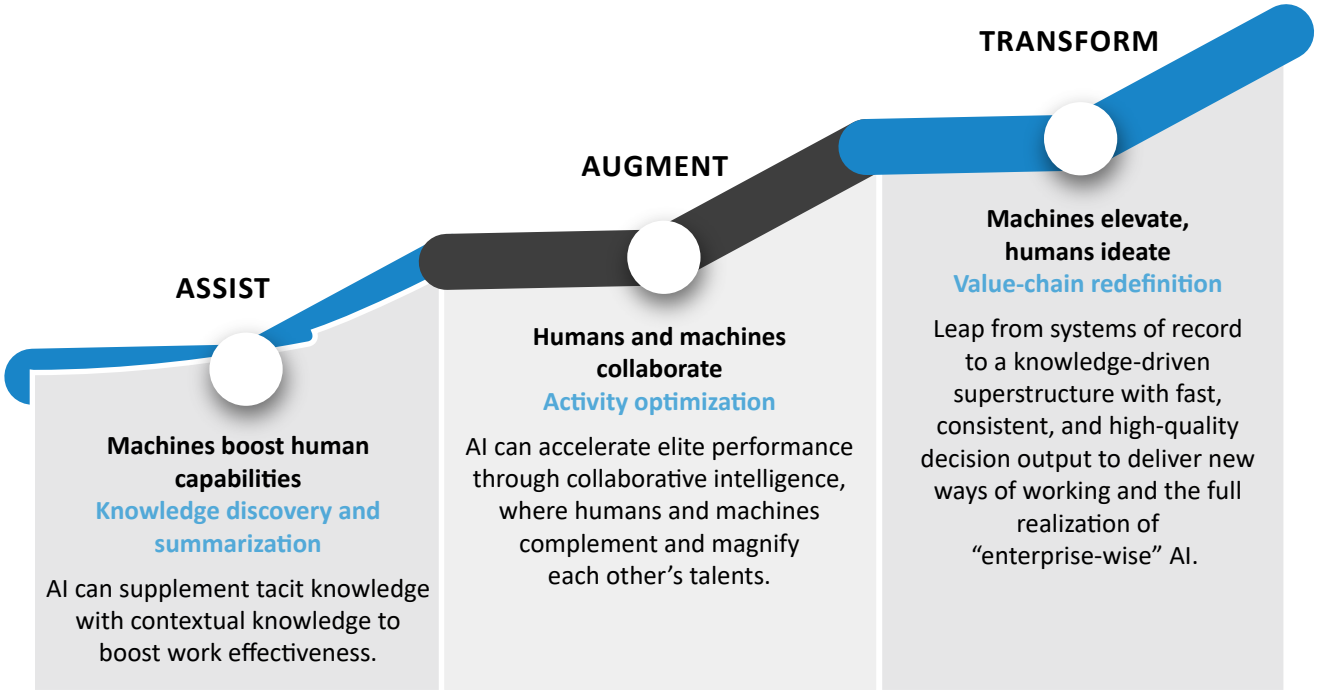
Built on the principles of an industry-led, ecosystem-enabled and data-fueled foundation, “enterprise-wise” AI is designed to scale outcomes that let organizations turn the potential of artificial intelligence into reimagined value chains and new ways of working.

The advent of generative AI expands the arc of traditional machine learning and AI, which is one of recognition and reasoning intelligence, to create an operative intelligence that partners with humans to create new possibilities and new opportunities that have the potential to dramatically reshape business.

Today’s AI delivers far more than just cost savings or improvements in productivity or maintaining product quality — although AI is certainly doing those things, too. But when combined with human creativity and strategic thinking, companies can continuously improve customer value chains through differentiation and consistent, high-quality organizational output designed to deliver elite outcomes.

