

AI Strategy

Harnessing the Power of AI



Image courtesy: McKinsey

Dr. Srinivas Josyula



विद्या परं देवतम्

IIM

भारतीय प्रबंध संस्थान विशाखपट्टणम
Indian Institute of Management Visakhapatnam



Srinivas Josyula

Associate Professor of Practice (Information Systems)



विद्या परं दैवतम्

IIM

भारतीय प्रबंध संस्थान विशाखपट्टणम
Indian Institute of Management Visakhapatnam

Education : MBA, Ph.D., CISA, CISM, CRISC, TOGAF

Work Experience :

- IIM Visakhapatnam
- National Institute for Smart Government
- Center for Innovations in Public Systems
- Accenture
- Hewlett Packard Services
- Tata Consultancy Services

Boards and Advisory Committees:

1. Member of Technical Advisory Group (TAG), Reserve Bank Information Technology.
2. Member of Technical Advisory Group (TAG), Reserve Bank of India (RBI),
3. Member of the Project Review and Steering Group (PRSG), “Cyber-Security Risk Management Frameworks Through Cyber Insurance” set up by the Cyber Security R&D Programme, Ministry of Electronics and IT (MeitY) (August 2022 – present).
4. Member of Technology Advisory Committee (TAC), Indian Financial Technology & Allied Services (IFTAS) - a wholly-owned subsidiary of the Reserve Bank of India, (2020 – to present).
5. Director – Government and Regulatory Affairs - on the Board of ISACA, Hyderabad Chapter in the years 2016, 2017, 2018

“The greatest danger in times of turbulence is not the turbulence itself, but to act with yesterday’s logic.”

~ Peter Drucker

Dealing with the human side of change is not easy.

“Think how hard physics would be if particles could think.”

*~ Murray Gell-Mann,
Nobel Laureate*

FUTURE OF WORK

What is Future of Work?

The future of work describes changes in how work will get done over the next decade....

...influenced by technological, generational and social shifts.

Megatrends in the Workplace

- Accelerated digital transformation
- Data Driven decision making
- Collaboration
- Demographic Shifts - Multigenerational Work force
- The Gig Economy
- New Skills for the workforce
- Business Continuity
- Hybrid Work Environments
- Climate Change
- Sustainability

Forces reshaping the workplace

1. Advanced Technologies and Automation : Advances in AI/ML embracing all areas.
Paradigm shift Telling Computer what to do, to telling what you want?
2. Demographic Shifts – Ageing Population
3. Speed of Change and Constraints : Autonomous Vehicles , Skilling Reqs
4. Impact on employment : Jobs which involve managing people , applying expertise, social interactions less impacted
5. Job Quality and Wage Discrepancies: Nature of Jobs for Unskilled or low skilled workers
6. Increasing Surveillance at Workplace
7. Battle for talent

Changing Priorities

Post pandemic Trends

What are the Business priorities? How can teams do more with less? How to balance productivity with employee well-being?

1. Prioritizing health, well-being, and psychological safety in a people-first culture
2. Inclusion and belonging become critical to an interconnected, high-performing culture
3. Rethinking reskilling— investing in critical skills versus critical roles
4. Transitioning from business efficiency to business resilience
5. Flexible, blended work environments that utilize distributed authority
6. Adopting AI and forward-looking data to turn teams into super teams

Digital Revolution

- Internet/ Digital revolution has turned the Business Playbook upside down.
- Fundamental Rules that governed the predigital era are not valid anymore
- How do we adapt and transform for the Digital Age?
- Future belongs to digital pioneers and startups
- Failure to adopt new technologies can be the harbinger of decline for enterprises as their competitors leverage technology to outcreate, outdesign and outproduce and out market them

