

# State of AI in Business

# 2024

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A Comprehensive Guide  
for Business Leaders



**Pathsetter AI**

# Executive Summary

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As we navigate 2024, the global economy is contending with inflationary pressures, geopolitical challenges, and rising interest rates. Despite these factors, technological innovation—particularly in artificial intelligence (AI)—is acting as a key driver of economic growth.

AI is expected to not only boost global GDP but also redefine how businesses operate, increasing efficiency and productivity across industries.

This report explores the current state of AI in the global economy and provides a detailed roadmap for business leaders on how AI can be leveraged to maximize organizational impact.

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# 1. Global Economic Outlook 2024: AI as a Growth Engine



In a year marked by uncertainty, **the global economy is projected to grow by 3%**, driven in large part by digital transformation.

The World Bank attributes much of this growth to advancements in AI, which is anticipated to play a vital role in stabilizing the economy. **AI's ability to streamline operations, improve decision-making, and enhance customer experiences is rapidly positioning it as a cornerstone for economic resilience.**

## 2. AI's Contribution to Productivity and Growth

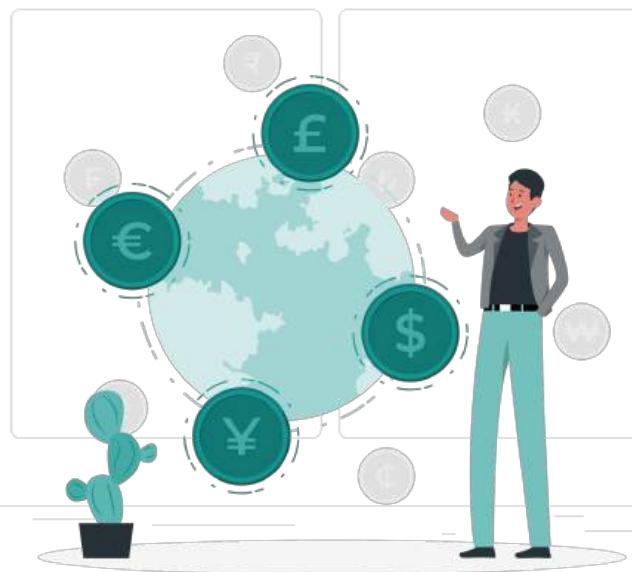
### Global Productivity Gains

By 2030, AI is expected to contribute up to \$15.7 trillion to the global economy. This figure, cited by PwC, represents a combination of two critical factors:

**Productivity Gains:** Automation of repetitive tasks, alongside predictive analytics, could generate up to \$6.6 trillion.

**Consumer Demand:** Enhanced personalization in products and services may create \$9.1 trillion of added value.

In high-impact sectors such as manufacturing, healthcare, and retail, McKinsey projects AI-driven productivity improvements of up to 40%.



### Key Insights for Managers:

- **Automation:** AI can handle routine, repetitive tasks, freeing up employees for higher-value work.
- **Predictive Analytics:** Businesses that integrate AI into their decision-making processes can optimize inventory, forecast demand, and manage resources more efficiently.

### 3. The AI Value Chain: From Data to Deployment

AI's value chain consists of several interdependent stages:



**Data Generation:** IoT devices, sensors, and digital transactions generate vast amounts of raw data.



**Data Processing & Storage:** Cloud providers, leveraging scalable storage, enable organizations to retain large datasets, which are essential for AI model training.



**Model Training:** Using advanced hardware like GPUs and TPUs, companies develop sophisticated machine learning models.



**AI Deployment:** AI models are integrated into everyday business processes, driving real-time decision-making and automation.



**Continuous Improvement:** Feedback mechanisms ensure that AI models evolve and improve, keeping them relevant and accurate.

#### Recommendations:

- **Invest in Data Infrastructure:** Ensuring data is clean, organized, and easily accessible is key to unlocking AI's full potential.
- **Iterative Model Development:** Models should not be static; they must continuously learn and adapt based on new data and user feedback.