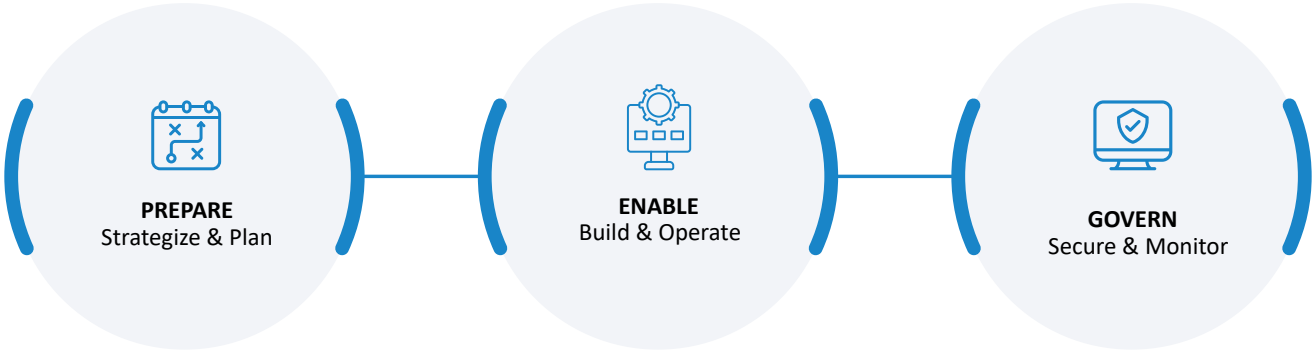
TCS AI methodology

For organizations to get the most from AI will require a multilayered strategy that creates a foundation designed for accelerated productivity, innovation, and performance. This means using AI strategically to:



New industry-center business models, products and services reshape the entire customer experience value proposition.

Working with hundreds of global companies, TCS has adopted a best practice methodology for AI adoption that starts with a multi-layered approach.



Where do we start?

We start by assessing the value (the why and what); we identify use cases, not technology. Next, we create a blueprint in the context of the overall value chain.

How do we scale?

From the outset, we design and build for constant change. We also maximize stakeholder collaboration and an enterprise network of continuously evolving purposive agents.

How do we drive organizational changes?

We create space for adaptation and establish a culture of innovation. Then we evolve talent and redefine roles on an ongoing basis.

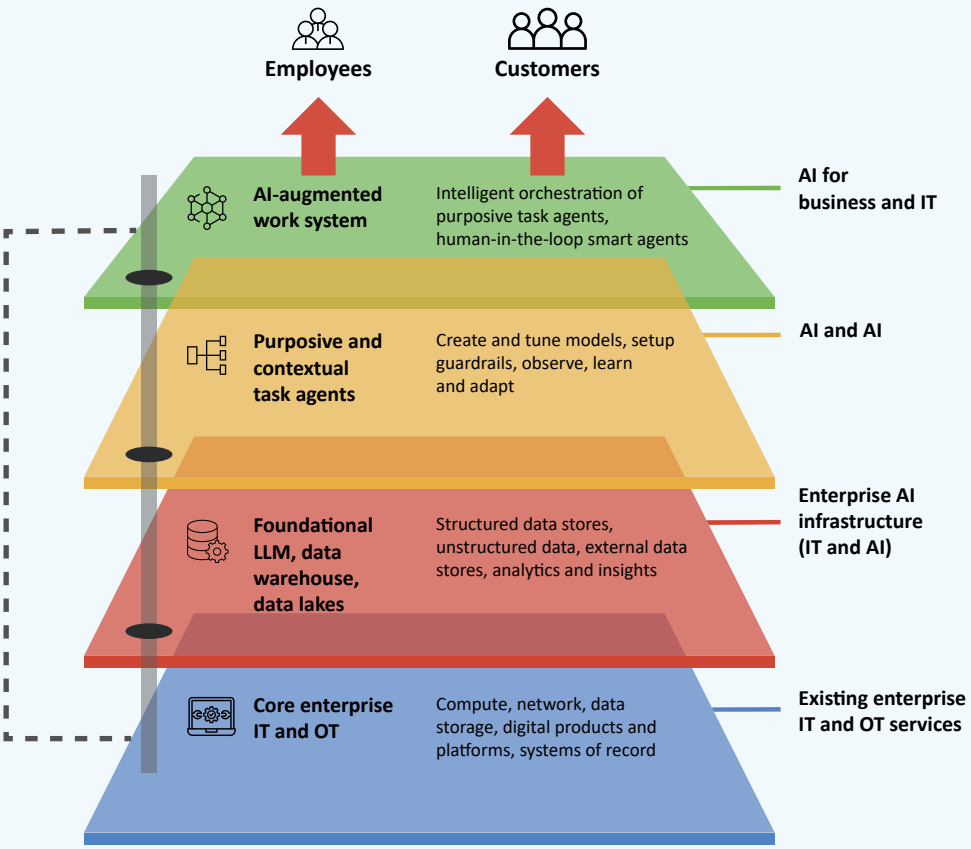
How do we manage the risks?