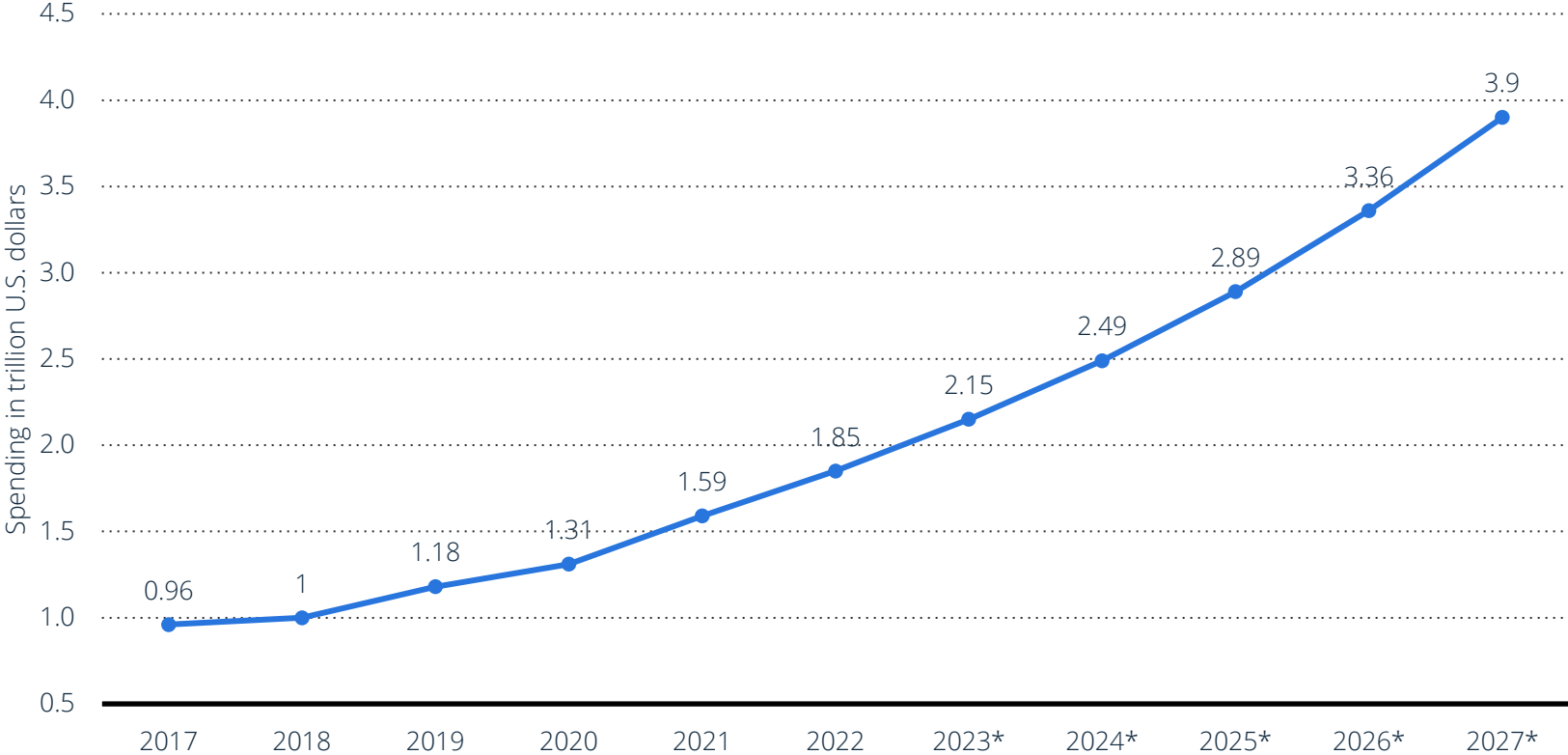


“THERE IS NO ALTERNATIVE TO DIGITAL TRANSFORMATION. VISIONARY COMPANIES WILL CARVE OUT NEW STRATEGIC OPTIONS FOR THEMSELVES — THOSE THAT DON’T ADAPT WILL FAIL.”

– Jeff Bezos, Head of Amazon

Spending on digital transformation technologies and services worldwide from 2017 to 2027 (in trillion U.S. dollars)

Digital transformation spending worldwide 2017-2027



Note(s): Worldwide; 2017 to 2023
Further information regarding this statistic can be found on [page 8](#).
Source(s): IDC; Statista; [ID 870924](#)

'AT LEAST 40% OF ALL BUSINESSES WILL DIE IN THE NEXT 10 YEARS.. IF THEY DON'T FIGURE OUT HOW TO CHANGE THEIR ENTIRE COMPANY TO ACCOMMODATE NEW TECHNOLOGIES.'

- JOHN CHAMBERS, CISCO -

Digital....?

Definitions

Digitization refers to “the action or process of digitizing; the conversion of analog data (esp. images, video, and text) into digital form.”

