

AI: From strategy to execution

Guiding principles for CEOs

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Executive summary

A little more than a year ago, generative artificial intelligence (AI) was the new kid on the block. The launch of Open AI's ChatGPT had catapulted AI into the public consciousness like never before.

As generative AI went mainstream, organizations around the world moved quickly to understand what this new technology meant for their operations, products and customers. As we reflect on the AI revolution of 2023, it's probably fair to say there was a lot of scrambling to catch up with the AI wave – and not enough enterprise-wise strategy to maximize the huge potential benefits AI offers.

A year on, and we now have a much deeper understanding of AI's potential. We are now at an inflection point, a critical moment where we must move from strategy to execution.

The opportunities are unprecedented as AI promises to drive innovation across every sector. Healthcare will see a shift from reactive to predictive care, retail will become a much more personalized experience, and manufacturing more efficient as AI combines with digital twins to streamline production.

As exciting as these opportunities are, it's important to understand the complexity of the challenges the C-suite faces in successfully exploring, developing and executing an AI strategy. It's critical to recognize that AI is not plug-and-play technology. Every industry will need bespoke AI models to drive innovation and value. Within individual organizations, there will be no one-size-fits-all solution to solving problems across ecosystems. Every enterprise will need to develop thousands of purposive AI agents to maximize the transformative potential of AI.

Introducing such powerful technology into our organizations comes with a great weight of responsibility. It is incumbent on leaders to ensure the ethical use of AI. This responsibility spreads beyond the walls of the workplace and into the societies in which our organizations operate.

AI will unlock and democratize knowledge and augment the capabilities of human employees – not replace them. Then, AI has the potential to transform entire industries, resulting in a smarter and more sustainable society.

There is no doubt that we are at the beginning of a new industrial revolution that will reshape the way billions of people will live and work. As senior executives, we share both the privilege and the responsibilities that come with leading our organizations and societies into a new era.

For many of us, this will be the defining period of our professional lives. The opportunities are truly unprecedented. By coming together to collaborate across ecosystems we can build on our belief that AI can transform the world for the benefit of all.

TCS point of view

The next economic wave: why every leader needs to embrace AI for growth

The economic potential of generative AI is truly staggering – with the potential to become a \$1.3 trillion industry by 2032¹. At a time when the global economy is bogged down with high inflation and low growth, no CEO or government leader can afford to overlook the potential for AI to reinvigorate organizations, industries and entire economies. In fact, 55% of corporate executives are excited or cautiously optimistic about AI's potential for their business, according to the TCS AI for Business study.

By embracing the AI opportunity, leaders can foster exponential growth, drive corporate innovation, and create new jobs for an AI-enabled workforce and value at the nation-state level that can deliver prosperous and meaningful lives for millions of people.

Augmenting not replacing humans: AI as a job creation engine

The World Economic Forum's [Future of Jobs Report 2023](#)², finds AI "is expected to be adopted by nearly 75% of surveyed companies ... with 50% of organizations expecting it to create job growth". In his 2019 book *Bridgital Nation: Solving Technology's People Problem*, Tata Group Chairman, N. Chandrasekaran predicts that AI could add 30 million jobs by 2025, and become a major driver of global economic growth. An August 2023 study by the [UN's International Labour Organization](#)³ concluded that: "Generative Artificial Intelligence is more likely to augment than destroy jobs by automating some tasks rather than taking over a role entirely."

This is supported by the TCS AI for Business study preliminary findings showing that 65% of corporate leaders say human creativity and strategic thinking will still be their companies' differentiating factor in 5 years, with AI becoming an important tactical tool.

To thrive in these AI-augmented roles, employees will need access to training to ensure that human/AI partnerships are effective. The World Economic Forum estimates that 44% of workers' skills will be disrupted by technology in the next five years and six in every 10 workers will require training by 2027.

Organisational leaders must make upskilling and reskilling existing employees a top priority. Not only is this the right thing to do, but it will also protect against the growing skills gap in the external talent pipeline.

Augmenting the skills of your employees to work alongside AI is the most effective way of building an AI-ready workforce.