Make the model safe. We work to establish a governance model for information security, regulatory compliance, and bias mitigation guardrails. All while monitoring primary metrics/KPIs with stakeholders at frequent intervals.

The TCS approach

Using the existing enterprise IT compute, network, and storage systems as a foundation, the TCS AI architecture adds a second layer of foundational LLMs, data lakes and external data stores. Purposive and contextual AI task agents sit in the third layer along with guardrails to observe, learn and adapt. The final layer adds intelligent orchestration of task agents into AI-augmented work systems that partner with human employees. (See the figure below.)

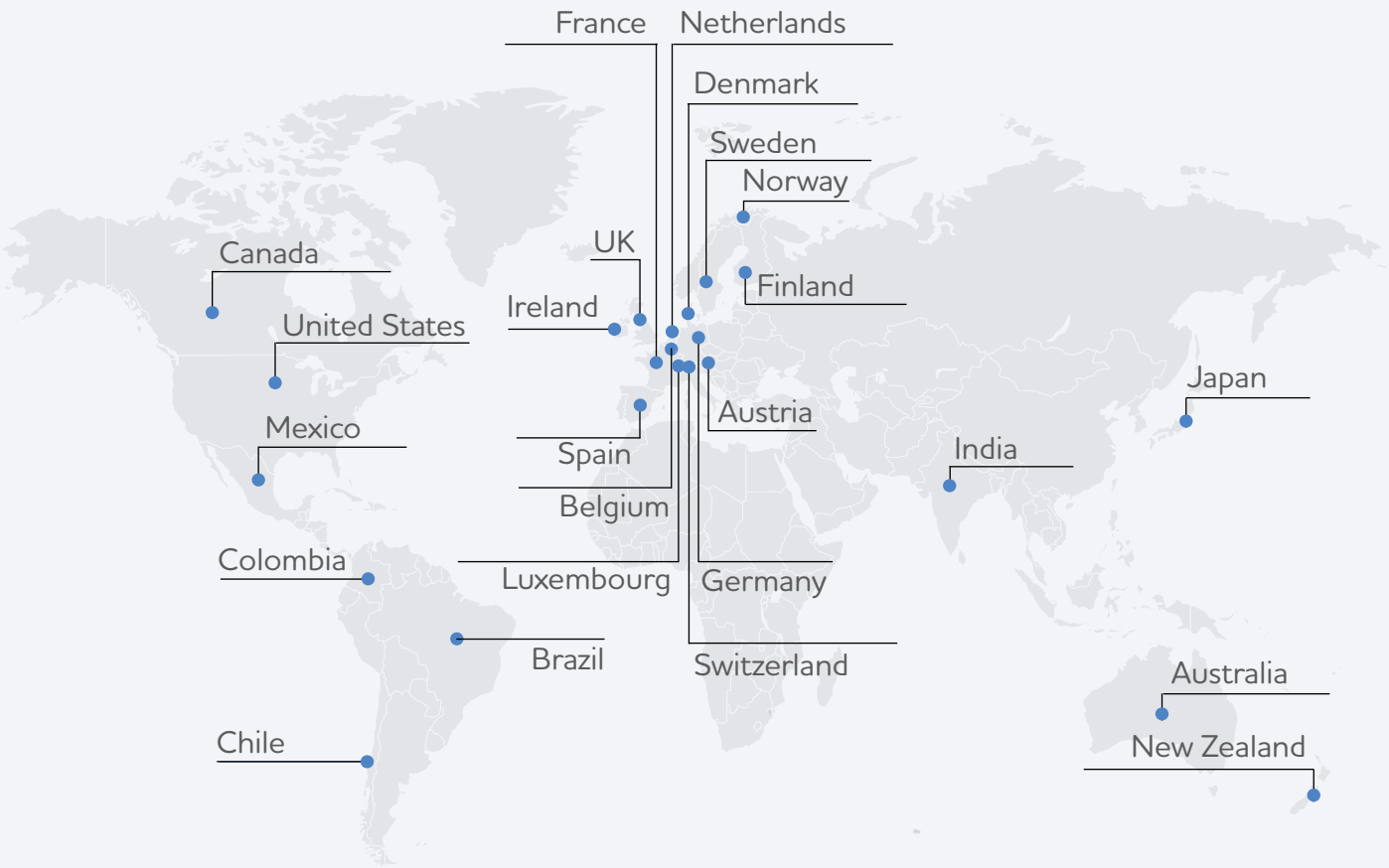
Multi-tiered architecture of future AI-mature businesses