Digitalization is also known as the “ability to turn existing products or services into digital variants, and thus offer advantages over tangible product”.

Digitalization, or Digital Transformation, refers to “the changes associated with the application of digital technologies in all aspects of human society”.

Digital Technologies

Digital Technologies refer to ICTs, including the *Internet*, *Mobile technologies* and *Devices*, Emerging Technologies, as well as *Data Analytics*, used to improve the generation, collection, exchange, aggregation, combination, analysis, access, searchability and presentation of digital content, including for the development of services and apps.

- Snapshot of some key technologies and their roles:
 - **Cloud computing** gives quicker anytime, anywhere access to software, new functions and updates along with data storage and scalability.
 - **Mobile platforms** enable anytime, anywhere access for employees and customers.
 - **Machine learning and AI** provide faster data-driven decisions and continuous improvement to automated systems.
 - **Robotic process Automation (RPA)** uses bots to perform routine repetitive tasks faster and with less error than humans.
 - **Emerging Technologies** such as blockchain, augmented reality and virtual reality, IoT and edge computing offer new ways of taking advantage of the explosion of digital data generated by enterprises and customers.



Digital Technologies

- Benefits ?



Digital Technologies are a major force shaping strategy in organizations

Going digital has tangible benefits: profit/ productivity/performance/ experience

Organizations are struggling and succeeding in their challenge of becoming ‘Digital’

Organizations succeeding in using digital are called “Digital Masters”

Digital Masters use Digital technologies to transform the way they do Business

Digital Strategy

A Digital strategy is the strategic form of digitization intentions of organizations.

- 1. The short and mid-term objectives are to create new or to maintain competitive advantages.*
- 2. Within the digital strategy, digital technologies and methods are applied to products, services, processes and business models.*
- 3. The digital strategy consists of a vision, mission, strategic objectives, strategic success factors, values and measures.*

Digital Strategy

The terms *digitalization strategy, digital business strategy, digitization strategy and digital transformation strategy are used often interchangeably.*

Digital strategy refers to a company's strategy applied to all of its digital initiatives.

This includes the entire process : *gathering of all required information, planning, recognizing risks and opportunities, maintaining the digital strategy and creating sub-strategies across organizational functions : such as your digital-marketing strategy, Digital HR Strategy; Digital Supply Chain Strategy ; Digital Operations Strategy etc. ,*

Digital Transformation

Digital transformation is defined as changes in ways of working, roles, and business offering caused by adoption of digital technologies in an organization, or in the operation environment of the organization.

This refers to changes at several levels, including the following:

1. **Process level:** adopting new digital tools and streamlining processes by reducing manual steps;
2. **Organization level:** offering new services and discarding obsolete practices and offering existing services in new ways;
3. **Business domain level:** changing roles and value chains in ecosystems;
4. **Society level:** changing society structures (e.g., type of work, means of influencing decision making).

Quotes

There is no room for complacency
in the fast-moving digital world.

Neelie Kroes, EU Commissioner for Digital Agenda

”

“

The only wrong move when it
comes to Digital Transformation is
not to make any move at all.

Didier Bonnet, Senior VP Capgemini



Digital Strategy – Mckinsey

1. What areas of digital should I focus on (for example, go-to-market strategy versus product/service innovation)? Which will have the biggest payout or risk for my business?
2. Should I be focused more on digitizing my current business model, or should I be investing in new digital businesses?
3. Which moves have a big enough first-mover advantage to make greater risk worthwhile?
4. What is the risk of being late to move, and does it vary by type of disruption/digital change?
5. Is it better to have many small bets or a few big ones?
6. Can I really compete against digital attackers?

<https://www.mckinsey.com/business-functions/mckinsey-digital/how-we-help-clients/digital-strategy>