### 4. AI and Energy: Balancing Innovation with Sustainability

Training AI models, especially large-scale models such as OpenAI's GPT-3, consumes significant energy resources. For example, **GPT-3 required approximately 1,287 MWh of electricity**, equivalent to the energy used by 120 U.S. households in a year.

As AI adoption grows, the demand for sustainable practices will increase.

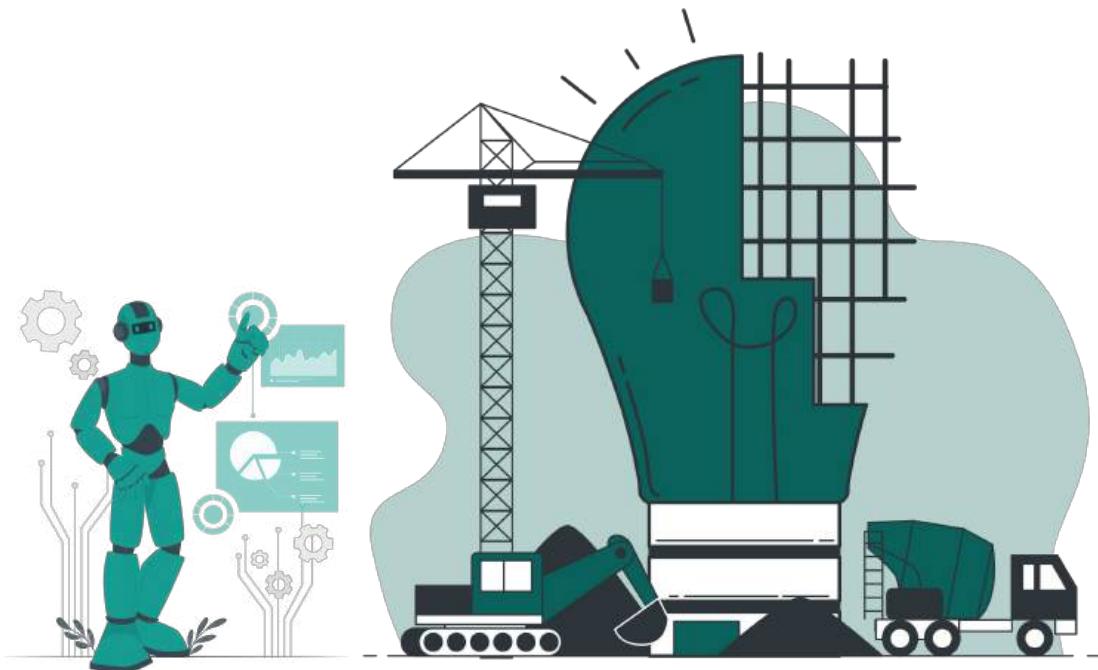


Business leaders should focus on energy-efficient AI solutions and invest in green data centers to reduce their environmental footprint.

#### **Considerations for Leaders:**

- **Sustainable AI Infrastructure:** Partner with cloud providers that emphasize renewable energy and energy-efficient data centers.
- **Green AI Algorithms:** Promote research into algorithms that consume less computational power without compromising performance.