An effective and efficient AI solution design is an art, with many rapidly evolving design choices and tradeoffs.

Study demographics

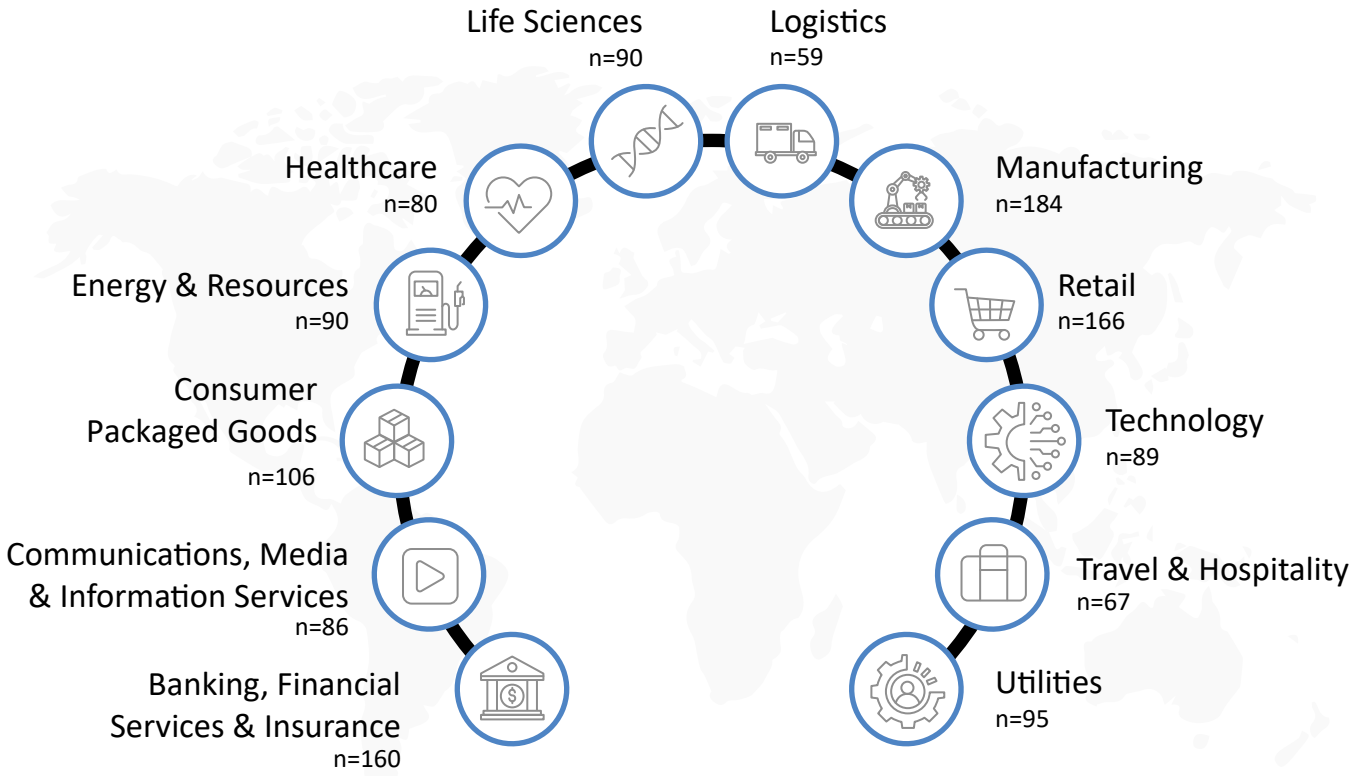
Country representation (24)