What is AI



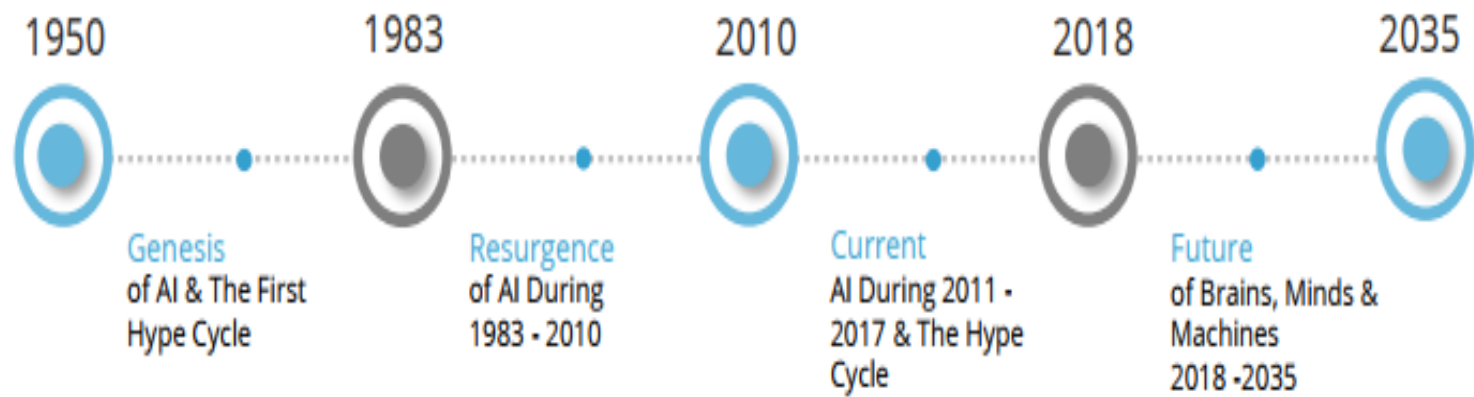
Artificial intelligence is a machine's ability to perform some cognitive functions we usually associate with human minds

~ Mc Kinsey

Artificial intelligence, or AI, is technology that enables computers and machines to simulate human intelligence and problem-solving capabilities.

~ IBM

Genesis of AI



Evolution of AI

Artificial intelligence

The science and engineering of making intelligent machines

AI is the broad field of developing machines that can replicate human behavior, including tasks related to perceiving, reasoning, learning, and problem-solving.

Machine learning

A major breakthrough in achieving AI

Machine learning algorithms detect patterns in large data sets and learn to make predictions by processing data, rather than by receiving explicit programming instructions.

Deep learning

An advanced branch of machine learning

Deep learning uses neural networks, inspired by the ways neurons interact in the human brain, to ingest data and process it through multiple iterations that learn increasingly complex features of the data and make increasingly sophisticated predictions.

Generative AI

An advanced branch of deep learning

Generative AI is a branch of deep learning that uses exceptionally large neural networks called large language models (with hundreds of billions of neurons) that can learn especially abstract patterns. Language models applied to interpret and create text, video, images, and data are known as generative AI.

Rise of AI

Most of the ideas behind AI are not new, with some dating from the 1970s.

Reasons for the rapid rise of AI

1

Faster
computing

2

Availability
of **Big data**

3

New
algorithms

Google's CEO Sundar Pichai and several technology experts have called AI **“as profound as electricity”**.

OECD – AI principles

Adopted in May 2019, the [OECD Principles on Artificial Intelligence](https://www.oecd.org/going-digital/ai/principles/) are the first international standards agreed by governments for the responsible stewardship of trustworthy AI.

1. AI should benefit people and the planet by driving inclusive growth, sustainable development and well-being.
2. AI systems should be designed in a way that respects the rule of law, human rights, democratic values and diversity, and they should include appropriate safeguards – for example, enabling human intervention where necessary – to ensure a fair and just society.
3. There should be transparency and responsible disclosure around AI systems to ensure that people understand AI-based outcomes and can challenge them.
4. AI systems must function in a robust, secure and safe way throughout their life cycles and potential risks should be continually assessed and managed.
5. Organisations and individuals developing, deploying or operating AI systems should be held accountable for their proper functioning in line with the above principles.

Use Cases of AI in various sectors



Operations

- Predictive maintenance
- Demand forecasting
- Operational efficiency
- Inventory optimization
- Operations anomaly insights
- Quality assurance
- Connected devices and smart buildings
- Supplier and spend insights



Marketing

- Personalization
- Customer insights
- Churn analytics
- Dynamic pricing
- Product innovation
- Marketing optimization
- Product recommendation



Finance

- Finance forecasting
- Fraud management
- Risk management



Workforce

- Employee insights
- HR insights
- Resource matching and planning



Service

- Intelligent contact center
- Patient care and healthcare analytics



Sales

- Lead and opportunity scoring
- Sales insights



AI Strategy

AI Strategy

AI strategy is simply a plan for integrating AI into an organization so that *it aligns with and supports the broader goals of the business.*

AI strategy must outline the steps to effectively use AI to *extract deeper insights from data, enhance efficiency, build a better supply chain or ecosystem and/or improve talent and customer experiences.*

AI Strategy

Crafting a successful AI strategy requires a holistic approach that includes *problem definition, strategic timing, planning and benefit measurement*, as well as careful considerations of *data, algorithms, and infrastructure*.