## 5. Material Demand for AI Infrastructure



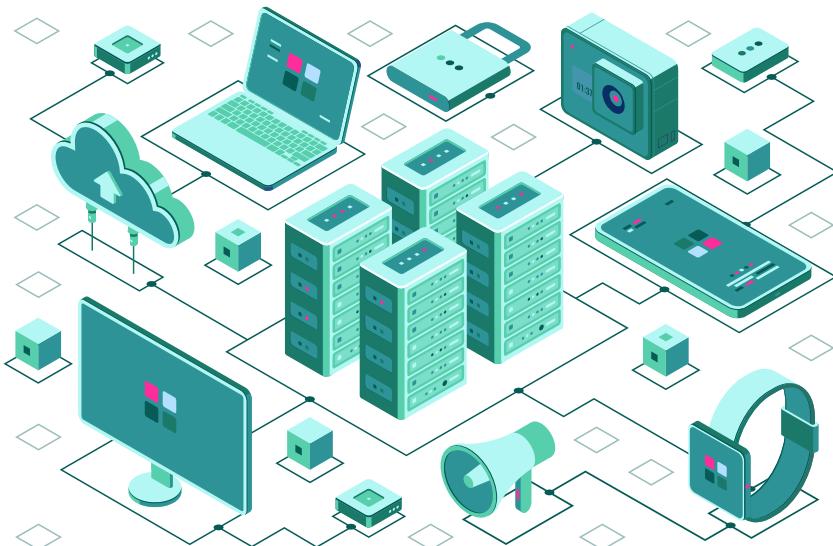
The development and scaling of AI technologies require significant amounts of raw materials. Steel, copper, lithium, and rare earth elements such as neodymium and cobalt are critical for the hardware used in data centers, GPUs, and TPUs.

The International Energy Agency (IEA) forecasts a 500% increase in demand for these materials by 2050, largely due to the rise of AI-related infrastructure.

#### **Strategic Guidance:**

- **Supply Chain Resilience:** As demand for these materials increases, companies should consider securing long-term supply agreements.
- **Circular Economy:** Businesses can reduce dependency on raw materials by investing in recycling programs and extending the lifecycle of existing hardware.

## 6. Data Center Boom and AI Workloads



AI's growing computational needs have spurred a boom in the global data center market, valued at \$215.8 billion in 2023. With a projected compound annual growth rate (CAGR) of 10.9%, data centers are becoming increasingly critical to AI-driven businesses.

**Edge Computing:** Decentralized, edge data centers offer the advantage of processing data closer to the source, reducing latency and improving AI performance.

**Sustainability:** Green data centers that utilize renewable energy are becoming a priority for businesses aiming to minimize their environmental impact.

### Best Practices:

- **Hybrid Infrastructure:** Combining cloud and edge computing can provide businesses with greater flexibility and performance.
- **AI-Optimized Data Centers:** Partner with data center providers that offer AI-specific optimization, such as liquid cooling and high-density rack solutions.

## 7. Large Language Models (LLMs) and the Future of AI Applications

LLMs such as GPT-4 and BERT have revolutionized how businesses use AI for natural language processing tasks like chatbots, content generation, and customer service automation. As models grow in size, complexity, and utility, they enable companies to provide more sophisticated and personalized services.

### Challenges to Address:

- **High Computational Costs:** The energy and computational power required to train these models pose significant cost challenges.
- **Explainability:** As LLMs become more complex, their decision-making processes become more opaque, raising concerns over accountability and transparency.

## 8. Top AI Use Cases in 2024

AI is already revolutionizing multiple sectors, with numerous use cases that improve operational efficiency and customer satisfaction:



**Healthcare:** AI-powered diagnostics and personalized treatment plans improve outcomes and reduce costs.



**Manufacturing:** Predictive maintenance minimizes equipment downtime, while AI-driven automation increases efficiency.



**Retail:** AI enhances inventory management and optimizes supply chains, reducing waste and increasing profitability.



**Finance:** AI is transforming algorithmic trading, fraud detection, and risk assessment.

### Actionable Steps for Implementation:

- **Pilot Programs:** Start small with AI-driven pilot programs before scaling them across departments.
- **Collaborate with Experts:** Partner with AI vendors and consultants to ensure smooth integration with existing systems.

