



# 10-Step Guide to Implementing a Holistic Cloud-AI Strategy

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# Executive Summary

Artificial intelligence (AI) and hybrid multicloud are innovation accelerators that drive digital transformation (DX), and their combined use has a multiplier effect on business outcomes. Hybrid multicloud accelerates development and deployment of AI at scale; AI simplifies management of hybrid multicloud, which amplifies many other emerging technologies. Thus, enterprises need a holistic architecture approach to cloud, data, and AI.

**Following is a 10-step guide to implementing a holistic cloud-AI strategy.**

**DX**



**Artificial intelligence**



**Hybrid multicloud**

**STEP 1:**

# Formulating the Strategy

Create AI strategy, data strategy, and cloud infrastructure strategy that are aligned with one another and overall business objectives.

Strategies must be flawlessly executed using a holistic framework such as people, process, and technology. This could be modified with additional dimensions such as customer experience and innovation. Choose what works for your organization and company culture.

By 2025, AI-powered enterprises will see a 100% increase in knowledge worker productivity, resulting in:



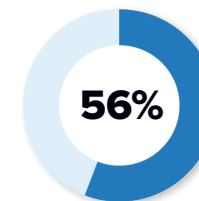
**Shorter reaction times**  
Half the response time of peers



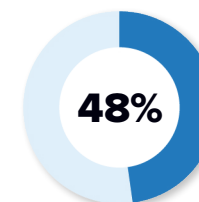
**Greater product innovation success**  
25% increase in rate of new product introductions



**Improved customer satisfaction**  
1.5 times higher Net Promoter Score



Digital infrastructure's share of IT infrastructure in five years



Enterprises that are making "significant investments" in data integration and management

n = 2,000 | Source: IDC Cloud Pulse Q1 2020

**STEP 2:**

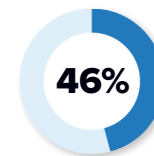
# Understanding DX and AI

Ensure that all line-of-business executives understand the concepts and urgency of DX and AI.

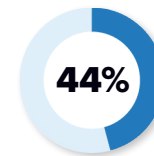
If there are misconceptions or disagreements, spend time on education and deliberation.

**Discuss examples of digital transformation such as:**

- eCommerce versus brick-and-mortar retail business
- Digital banking
- AI-powered chatbots for customer service
- Enterprise digital assistants
- Automated invoice data extraction
- Document management
- Workflow automation

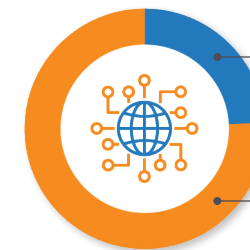


of enterprises are making “significant investments” in AI.



of enterprises say digital technologies are causing major disruption in their industries.

