luce

innovative technologies

App innovation unleashed: seven opportunities to innovate with intelligent, AI-powered apps

Get started

Microsoft

Introduction

Over the last several years, AI has:

- Fundamentally changed what businesses can accomplish with software and the expectations of te c h n ol ogy.
- Created new business opportunities.
- Reshaped industries.

These changes have allowed AI to evolve from a nice-to-have solution to a foundational tool for organizations to thrive in the years ahead. Already, businesses are seeing how implementing AI as a critical tool in their development processes supports lasting business impacts.

1. IDC Infographic, sponsored by Microsoft, The Business Opportunity of AI, doc #US51315823, November 2023

For every $1 companies invest in AI, they are realizing an average of $3.5 in return.1

92% of AI deployments are taking 12 months or less.1

Organizations are realizing a return on their AI investments within 14 months of deployments on average.1

As AI's business opportunities become more evident, many companies will ask themselves: *how can we infuse AI into new digital services and products and enhance our most critical applications to take advantage of intelligent apps?*

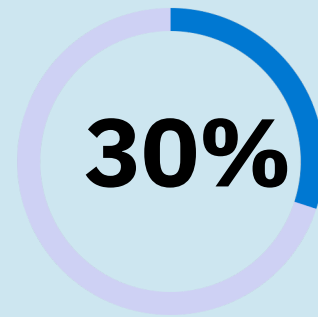# What are intelligent appl i c ati o ns ?

Intelligent apps use technology like AI, machine learning, natural language processing, and data analytics to enhance their capabilities and deliver efficient and personalized experiences to end-users. Some benefits of intelligent apps include:

Providing customers with next-gen AI-powered app experiences.

Delivering new products that deepen customer engagements faster.

Amplifying employee capabilities and empowering developers to innovate.

Scaling your business and reducing risks with future-ready technology.

30%

By 2026, 30% of new applications will use AI to drive personalized adaptive user interfaces, up from less than 5% today.2

Whether a business has already begun testing AI technology or not, the right solution can help it start future-proofing with AI technology today.

2. "Demand Grows for Intelligent Applications Powered by AI," Gartner, Jackie Wiles, 2023

Start building and modernizing intelligent apps with Microsoft Azure

When businesses build and modernize intelligent applications in Azure, they benefit from one of the largest interconnected networks, high availability, and trusted security and compliance. Azure brings together capabilities for modern app development, cloud-scale data, and leading generative AI in one place.

Additionally, as an established thought leader in AI, Microsoft offers AI solutions that follow Responsible AI principles so businesses can take advantage of technology that is developed responsibly and in ways that warrant people's trust.

How can you put this into practice?

Whether your organization is looking to build new, differentiated experiences or modernize existing apps, we can support your AI transformation with our Azure services, enabling you to create AI-powered digital experiences for your customers and employees.

Let's take a closer look at seven ways we can help your organization start building and modernizing AI-powered apps for your customers and employees.

Innovate with Azure

Businesses that build and modernize apps with Azure can experience

A **250%** return on investment. 3

A **10-25%** increase in developer productivity. 4

A **15-25%** improvement in engineer efficiencies gained in app delivery and operations. 5

An improved time to market by 1 month or more. [3]

3. "The Total Economic Impact Of Microsoft Azure App Innovation," a commissioned study conducted by Forrester Consulting, 2023
4. Source: According to the commissioned survey data, after implementing these modern app technologies, downtime related to applications decreased by an average of 15% to 25%. Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, April 2023.
5. Source: According to the commissioned survey data, after implementing these modern app technologies, downtime related to applications decreased by an average of 15% to 25%. Source: A commissioned study conducted by Forrester Consulting on behalf of Microsoft, April 2023.