## 9. Generative AI: Key Applications

Generative AI (GenAI) is reshaping industries through advanced applications such as content creation, predictive modeling, and anomaly detection. Key sectors seeing GenAI impact include:



**Finance:** Automating report generation, conducting risk analysis, and building financial models.



**Sales & Marketing:** Enhancing lead generation, content personalization, and customer targeting.



**Cybersecurity:** Detecting anomalies and preventing fraud with increased precision.

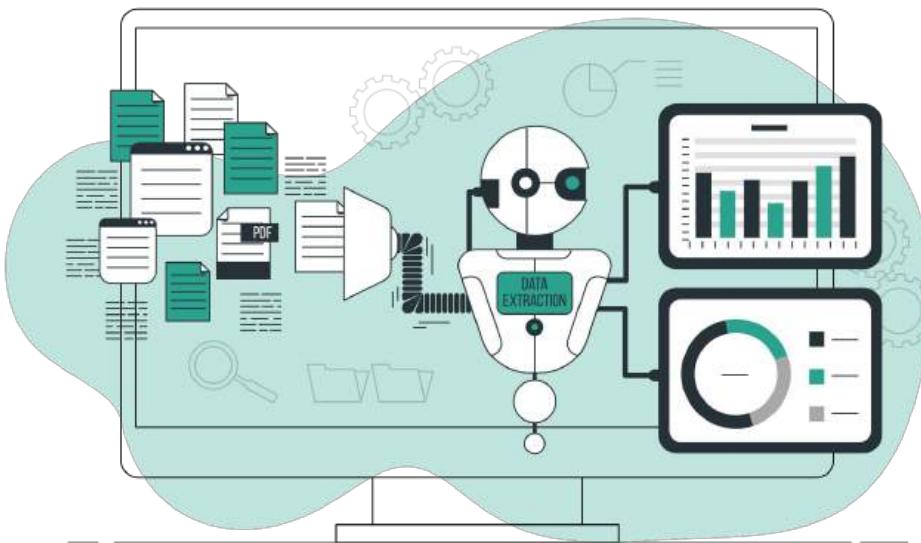
### **Tactical Insights:**

- **Automation for Efficiency:** Deploy GenAI to automate labor-intensive tasks, increasing speed and reducing costs.
- **Anomaly Detection:** Use AI models to enhance fraud detection systems in real-time.

## 10. The Age of AI Agents: The Next Frontier

AI agents, capable of autonomous decision-making and interaction, represent the next phase of AI development.

These agents will perform complex tasks, analyze vast data sets, and interact with users in natural language, transforming how organizations operate.



### **Industries to Watch:**

**Customer Service:** AI agents will autonomously handle routine queries and complaints, reducing customer wait times.

**Business Operations:** Administrative tasks like scheduling, email management, and transactions can be fully automated.

**Creative Industries:** Content creation, design, and media production will benefit from AI agents capable of generating high-quality outputs in record time.

# Future-Proofing Your Business:

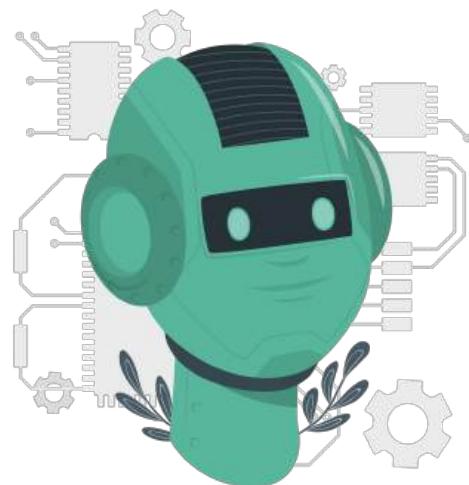


## Invest in R&D:

Allocating resources to develop or partner with firms that create AI agents will ensure competitive advantage.

## AI-Driven Decision Making:

Prepare for AI to be an integral part of leadership and decision-making processes across all business functions.



## Pathsetter AI Readiness Index: A Comprehensive Framework for Organizational AI Preparedness

In today's business landscape, integrating AI effectively requires more than just technology adoption.