**What will drive digital transformation?**



**24%  
IT transformation**

**76%  
Business transformation**

n = 2,000 | Source: IDC Cloud Pulse Q1 2020

**STEP 3:**

# Ideation and Brainstorming

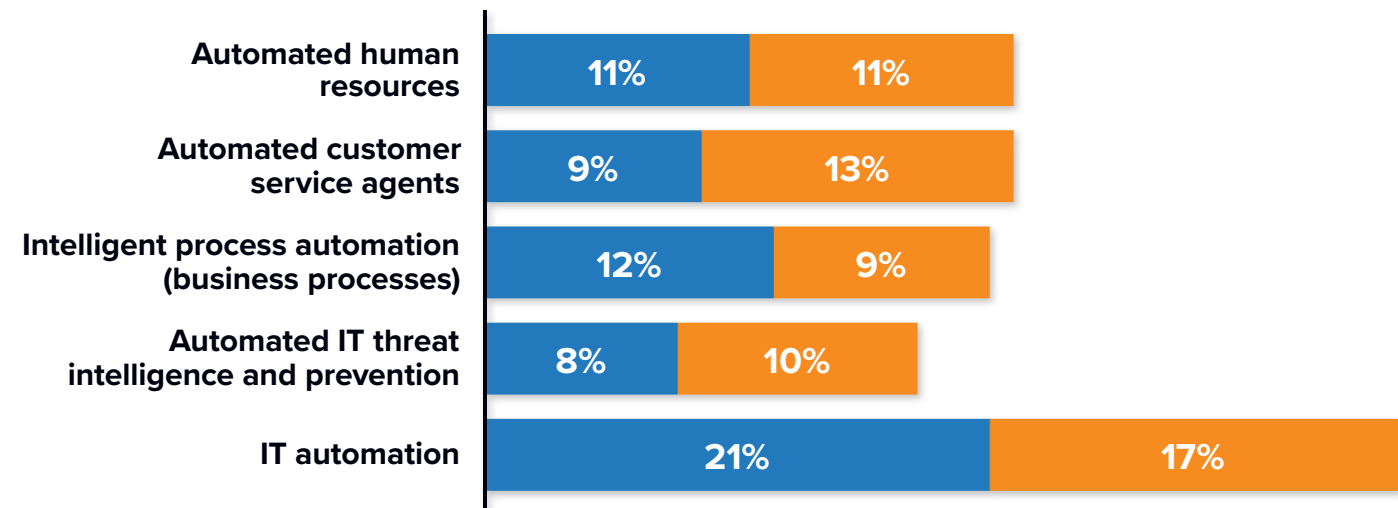
Let each line-of-business brainstorm and present its innovative ideas on leveraging AI. At this point, teams do not have to worry about feasibility, cost, or timeline for ideas generated from brainstorming.

**Leveraging AI can:**

- Unlock insights
- Improve business processes
- Generate more revenue
- Cut costs
- Boost employee productivity
- Improve existing products or services
- Deliver superior customer experience
- Manage IT and cloud (AIOps)
- Improve security and compliance

**Top Enterprise AI Use Cases**

Percentage of respondents: ■ Today ■ Next two years



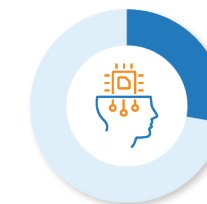
n = 2,056 | Source: IDC AI StrategiesView, March 2020

**STEP 4:**

# Evaluating Ideas

Perform **SWOT** analysis and prioritize ideas according to their impact on overall corporate objectives and project timelines. Establish customer, business, and technical success benchmarks.

## Outcomes to consider while evaluating ideas:



**28% of AI initiatives fail.**

### TOP REASONS FOR FAILURE:

**Lack of staff expertise**

*and*

**Lack of tools for data preparation and integration**

n = 2,056 | Source: IDC AI StrategiesView, March 2020

**STEP 5:**

# Appraising IT and Organization

Evaluate your organization's readiness, including your information architecture as well as business processes that are required to meet your benchmarks and strategic milestones.

## Questions to ask:

- 1 Do we have a hybrid multicloud environment?
- 2 Do we have the right tools and skill sets to collect, organize, curate, and label the data?
- 3 Can we make the data accessible across on-premises and cloud environments?
- 4 How do we access high-performance compute, GPUs, and storage for AI training?
- 5 Are the processes for governance and data management automated?
- 6 What would it take to infuse and operationalize AI at scale?
- 7 Will the AI model be explainable, auditable, compliant, and trusted?



**STEP 6:**

# Moving to a Hybrid Multicloud

Create a comprehensive modernization strategy for a hybrid multicloud environment.

## When developing a strategy:

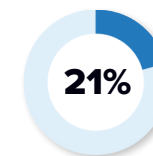
- ✓ The strategy must involve modernization of as many applications as possible, including the new AI-infused applications being planned. This means use of containers, microservices, APIs, and other cloud-native tools.
- ✓ If you have a single public cloud, evaluate how you can move to a multicloud environment.
- ✓ Consider the interoperability and dependency between various applications.

## Laying the groundwork for hybrid multicloud:

Cloud native architecture:  
use of modular apps,  
containers, microservices,  
APIs, and open source  
technology

+

Organizational  
restructuring on how  
developers and IT  
collaborate as teams

**21%**

of enterprises have hybrid multicloud.