Society 5.0: AI can resolve humanity's greatest challenges

When we equip our workforce and our organizations to reap the benefits of AI, the positive impacts flow outwards into the communities we serve. The arrival of the AI era has ushered in the [concept of Society 5.0](#)⁴.

In this future scenario, humans, technology and nature operate in harmony to create a sustainable, circular economy. Humans remain at the centre of this super-intelligent society but the relationship between humans and machines is altered. Society 5.0 moves us forward from the information age – where data was collected and processed by people – to an era where AI supplies the analysis allowing industry and society to make exponential advances at greater speed.

1. Bloomberg Intelligence

2. World Economic Forum: [Future of Jobs Report 2023](#)

3. ILO: [Generative AI and Jobs: A global analysis of potential effects on job quantity and quality, August 2023](#)

4. Open Business Council: [Society 5.0: The Fundamental Concept Of A Human-Centered Society, August 2023](#)

TCS and AI: a commitment to enterprise-wide innovation

We believe that AI, working in partnership with humans, can democratise knowledge and supercharge our decision-making capabilities. The transition to cloud-based business models has already demonstrated the growing value of data across multiple sectors. These advances were based largely on structured data – but AI takes us into a new era.

With AI's ability to assist, augment and transform human capabilities, we can draw insights from the masses of unstructured data that organisations hold, reducing the reliance on tacit knowledge that is so often critical in decision-making, yet limited to a certain group of people.

When we deploy AI to unlock the power of unstructured data and democratise knowledge, we open up opportunities to transform critical services, including healthcare, build greener and more efficient transport networks and protect the planet with smarter power grids.

The future is

AI

The future is

Human

A TCS roadmap for successful AI adoption

As senior leaders, we are all aware of the challenges that lurk within the process of turning vision into reality. Transforming entire industries for the benefit of wider society is a huge undertaking. It will take sophisticated strategies to deliver on the promise of the human/AI future.

At TCS we have developed a three-step approach on which to build your AI-adoption journey.

Foundation:

Key principles for AI adoption

- 1: Industry first:** AI must be contextualised for the value chain of the industry served.
- 2: Cloud first:** AI must continue to leverage the benefits of cloud transformation.
- 3: Ecosystem enabled:** partners must be involved in creating solutions.
- 4: Enterprise-wise:** AI must unlock enterprise-specific tacit knowledge.

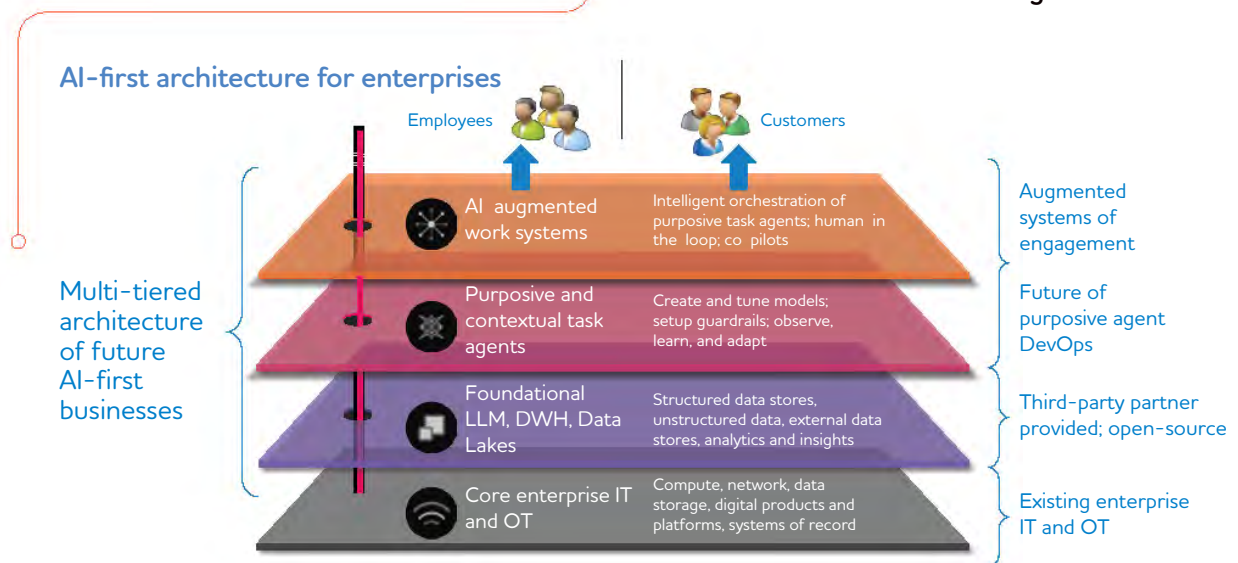
To derive the greatest value, this AI-first approach should be industry-specific, make the most of cloud computing investments, leverage the power of the organisation's ecosystem partners and, ultimately, seek to create an information superstructure to optimise the use of developed knowledge.