- North America (n=335)
- Europe (n=465)
- Latin America (n=166)
- APAC (n=306)

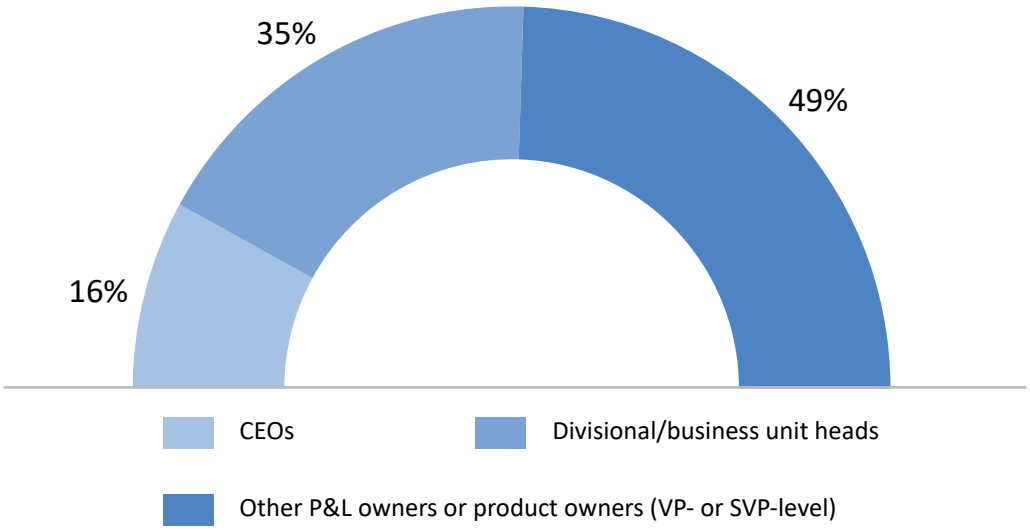
Study demographics

Industry representation (12)

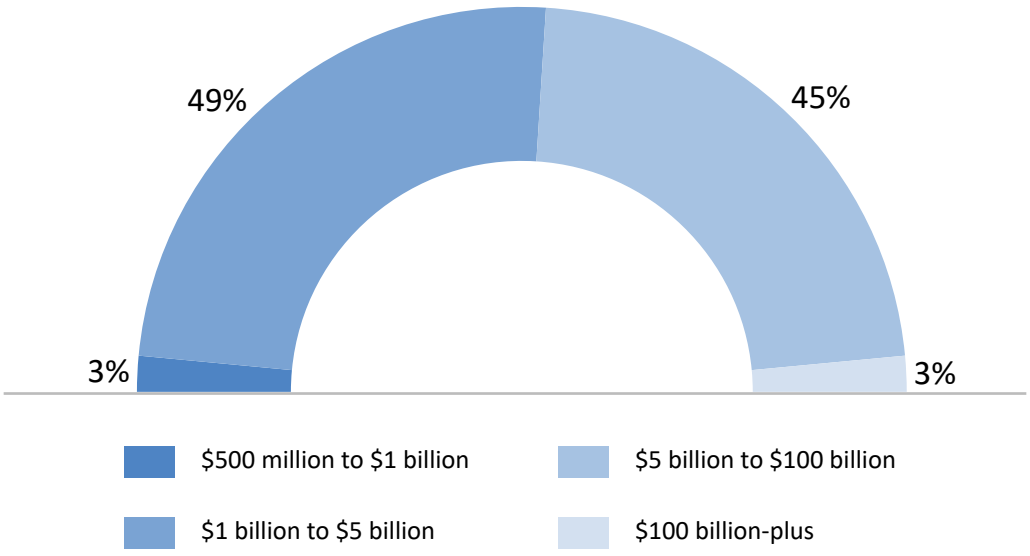


Study demographics

Senior business leaders of global companies



Annual revenue (USD)