Stanford: Building an AI-Enabled Organization .



AI Strategy

A well-formulated AI strategy should help guide tech infrastructure.

AI strategy should allow the organization to adapt to new technologies and shifts in the industry.

Ethical considerations such as bias, transparency and regulatory concerns should also be addressed to support responsible deployment.

A well-crafted AI strategy can help organizations unlock their potential, gain a competitive advantage and achieve sustainable success in the ever-changing digital era.

Steps for a Successful AI Strategy

Explore the technology

Assess and discover

Define clear objectives

Identify potential partners and vendors

Build a roadmap

- Data
- Algorithms
- Infrastructure
- Talent and Outsourcing

Blueprint for AI Bill of Rights

Safe and Effective Systems

Algorithmic Discrimination Protections

Data Privacy

Notice and Explanation

Human Alternatives, Considerations and Fallback

AI System Considerations

Understanding the AI system's functioning for safe and responsible deployment

Post-deployment—can the relevant stakeholders of the AI system understand why a specific decision was made?

Consistency across stakeholders

Incorrect decisions leading to exclusion from access to services or benefits

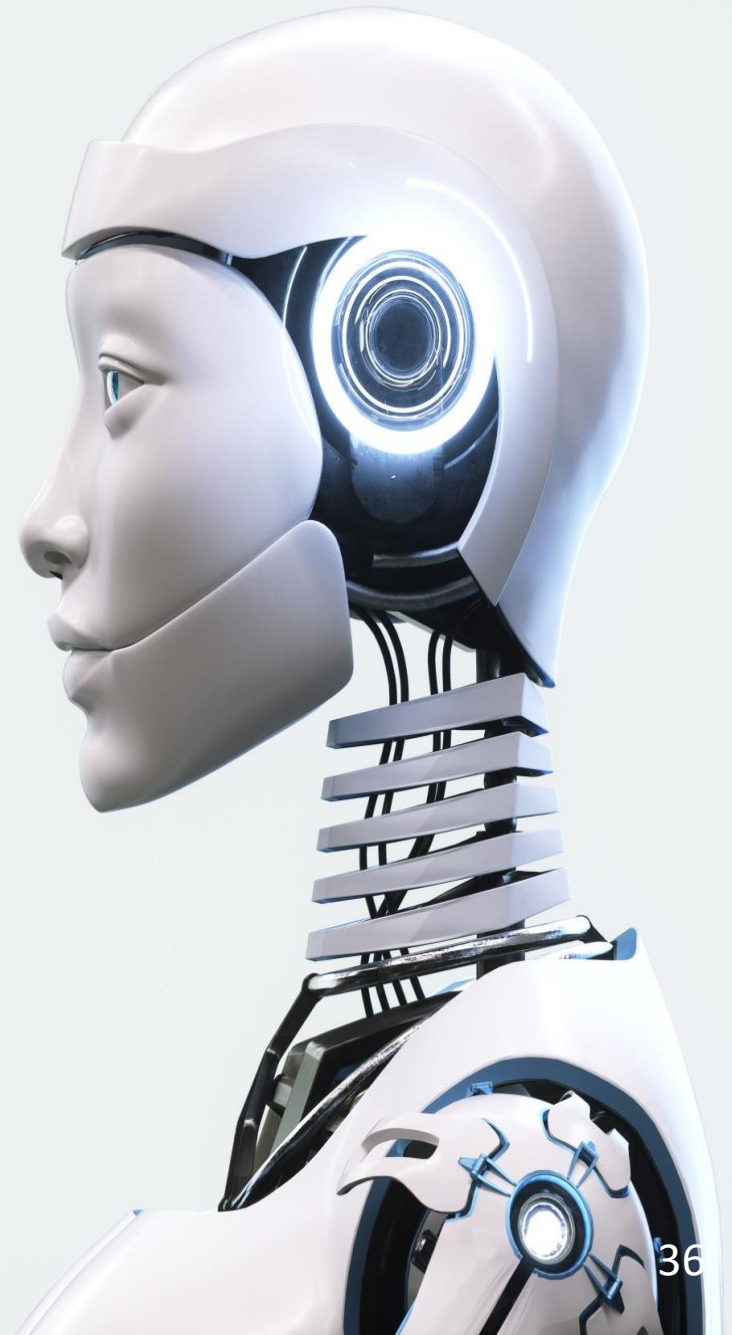
Accountability of AI decisions Systems

Privacy risks

Security risks

AI Governance

- Artificial intelligence (AI) governance refers to the guardrails that ensure AI tools and systems are and remain safe and ethical.
- It establishes the frameworks, rules and standards that direct AI research, development and application to ensure safety, fairness and respect for human rights.



Principles of Responsible AI Governance

