

Generative AI for the Future of Application Services – Propelling Productivity and Reshaping Cost Paradigms

January 2024: Complimentary Abstract / Table of Contents



Our research offerings

This report is included in the following research program(s):

Application Services

- ▶ Amazon Web Services (AWS)
- ▶ Application Services
- ▶ Artificial Intelligence (AI)
- ▶ Asset and Wealth Management
- ▶ Banking and Financial Services Business Process
- ▶ Banking and Financial Services Information Technology
- ▶ Catalyst™
- ▶ Clinical Development Technology
- ▶ Cloud and Infrastructure
- ▶ Contingent Staffing
- ▶ Contingent Workforce Management
- ▶ Customer Experience Management Services
- ▶ CX Excellence
- ▶ CXM Technology
- ▶ Cybersecurity
- ▶ Data and Analytics
- ▶ Digital Adoption Platforms
- ▶ Digital Services
- ▶ Digital Workplace
- ▶ Employee Experience Management (EXM) Platforms
- ▶ Employer of Record (EOR)
- ▶ Engineering Research and Development
- ▶ Enterprise Platform Services
- ▶ Exponential Technologies
- ▶ Finance and Accounting
- ▶ Financial Services Technology (FinTech)
- ▶ Forces and Foresight
- ▶ GBS Talent Excellence
- ▶ Global Business Services
- ▶ Google Cloud
- ▶ HealthTech
- ▶ Human Resources
- ▶ Insurance Business Process
- ▶ Insurance Information Technology
- ▶ Insurance Technology (InsurTech)
- ▶ Insurance Third-Party Administration (TPA) Services
- ▶ Intelligent Document Processing
- ▶ Interactive Experience (IX) Services
- ▶ IT Services Excellence
- ▶ IT Talent Excellence
- ▶ Life Sciences Business Process
- ▶ Life Sciences Commercial Technologies
- ▶ Life Sciences Information Technology
- ▶ Locations Insider™
- ▶ Marketing Services
- ▶ Market Vista™
- ▶ Microsoft Azure
- ▶ Microsoft Business Application Services
- ▶ Modern Application Development (MAD)
- ▶ Mortgage Operations
- ▶ Multi-country Payroll
- ▶ Network Services and 5G
- ▶ Oracle Services
- ▶ Outsourcing Excellence
- ▶ Payer and Provider Business Process
- ▶ Payer and Provider Information Technology
- ▶ Price Genius – AMS Solution and Pricing Tool
- ▶ Pricing Analytics as-a-Service
- ▶ Process Intelligence
- ▶ Process Orchestration
- ▶ Procurement and Supply Chain
- ▶ Recruitment
- ▶ Retail and CPG Information Technology
- ▶ Retirement Technologies
- ▶ Revenue Cycle Management
- ▶ Rewards and Recognition
- ▶ SAP Services
- ▶ Service Optimization Technologies
- ▶ Software Product Engineering Services
- ▶ Supply Chain Management (SCM) Services
- ▶ Sustainability Technology and Services
- ▶ Talent Genius™
- ▶ Technology Skills and Talent
- ▶ Trust and Safety
- ▶ Value and Quality Assurance (VQA)

If you want to learn whether your organization has a membership agreement or request information on pricing and membership options, please contact us at info@everestgrp.com

Learn more about our
custom research capabilities

Benchmarking

Contract assessment

Peer analysis

Market intelligence

Tracking: providers, locations,
risk, technologies

Locations: costs, skills,
sustainability, portfolios

Contents

1. Introduction and overview	5
• Research methodology	6
• Background of the research	7
• Evolution of gen AI	8
• Recent developments and investments in gen AI	9
• How is gen AI different from traditional AI?	10
• The layer of gen AI	11
2. Adoption of gen AI in application lifecycle	15
• Level of adoption across the value chain	16
• Requirement analysis and scoping	17
• Design and development	18
• Quality assurance	19
• Deployment and integration	20
• Maintenance and support	21
• Consideration for build vs buy vs partner	22
• Consideration for provider selection	23
• Service provider partnerships with technology providers	24
3. Productivity and cost savings with gen AI in application lifecycle	25
• Dilemma of enterprises	26
• Impact of gen AI on productivity and creativity	27

For more information on this and other research published by Everest Group, please contact us:

Yugal Joshi, Partner

Ankit Gupta, Practice Director

Mohammed Riyaz, Senior Analyst

Contents

- Productivity enhancement with complexity of tasks 28
- Framework to balance the productivity gains and creativity impact 29
- 4. Risks and potential solutions in the near to long term 30**
- Major concerns from gen AI 31
- Current solutions and potential solutions in long term 32
- Enterprise governance for gen AI 33
- 5. Featured analysis – Generative AI for Application Management Services (AMS) 34**
- Level of adoption across the AMS value chain 36
- 6. Appendix 37**
- Glossary 38
- Research calendar 39