Study demographics

Discovering what successful companies do

The data in this report represents the total survey sample of 1,272 executives in 24 countries across 12 industries.

Additionally, each executive's company was ranked alongside others in that same industry for its financial success over the last three years, from a calculation weighing self-reported ranges for both revenue growth and profit growth.

Total sample

12 industries

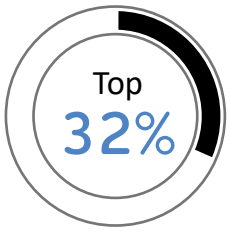
24 countries

1,272 companies

Pacesetters are those companies with the best financial performance

in the survey's sample for that industry, based on the percentage changes in their revenue and profitability over the last 3 years.

PACESETTERS



based on financial performance

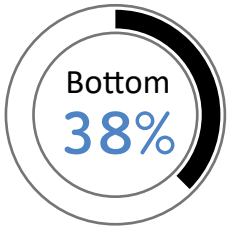
408 companies

Average revenue: $19 billion (USD)

Followers are those companies with the less-successful financial performance

in the survey's sample for that industry, based on the percentage changes in their revenue and profitability over the last 3 years.

FOLLOWERS



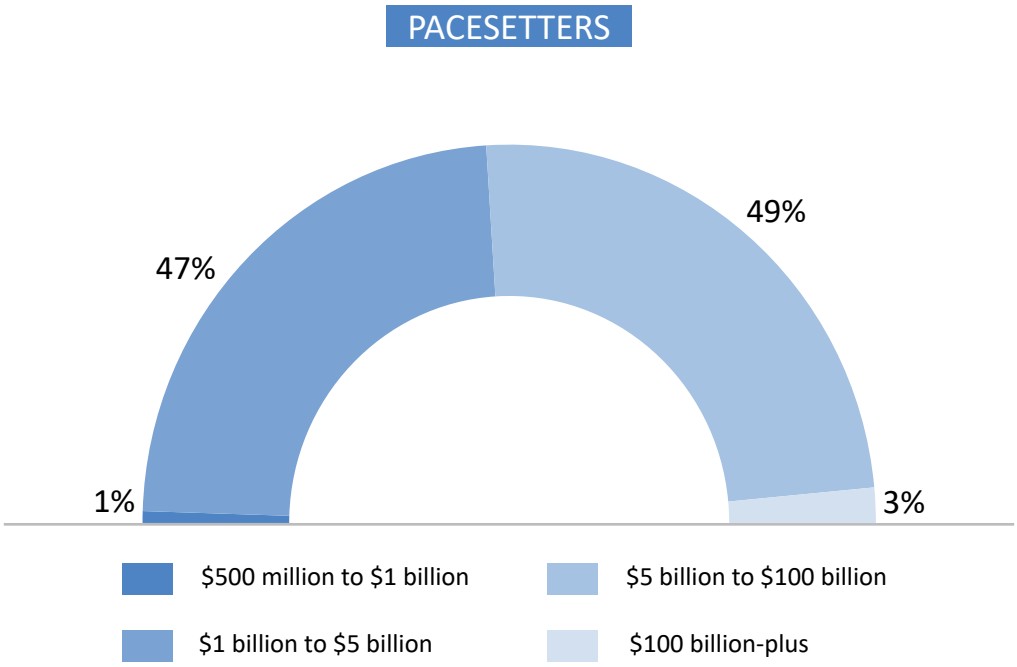
based on financial performance

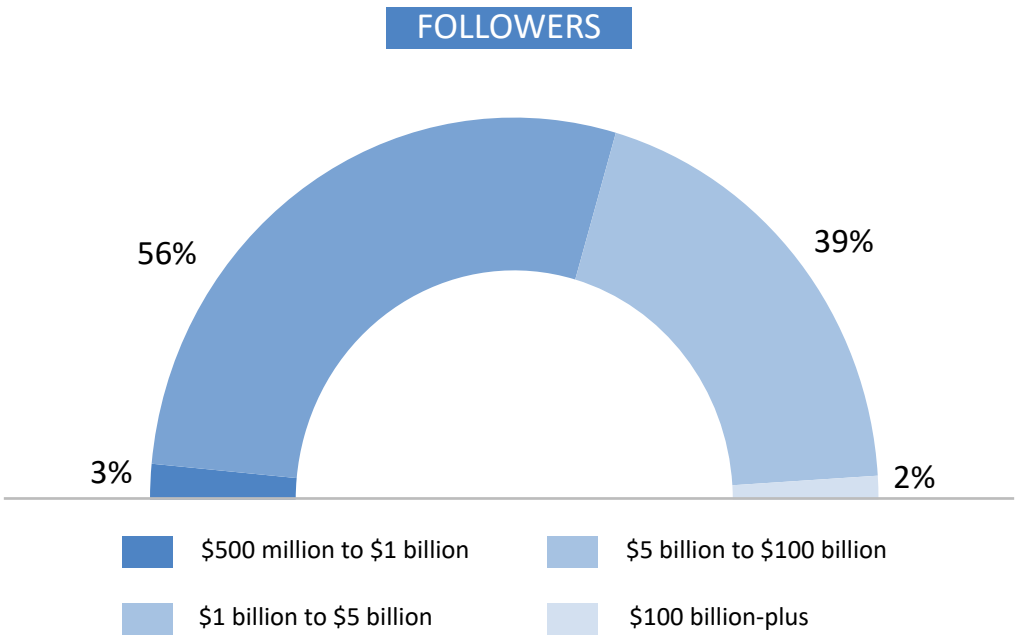
485 companies

Average revenue: $15 billion (USD)

Study demographics

Annual revenue in USD





Executive champions

Dr Harrick Vin
Chief Technology Officer, TCS

Abhinav Kumar
Chief Marketing Officer, TCS

Siva Ganesan
Senior Vice President and Head, AI.Cloud, TCS

Krishna Mohan
Vice President and Deputy Head, AI.Cloud, TCS

Sankaranarayanan "Shanky" Viswanathan
Vice President and Head of Business Innovation, Chief Technology Office, TCS

Nidhi Srivastava
Vice President and Head of Offerings AI.Cloud, TCS

Suranjan Chatterjee
Global Head, AI.Cloud Engineering, TCS