**30%**

of workloads are based on containers and modular architecture.

n = 2,000 | Source: IDC Cloud Pulse Q1 2020

**STEP 7:**

# Identifying Cloud Platforms

Choose cloud platforms with embedded AI capabilities. The right cloud platform can address the top challenges that enterprises face in implementation of AI projects.

## Features of Ideal Cloud Platform for AI:

- ✓ **Hardware resources** such as GPUs, high-performance storage, and high-bandwidth networks
- ✓ **Software resources** such as AI frameworks, development platforms, data integration tools, pre-trained models, and automated life cycle management
- ✓ **Pre-built and turnkey AI applications** that are cloud-based and can be purchased and integrated with your applications through APIs

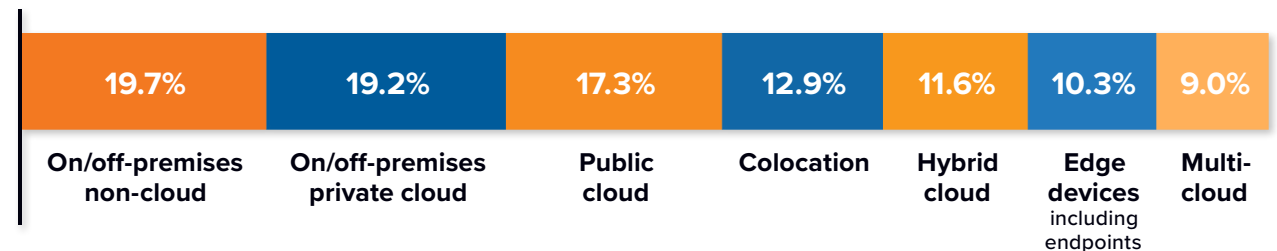
### Top implementation challenges:

- Cost
- Machine learning ops (MLOps)
- Lack of skilled personnel

### Other core cloud challenges:

- Compute choice/scalability
- Migration services
- Security
- DevOps

## Where AI/ML Solutions are Deployed



n = 2,056 | Source: IDC AI StrategiesView, March 2020

**STEP 8:**

# Researching AI Solutions and Tools

Investigate commercial software, open source solutions, and AI as a Service that can accelerate your AI journey.

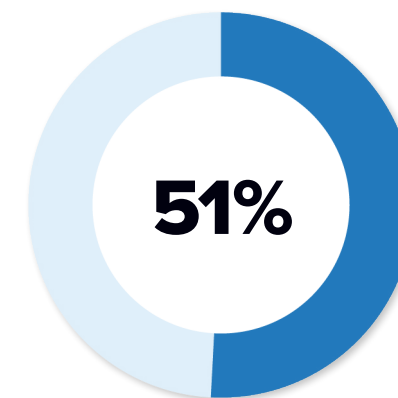


Expect to work with third-party providers and leverage their expertise—you may already work with them.

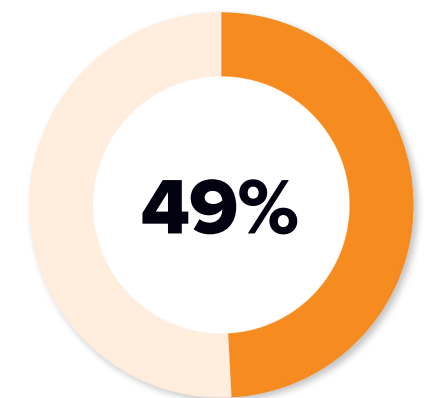


Rather than reinventing the wheel, your team may be able to use APIs to plug into existing AI products and accelerate the time to market.