Build:

Develop an AI-first architecture

With these four principles in place, the next phase is to embark on the development of an organisational architecture optimised for AI-first enterprises. Using the existing enterprise IT systems as a foundation, the AI-first architecture adds layers including foundational Large Language Models (LLMs), data lakes and external data stores. On top of this, comes purposive and contextual AI task agents. The final layer adds AI-augmented work systems working in partnership with human employees.

The TCS AI for Business study preliminary findings reveal that 46% of executives say they are planning to create their own large language models. This is a complex challenge for a large organisation. A huge amount of network resources will be required to develop purpose-built AI models, optimised for cost, quality, security and privacy, operating at all levels of the enterprise. Working with a cloud provider helps ensure IP security, frees your network, and lets your IT team focus on revenue-driving activities.



Execution:

How to execute your AI journey

A phased approach can be taken to execute your AI journey with a minimum of disruption. The pathway to successful delivery can be broken down into incremental stages that will combine to enable an organisation to accelerate decision-making and innovation.

These steps include:



Assist

a two-way process in which humans assist machines and machines assist humans. Both become elite performers by magnifying the other's talents.



Augment

to ensure employees have the contextual knowledge to boost their productivity. The democratisation of data is a key step to achieving this.



Transform

by taking a foundational leap from a data-driven business to a knowledge-driven superstructure, an organization will enable fast, high-quality and consistent decision-making to deliver elite outcomes. This stage represents the realisation of enterprise-wide AI.

First movers deriving value from AI-forward operations

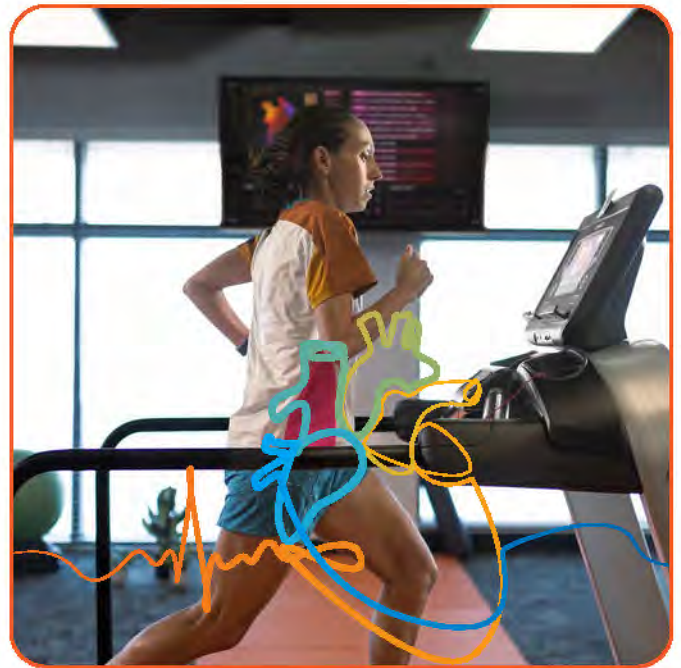
Cancer image scanning:

AI tools are enhancing the value of MRI and CT scans used in cancer diagnosis and treatment. By using them to analyse imaging, oncologists can detect and monitor cancer cells more effectively. The use of AI is enabling the development of precision medicine – these are cancer treatments optimised for the individual patient, based on genetic and molecular profiles.