Connected smart products

Connected, smart products and devices interact and exchange data, which can be used to create intelligent models and find insights. It is estimated that by the end of 2024, there will be over 207 billion devices connected to the Internet of Things (IoT).[4]

2B devices connected to IoT

Build smart products in Azure

Developers can use a platform like Azure Kubernetes Services to build and modernize cloud-native apps that support their connected smart products in the cloud. Additionally, developers can use databases, such as Azure Cosmos DB, to ingest, process, and analyze data at scale from the devices and run it through Azure OpenAI Service to provide end-users with personalized experiences and recommendations.

Azure provides organizations with a connected technology infrastructure that enables them to:

Continuously innovate and deliver timely product app updates.

Ingest vast amounts of data in real time to meet dynamic customer demands.

Implement AI algorithms on gathered data.

How are smart products being used today?

Remote asset monitoring

RFID IoT for inventory management

Medical devices/wearable fitness trackers

Customer in-store behavior analysis

Smart home automation

Demand forecasting

4. "IoT trends in 2024," FutureIoT, 2024

Transaction processing at scale

Some businesses need to process millions or billions of transactions daily while providing quick response times, maintaining system reliability and consistency, and scaling up as demand increases. Techniques to achieve transaction processing at scale include database sharing, data replication, distributed transactions, caching, and utilizing high-performance hardware or software.

How to handle more transactions with Azure

Azure offers a low-code solution that enables organizations to simplify the development of transactional apps and bring them to market faster. Transaction data can then be stored in Azure database services such as Azure SQL and Azure Cosmos DB and monitored with Azure AI to help identify anomalies and security threats in real-time. As more data is processed, developers can utilize services like Azure Machine Learning to improve app per f or m ance.

These solutions create new opportunities for businesses to

Improve security and meet industry-specific compliance standards and regulations governing transactional data.

Utilize distributed database systems that are increasingly used to handle large volumes of tr ans acti ons .

Automate routine tasks to improve overall efficiency in transaction pr oces s i n g.

Examples of transactions at scale

Sales, manufacturing, or shipping orders

Buy online, pick up in-store

Banking payments

Airline reservations

Employee payroll records

Patient appointment scheduling

Fraud detection

Companies need to be more vigilant than ever. In 2023, in the US, there were 2.6 million fraud reports and $10 billion reported lost due to fraud, making cybersecurity top of mind.[5] As security demands more of a focus, AI is being increasingly adopted to identify patterns, anomalies, or suspicious activity in real-time.

Mitigate fraud risks with Azure

The full breadth of Azure services enables businesses to analyze and mine through data to detect fraud. Advanced AI algorithms trained by Azure services, such as Azure Machine Learning, can analyze large datasets and identify fraudulent activity. Additionally, Azure AI services like Azure AI Document Intelligence help identify deviations in user behavior and transaction patterns to signal potential fraud.

As cyber threats continue to become more difficult to identify, Azure makes it easier for businesses to

> Update applications to track fraud patterns as they evolve.

> Spot anomalies in real-time as the volume of data grows.

> Build predictive models to identify patterns associated with fraudulent behavior using connected machine learning and AI technologies.

> " Insurance companies can lose hundreds of millions a year to fraud, and our ability to use Azure Machine Learning to identify correlations in the data and proactively tackle fraud has massive potential."
>
> Aaron Minkovich,
> Chief Technology Officer, Manulife

Discover why Manulife chose Azure to reimagine its digital strategy →

5. "Facts about fraud from the FTC – and what it means for your business," FTC, 2024

Service and support

Customer service and support leaders report implementing self-service resources, generative AI, and customer journey analytics as priorities in 2024.6 AI technology can improve customer service interactions and processes with chatbots and virtual assistants, voice and speech recognition, and self-service support portals.

Deliver better support experiences with AI

Azure database services such as Azure Cosmos DB store customer and user data so service representatives can access information faster and easier with simple search and filter features. Azure offers bot services like Azure AI Bot Service, and its integration of Power Virtual Agents enables developers of all skill levels to build conversational AI bots that enable customers to better engage with an organization. These improved engagements can include streamlining processes and answering common questions.