## How AI solutions are built:



**are built in-house  
or using  
PaaS/MLaaS.**



**are purchased  
as a service  
such as SaaS.**

n = 2,056 | Source: IDC AI StrategiesView, March 2020

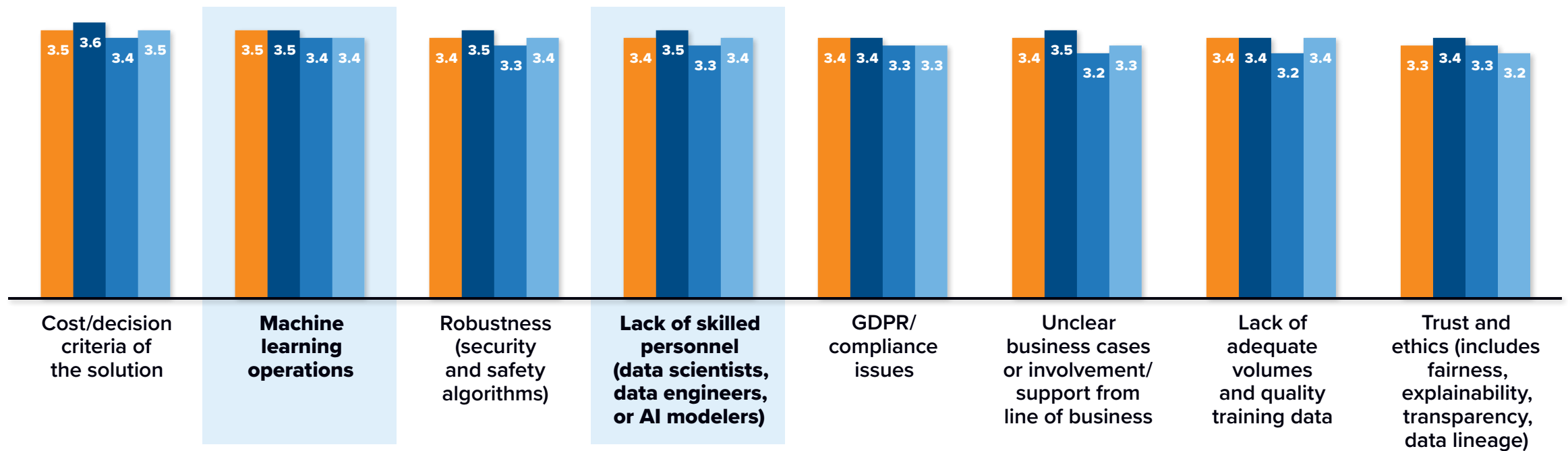
**STEP 9:**

# Training the Staff

Establish a staffing and training plan for your teams to address AI and cloud-related technical skills gaps. Proactively address other problems in AI implementation.