A digital heart:

Using AI-driven digital twins, [TCS has created a digital heart¹](#) that allows two-time Olympian and Boston Marathon champion Des Linden to monitor her health and performance and develop more effective training plans. Beyond the realm of elite sports, digital versions of human organs give doctors, researchers and surgeons new and highly advanced ways to test the effectiveness of different treatments.



1. [TCS.com](#): TCS builds the first digital heart for a professional runner



Advanced Retail:

In the retail sector, AI is revolutionising business efficiency and the customer experience. A major discount retailer in the Netherlands transformed the dynamic pricing strategy central to the company's unique business model. The introduction of AI-powered TCS Optumera platform replaced a complex legacy system built on spreadsheets, disorganised data and manual price-checking systems.

A major food retailer in Australia and New Zealand has deployed AI to create a single source of truth from the masses of data generated across its value chain. This transformation has enabled smarter, faster decision-making that gives a new competitive edge.

The business can now localise its range of products and adjust its pricing within stores based on customer demand. In addition, the retailer has improved performance across its supply chain, and is better able to predict seasonal sales patterns and meet sustainability goals.

5-point plan for CEOs in 2024

The TCS AI for Business study reveals a sharp organisational focus on tactical priorities, when it comes to AI investment. The top three business objectives driving investments in AI were to replace legacy technology, lower total cost of ownership (TCO) and speed of development/time to market. Here are five steps to successful AI adoption.

1: Appoint an AI leader who resonates with disruptive innovation

Appoint a single executive to take charge of the AI transformation program who leverages the Clay Map method – an innovation portfolio model inspired by Professor Clayton Christensen – and thinks disruptively, rather than just focusing on incremental gains. This move establishes leadership of the AI function and ensures accountability at every stage of the process. A dedicated AI lead must own the organisation's AI strategy and keep a laser focus on what must be a strategic imperative for the business.

2: Develop an AI strategy with guardrails

Generative AI brings many advantages to the workplace but it's still an early-stage technology that has weaknesses as well as strengths. The open nature of generative AI poses challenges around data security, regulatory compliance and the mitigation of bias. It is important to formulate the right combination of GenAI and predictive AI. This will help enterprises calibrate the approach to consuming probabilistic outcomes driven by GenAI with deterministic outcomes from traditional computing.

Moreover, by developing a strategy and implementing guardrails, enterprises can harness the power of AI while safeguarding against security breaches, compliance violations and ethical concerns. These parameters serve as guidelines to shape the behaviour of the models, allowing organizations to build their AI capabilities on a foundation of trust. Organisations are thereby empowered to channel their new capabilities in a controlled and responsible manner.

3: Start top-down

Your legacy IT stack, operating systems, policies and regulatory approach must be transformed to meet the needs of an AI-forward organisation. This requires a multi-tiered architecture (see page 6) that extends across the business, empowering employees, partners and customers.

The design of AI solution must start with a value-augmentation opportunity for business; prioritizing top-down structures, rather than starting with technology adoption. In some instances, the entire value chain or portions of it can be imagined afresh, ground up in an AI-first manner.

4: Balance out the use of various LLMs

Enterprises should consider looking at industry-wise, enterprise-wise and activity-wise purposive agents (above and beyond pre-trained world-wise models). The more focused they become, more accurate and effective they become. To design these purposive agents, enterprises should select fit for purpose models – small, medium or large language models, which offer trade-off between computational complexity, accuracy and efficiency.

5: Anticipate changing roles

Building a culture of change will allow talent and the organisation to adapt rapidly. Whilst re-skilling is necessary, it is not sufficient, which is why a CEO leading an organisational AI transformation must lay a foundation of change management to ensure people and machines work effectively together as technology evolves.



About Tata Consultancy Services Ltd (TCS)

Tata Consultancy Services is an IT services, consulting and business solutions organization that has been partnering with many of the world's largest businesses in their transformation journeys for over 55 years. Its consulting-led, cognitive powered, portfolio of business, technology and engineering services and solutions is delivered through its unique Location Independent Agile™ delivery model, recognized as a benchmark of excellence in software development.

A part of the Tata group, India's largest multinational business group, TCS has over 608,000 of the world's best trained consultants in 55 countries. The company generated consolidated revenues of US \$27.9 billion in the fiscal year ended March 31, 2023, 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, www.tcs.com

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