Organizations must assess their **overall readiness** across multiple dimensions to ensure that AI agents can be successfully deployed and sustained.

The **Pathsetter AI Readiness Index** serves as a tool to evaluate preparedness and pinpoint areas requiring improvement before embarking on AI initiatives.

# Dimensions of the AI Readiness Index: Key Parameters for Success

Each of the following dimensions represents a critical factor for successful AI adoption. By evaluating each, organizations can identify their strengths and weaknesses, thus laying the groundwork for a strategic approach to AI deployment.



## 1. Objective Clarity

**Definition:** The clarity and specificity of goals and objectives that define how AI will be used within the organization.

**Why It Matters:** Clear objectives ensure that AI deployment aligns with business goals. Without defined objectives, AI initiatives may lack focus, leading to underperformance or misalignment with organizational priorities.

*Rating Example:*

*A rating of 1 implies the organization lacks defined AI objectives, while a rating of 5 suggests measurable and actionable goals are in place.*

## 2. Technological Infrastructure



**Definition:** The current state of an organization's hardware, software, and network infrastructure, which must support AI's computational needs.

**Why It Matters:** AI systems require modern infrastructure, including powerful processors, cloud storage, and data pipelines. Outdated or inadequate technology can slow down AI implementation.

### **Rating Example:**

A 1 indicates outdated infrastructure that may bottleneck AI initiatives, while a 5 means the organization has scalable, AI-ready systems.

## 3. Data Management

**Definition:** The organization's ability to manage, process, and govern the data required to train and operate AI models.

**Why It Matters:** AI's effectiveness depends on the quality and availability of data.

Well-governed data practices ensure models have access to accurate and clean data, while poor data management can lead to flawed insights.



### **Rating Example:**

A 1 suggests poor data quality, with siloed data or unclear governance, while a 5 reflects clean, well-managed, and accessible data that can be utilized effectively for AI training.

## 4. AI Strategy Development



**Definition:** The development of a long-term, cohesive strategy for AI adoption, including clear roadmaps, milestones, and resources.

**Why It Matters:** A comprehensive AI strategy ensures that deployment is phased, targeted, and aligned with business needs. Organizations without a strategy risk inefficient use of resources and unclear objectives.

### **Rating Example:**

A 1 signifies no strategy exists, whereas a 5 reflects a detailed roadmap with stakeholder involvement and well-defined resource allocation.

## 5. Tool and Platform Selection



**Definition:** The selection of appropriate AI tools and platforms that best meet the organization's business and operational needs.

**Why It Matters:** Choosing the right tools ensures compatibility with existing systems, scalability, and ease of integration. Inadequate tools can lead to technical debt and hinder long-term success.

*Rating Example:*

A 1 indicates poor tool selection, potentially misaligned with business needs, while a 5 means that optimal tools have been chosen based on technical and business requirements.

## 6. Development Environment Setup

**Definition:** The preparedness of the organization's environment, including software libraries, frameworks, and cloud resources, for AI development.



**Why It Matters:** An efficient and well-configured development environment can accelerate AI model creation and experimentation. Without this, development may be slow and error-prone.

*Rating Example:*

A 1 means the development environment is not set up for AI, while a 5 means it is fully configured and optimized for AI development.

## 7. Proof of Concept (PoC) Execution

**Definition:** The ability to successfully execute a PoC to validate the AI solution before full-scale implementation.

**Why It Matters:** PoCs are critical to assess feasibility and business value. Failure to complete a PoC can lead to costly implementation failures.

### **Rating Example:**

A 1 indicates that no PoC has been conducted, while a 5 reflects successful PoCs with actionable insights and learnings for scaling the AI solution.

## **8. Performance Monitoring**

**Definition:** The ability to implement systems for monitoring the AI model's performance and making iterative improvements post-deployment.