As service and support teams implement AI-powered solutions to support their processes, they benefit by:

| Improving costs with automation. | Enhancing efficiency and productivity. | Resolving issues proactively. | Personalizing customer engagements. | Increasing scalability. |

6. "Top Priorities for Customer Service Leaders in 2024," Gartner, 2024

Information discovery

Information discovery can be a competitive advantage with the right tools. These advantages include more accurate and relevant search results, curated content summaries, content generation, knowledge extraction and organization, trend and sentiment analysis, and automated report and research generation. Businesses need solutions that allow them to take advantage of their data to make informed decisions and stay ahead.

Stay ahead with Azure

Remove data silos with database services in Azure like Azure Cosmos DB and Azure Data Lake to store and organize information across the organization. Azure services like Azure AI Search and Azure AI Document Intelligence allow users to find the information they need quickly using machine learning capabilities. Additionally, Azure AI Search empowers developers to build search functionality into their apps.

These solutions give businesses an edge over their competitors as they can:

Access and analyze real-time data streams for timely information discovery.

Identify patterns and make predictions using pre-trained machine learning.

Analyze vast amounts of structured and unstructured data.

> Azure Cosmos DB as a globally distributed, scalable database enables the system to retain the previous customer conversations and preferences, allowing it to keep learning and become tailored to the driver."

Ivan Diaz, Principal Staff Engineer for AI Services, TomTom

See howTomTom brings AI-powered, talking cars to life with Azure →

Personalization

Around **75 percent of global customers expect improved personalization** when they share their data with businesses. Additionally, 73 percent indicated they anticipate a more personalized experience as technology advances.7 Businesses can offer more tailored experiences by:

Serving dynamic content based on user profiles and behaviors.

Recommending products and ser vices.

Streaming service content recommendations.
Using targeted online ads.

Personalize the customer experience with Azure

Apps built using Azure Kubernetes Service can store raw data in Azure database services like Azure Cosmos DB to generate events based on user actions that trigger applications downstream or work with conversation agents using Azure AI services Azure AI Bot Service to update the profile. Azure services like Azure Machine Learning can then create a persona based on past behaviors to align with available offers or promotions to present to the customer. Developers can add filters based on previous customer interactions with the customer and any known preferences for a tailored experience.

Azure's fully connected services enable businesses to:

Integrate multiple data types such as consumer behavior, inventory, and sales performance.

Make accurate predictions and suggestions using pre-trained machine learning algorithms that learn from user data.

Scale to meet peak demand for

volatile workloads.

7. "Circumstances which customers expected better personalization worldwide in 2023," Statista, 2023

Build your own copilot

As the need to innovate and deliver unique experiences for both customers and employees increases, copilots offer organizations the opportunity to go beyond traditional chatbots. AI-powered copilots are a new breed of intelligent apps that enable rich and contextual interactions and surface insights over vast amounts of enterprise data.

Unlock new possibilities with Azure

Azure AI services like Azure OpenAI Service make it possible for companies to build copilots to address business challenges, customer demands, and employee needs as they arise. Search services in Azure like Azure AI Search allow users to uncover these insights in data stored in an Azure database like Azure Cosmos DB to:

Add interactive, natural-language user interfaces to digital experiences.

Serve more relevant search results faster.

Bring ChatGPT-like experience to digital properties.

Embrace innovation with our services and Azure

Now is the time to set your business up for success by building and modernizing intelligent apps powered by AI technology. Whether you have started adopting AI into your tech stack or are early on in your digital transformation, Azure brings together the power of leading generative AI technology, responsible AI principles, cloud-scale data, and modern app platforms to enable you to create AI-powered digital experiences for customers and employees. We have the Microsoft expertise to assess your business needs and help you build the intelligent applications you need for market differentiation.

Contact our team today if you're ready to learn how we can guide your organization in

taking advantage of the Azure platform of managed AI, application development platforms, and database services for continuous innovation.

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