Empathy: Organizations should understand the societal implications of AI, not just the technological and financial aspects. They need to anticipate and address the impact of AI on all stakeholders.

Bias control: It is essential to rigorously examine training data to prevent embedding real-world biases into AI algorithms, ensuring fair and unbiased decisions.

Transparency: There must be clarity and openness in how AI algorithms operate and make decisions, with organizations ready to explain the logic and reasoning behind AI-driven outcomes.

Accountability: Organizations should proactively set and adhere to high standards to manage the significant changes AI can bring, maintaining responsibility for AI's impacts.

Examples of AI Governance



The General Data Protection Regulation (GDPR): An example of AI governance, particularly in the context of personal data protection and privacy. While the GDPR is not exclusively focused on AI, many of its provisions are highly relevant to AI systems, especially those that process the personal data of individuals within the European Union.



The Organisation for Economic Co-operation and Development (OECD): AI Principles, adopted by over 40 countries, emphasize responsible stewardship of trustworthy AI, including transparency, fairness and accountability in AI systems.



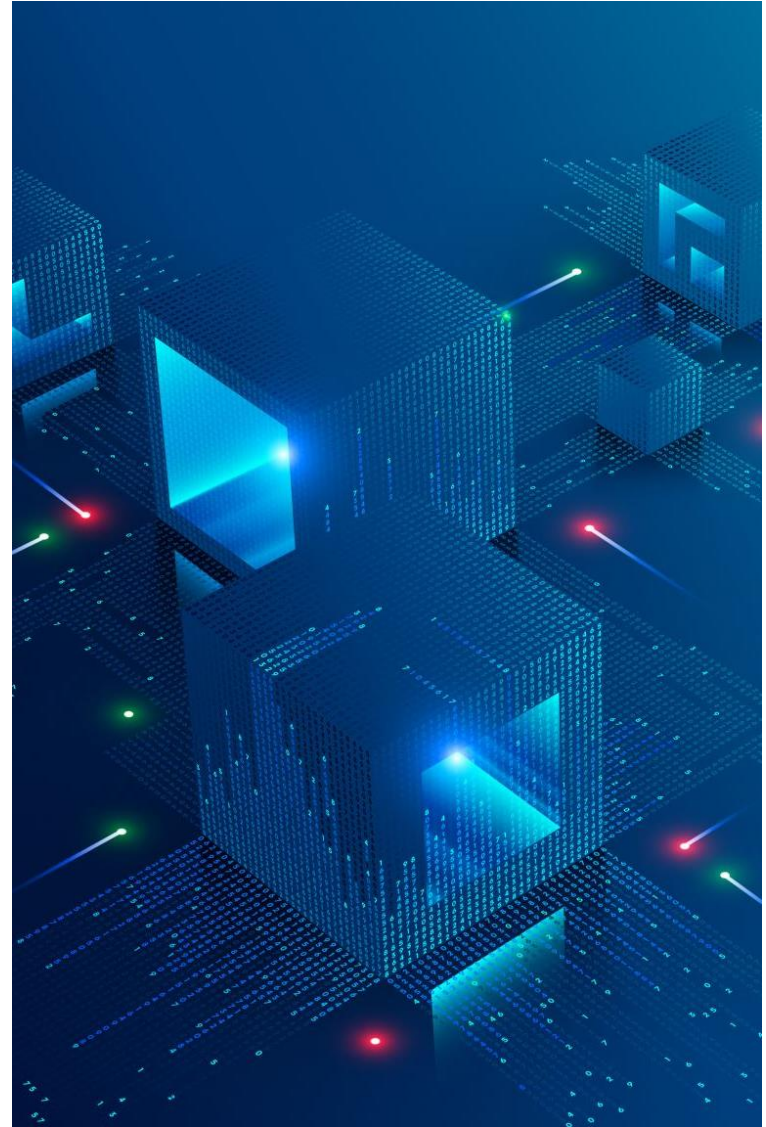
Corporate AI Ethics Boards: Many companies have established ethics boards or committees to oversee AI initiatives, ensuring they align with ethical standards and societal values. For example, IBM has launched an AI Ethics Council to review new AI products and services and ensure they align with IBM's AI principles. These boards often include cross-functional teams from legal, technical and policy backgrounds.