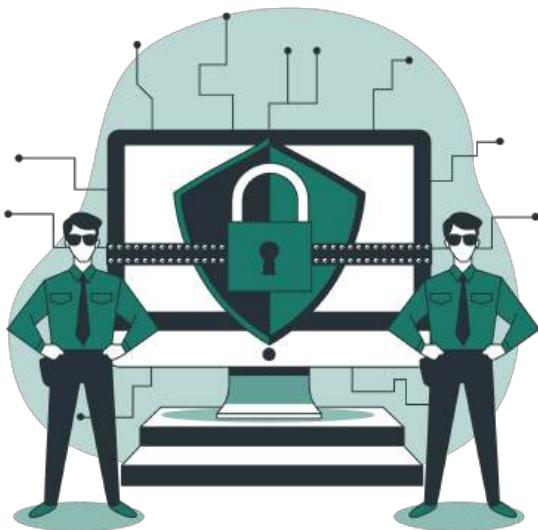
**Why It Matters:** Performance monitoring allows for continuous optimization of AI agents, ensuring they remain relevant, efficient, and effective.



### **Rating Example:**

A 1 suggests no performance monitoring mechanisms exist, while a 5 indicates comprehensive systems are in place for real-time monitoring and optimization.

## **9. Security and Compliance**



**Definition:** The organization's measures for ensuring that AI deployments meet data security standards and regulatory compliance requirements.

**Why It Matters:** AI projects that handle sensitive data must ensure privacy and data security. Failure to comply with regulations or secure data can lead to financial penalties and loss of trust.

### **Rating Example:**

A 1 indicates a lack of security and compliance protocols, whereas a 5 reflects strong security measures and full compliance with industry standards.

## 10. Feedback Loop Mechanism



**Definition:** The existence of mechanisms to gather feedback from users and incorporate it into the AI system's ongoing development.

**Why It Matters:** A feedback loop allows organizations to continuously refine AI models, improve user experiences, and ensure the AI system evolves with changing business needs.

### *Rating Example:*

A 1 indicates no feedback loop exists, while a 5 means a robust, data-driven feedback system is integrated into the AI deployment.

## **Scoring Your Organization's AI Readiness**

To calculate the AI Readiness Index for your organization, assign a score (from 1 to 5) to each of the ten dimensions described above.

1. Sum the scores from all dimensions.
2. Divide the total by the number of dimensions (10) to obtain an average readiness score.

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### **Interpretation of Scores**

#### **1-2: Not Ready**

Significant improvements are needed in most areas to ensure AI deployment can be successful.

#### **3: Moderately Ready**

The organization has some strengths, but critical gaps exist that must be addressed to ensure effective AI implementation.

## **4-5: Mostly/Fully Ready**

The organization has a strong foundation for AI deployment, with the capability to implement AI agents successfully and realize business value.

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## **Integrating the AI Readiness Index into Your AI Strategy**

For organizations seeking to adopt AI, the Pathsetter AI Readiness Index can serve as an actionable benchmark to measure preparedness.

By using this index to guide decision-making, business leaders can ensure that their organization is both technically and strategically prepared for AI-driven transformation.

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# Are you AI Ready?

## Know your AI Readiness Index....

### 1. Objective Clarity

1    2    3    4    5

### 2. Technological Infrastructure

1    2    3    4    5

### 3. Data Management

1    2    3    4    5

### 4. AI Strategy Development

1    2    3    4    5

### 5. Tool and Platform Selection

1    2    3    4    5

### 6. Development Environment Setup

1    2    3    4    5

### 7. Proof of Concept (PoC) Execution

1    2    3    4    5

### 8. Performance Monitoring

1    2    3    4    5

### 9. Security and Compliance

1    2    3    4    5

### 10. Feedback Loop Mechanism

1    2    3    4    5

Your AI Readiness Index =  $\frac{\text{Sum of scores}}{10}$  =

Note- 1-2: Not Ready | 3: Moderately Ready | 4-5: Mostly/ Fully Ready



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