Ashok Krish
Head, Advisory and Consulting, AI.Cloud, TCS

Serge Perignon
Global Head, TCS Thought Leadership Institute

About the study
The recent AI technology revolution has taken the world by storm, including business. Our AI for Business Study explores how nearly 1,300 companies around the world are looking at the strategic implications of AI technologies and how they are responding to its transformative potential. 1,272 participants from EU & UK, NA, APAC, LATAM across 12 industries.

About the Thought Leadership Institute
Since 2009, the TCS Thought Leadership Institute has initiated conversations by and for executives to advance the purpose-driven enterprise. Through primary research, we deliver forward-looking and practical insights around key business issues to help organizations achieve long-term, sustainable growth. For more information, visit tcs.com/insights/global-studies

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For more information or any feedback, email the TCS Thought Leadership Institute at TL.Institute@tcs.com

About Tata Consultancy Services
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A part of the Tata group, India's largest multinational business group, TCS has over 601,000 of the world's best-trained consultants in 55 countries. The company generated consolidated revenues of US $29 billion in the fiscal year ended March 31, 2024, and is listed on the BSE and the NSE in India. TCS' proactive stance on climate change and award winning work with communities across the world have earned it a place in leading sustainability indices such as the MSCI Global Sustainability Index and the FTSE4Good Emerging Index. For more information, visit www.tcs.com

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