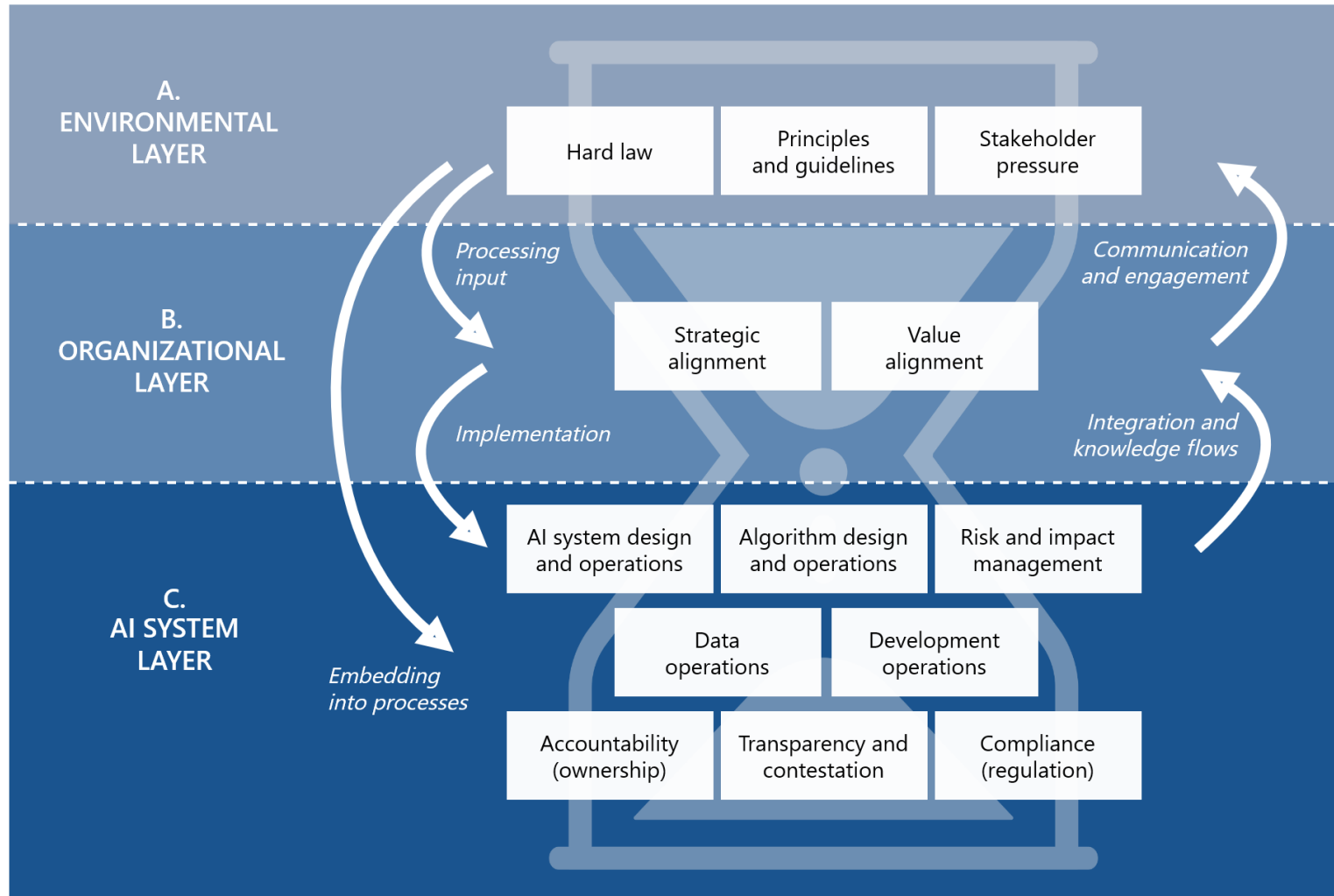
AI Governance Framework

The AI governance framework consists of three layers:

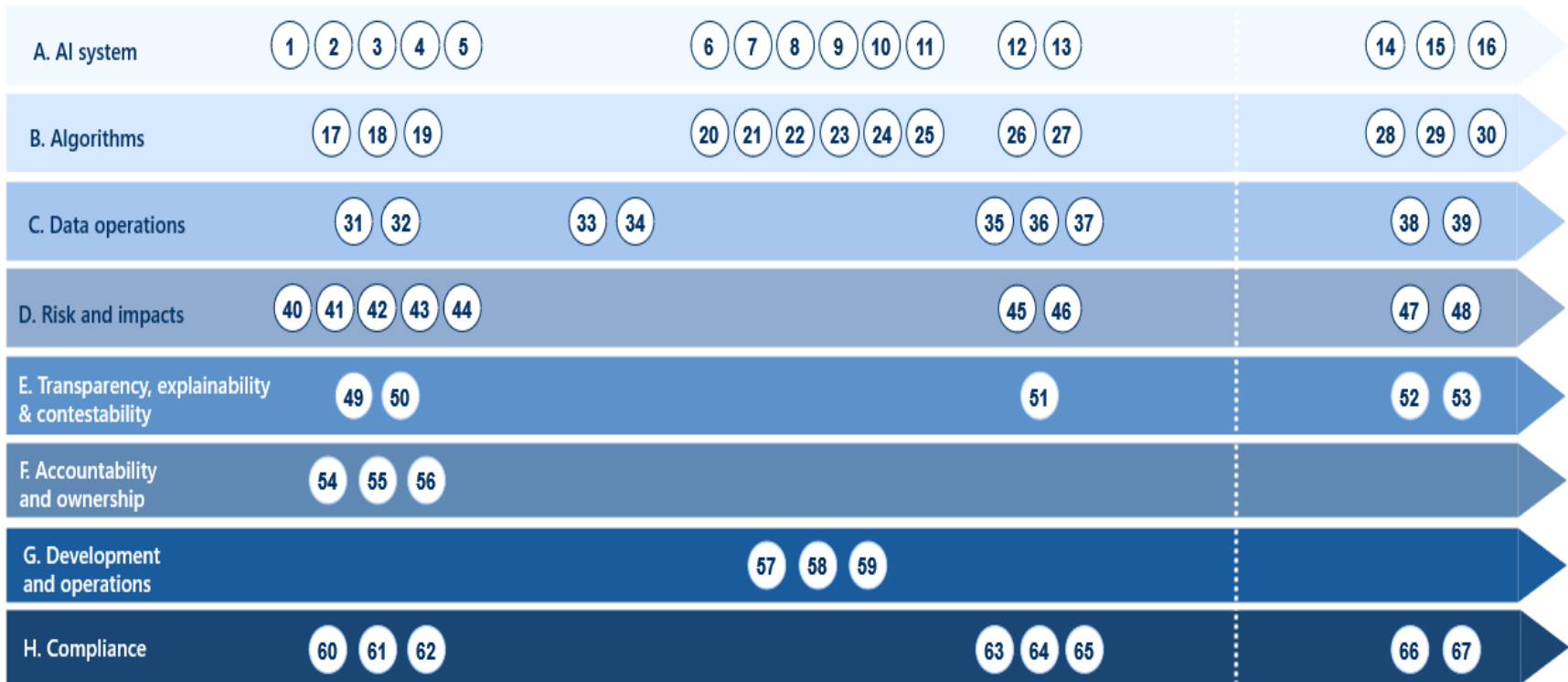
1. Environmental,
2. Organizational and
3. AI system.

Each layers contains a set of governance components and processes linked to the AI system lifecycle.





AIGA AI Governance Lifecycle



<https://ai-governance.eu/ai-governance-framework/task-list/>

Thank You