## Challenges in AI Implementation (1-5 mean rating)

Overall North America Europe Asia Pacific



n = 2,056 | Source: IDC AI StrategiesView, March 2020

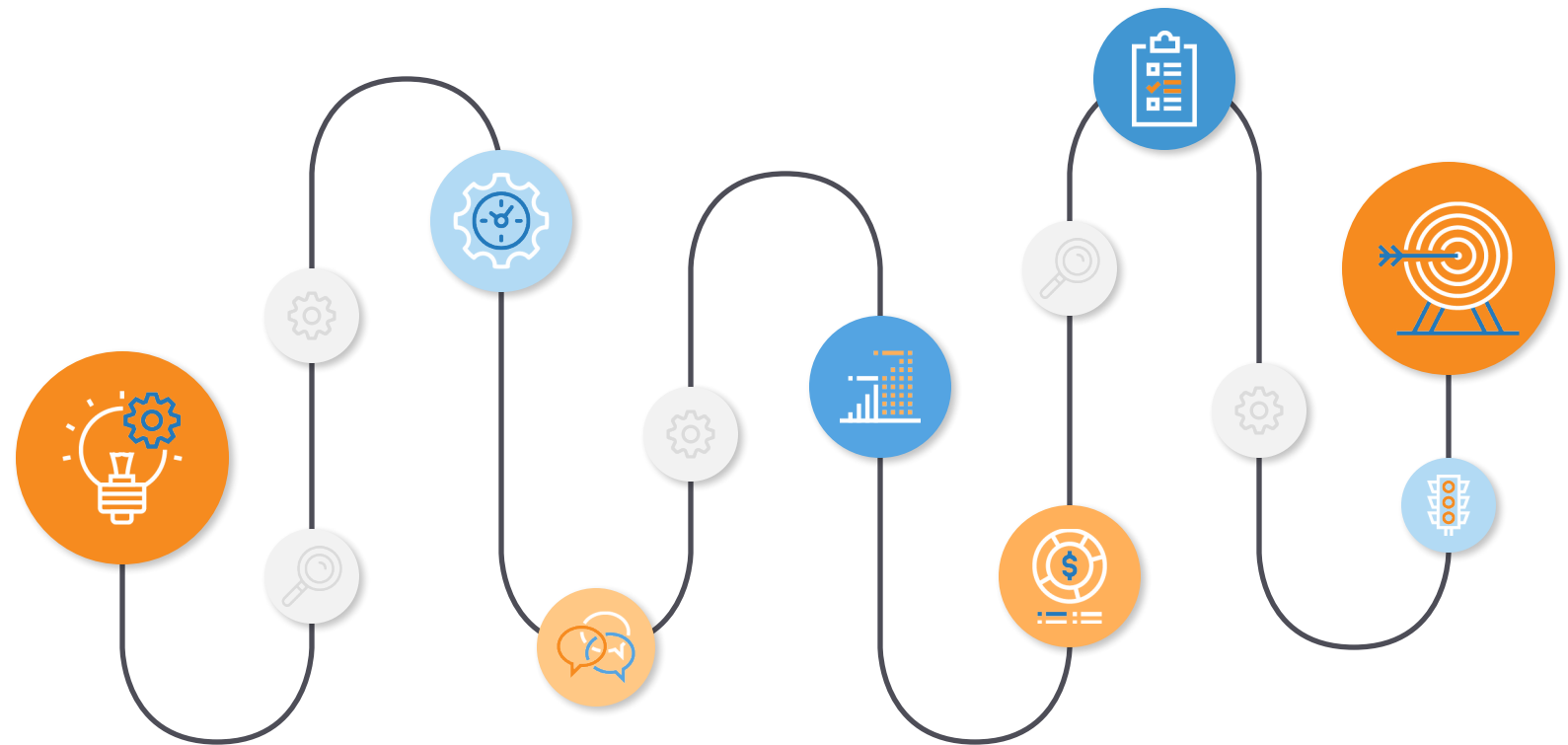
**STEP 10:**

# Getting Started with AI

Start with proofs of concept that are low-risk but visible enough to the organization to ensure success, awareness, and future funding.

**Examples of low-risk proofs of concept:**

- Chatbots for customer service
- Fraud detection apps for finance department
- Monitoring and security features for IT
- Personalized recommendation engines for customer experience



# Conclusion

Approaching AI and hybrid multicloud together should be a strategic and urgent imperative for business leaders to unlock their full potential for business agility and to realize long-term value for their company.

Learn more with these additional resources:



Register for the full white paper:  
*Architect Business Transformation with AI and Hybrid Multicloud*

Get the white paper



Explore how IBM can help you unlock the full potential of cloud and AI:

[ibm.com/cloud/yourcloud](https://ibm.com/cloud/yourcloud)

# About the Analysts



**Chris Kanthan**  
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Chris covers research on cloud computing to provide insights into technology trends, customer needs, and opportunities. In his role as a thought leader and content creator, Chris provides detailed analyses, surveys, and reports on cloud computing and emerging technologies such as artificial intelligence, as well as market direction.

[More about Chris Kanthan](#)



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Research, Global AI Research Lead, IDC

Ritu is responsible for leading the development of IDC's thought leadership for AI research and management of the Worldwide AI Software research team. Her research focuses on the state of enterprise AI efforts and global market trends for the rapidly evolving AI and machine learning (ML) innovations and ecosystem. Ritu also leads insightful research that addresses the needs of the AI technology vendors and provides actionable guidance to them on how to crisply articulate their value proposition, differentiate, and thrive in the digital era.

[More about Ritu Jyoti](#)



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Michelle's focus is on articulating the short- and long-term impacts of emerging and disruptive technologies for enterprise IT vendors, IT professionals, and cloud service providers. This includes building market models, conducting voice-of-the-customer research, and leveraging advanced data analytics capabilities to provide clients with prescriptive guidance on how digital transformation will impact their business, as well as providing recommendations for how to future-proof their organizational strategy. Michelle is a sought-after speaker at industry and user events around the world and is frequently quoted in leading business and technology publications.

[More about Michelle Bailey](#)

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