Background of the research

- Generative AI (Gen AI) as a technology has been around for the last five decades; however, recent developments in the maturity of AI models, faster computation power of systems, and the availability of high-quality training data for the models have redefined the technology in 2023
- There is a huge surge of use cases served by custom-built applications on top of the foundational models of Gen AI and the market is being flooded by a plethora of start-ups in the space
- While big giants such as Microsoft, Google, and Meta fight hard to dominate the Gen AI landscape, the market is experiencing huge investments from leading technology providers such as Adobe, Salesforce, and Oracle as well
- Enterprises in the financial services space such as Morgan Stanley and retailers such as Levi Strauss have already begun to operationalize multiple innovative use cases of Gen AI for business
- In this research, Everest Group has taken the opportunity to highlight the potential of Gen AI in application services and its adoption across the application development lifecycle. We also emphasize on the future implications of the technology for both enterprises and service providers
- As the technology still has several limitations when it comes to its full-fledged commercial adoption, both service providers and technology vendors are working relentlessly to mitigate the risks associated with Gen AI technology

Scope of this report



Geography
Global



Technology
Generative Artificial Intelligence (Gen AI)

Overview and abbreviated summary of key messages

In this research, Everest Group has taken the opportunity to highlight the potential of Gen AI in application services and its adoption across the application development lifecycle. We also emphasize on the future implications of the technology for both enterprises and service providers. As the technology still has several limitations when it comes to its full-fledged commercial adoption, both service providers and technology vendors are working relentlessly to mitigate the risks associated with Gen AI technology.

Some of the findings in this report, among others, are:

Navigating the generative AI wave

- Generative AI, a concept not new to the tech landscape, has witnessed decades of exploration in content generation
- Industry leaders express optimism about its potential, while others cautiously navigate ethical considerations, shaping the ongoing narrative of this transformative technology

Strategic choices in the generative AI landscape

- Enterprises embarking on the generative AI journey navigate varying adoption speeds across use cases, prompting critical decisions between building, buying, or partnering
- Prioritizing use cases demands thorough evaluation based on domain expertise, ease of adoption, and cost considerations, while a collaborative trend emerges as service providers forge alliances to enhance their generative AI capabilities

Challenge in adopting generative AI

- The challenge in adopting generative AI lies in finding equilibrium between enhancing productivity and preserving creativity
- As generative AI demonstrates varied time savings in development tasks, the pivotal tradeoff between individual performance gains and collective creativity loss necessitates a dynamic framework that synergizes AI capabilities with human ingenuity

Addressing the concerns of generative AI

- Generative AI holds substantial promise for IT services, yet concerns persist, emphasizing the need for a delicate balance of technological advancements and human engagement to mitigate challenges
- Successful adoption hinges on well-structured enterprise governance, fostering ongoing innovation and facilitating scaled integration of generative AI initiatives throughout the organization

This study offers distinct chapters providing a deep dive into key aspects of generative AI market; below are four charts to illustrate the depth of the report

Adoption of generative AI in application life cycle

Future potential of adopting generative AI: ■ Low ■ Medium ■ High

Requirement analysis and scoping	Design and development	Quality assurance	Deployment and integration	Maintenance and support
Requirements analysis	Code generation	Test case generation	Configuration script generation	Troubleshooting
Document generation	Design automation	Test data creation	Deployment configuration validation	Performance monitoring
Persona creation	Code refactoring/optimization	Test case simulation	Data mapping optimization	Knowledge base management

Service providers are partnering with technology providers to boost their capabilities

Partnership levels with SI peers: ■ Low ■ Medium ■ High

Impact areas and benefits of generative AI in development

Suggest code snippets	Increasing code speed and accuracy	Automatic refactoring	Repetitive code creation
aws Amazon CodeGuru, streamlines Software Development Life Cycle (SDLC) by automating code reviews, enhancing app performance, and integrating with AWS services for superior code quality.			■
GitHub GitHub Copilot streamlines SDLC, automating code completion, boosting productivity, and minimizing developer effort.			■
tabnine Generative AI code completion tool for Java, Python, and C++, it indexes and suggests code based on writing patterns. Advanced AI features include auto-completion, auto-tests, syntax highlighting, and IDE integration.			■
replit Replit Ghostwriter is an ML-powered tool that provides code completion, generation, transformation, and in-editor search capabilities.			■
OpenAI Codex, an OpenAI GPT-3 based model, generates code in multiple programming languages, including Python, JavaScript, Go, Perl, PHP, Ruby, Swift, TypeScript, and Shell.			■

Generative AI offers varying time savings in development tasks

Productivity gains vs complexity

- Generative AI has maximum impact on less complex tasks such as code documentation and refactoring
- The productivity gains also varied with the experience of developers
- Developers with more experience witnessed a lower productivity gain
- Generative AI has maximum impact on junior developers performing simpler tasks

Concerns associated with generative AI

Data reliability	Cost	Data privacy and security
Technology and processing needs	Ethical implications	Regulatory and legal challenges

Research calendar

Application Services

■ Published
 ■ Planned
 ■ Current release

Reports title	Release date
Low-Code Application Development Services PEAK Matrix® Assessment 2023	April 2023
Application Automation Services PEAK Matrix® Assessment 2023	May 2023
Sustainability in Software – Paving the Way for a Greener IT Landscape	June 2023
Low-Code Application Development Services – Provider Compendium 2023	August 2023
Application Automation Services – Provider Compendium 2023	August 2023
Quality Engineering (QE) Specialist Services PEAK Matrix® Assessment 2023	September 2023
Application Services State of the Market 2023	September 2023
Next-generation Quality Engineering (QE) Services PEAK Matrix® Assessment 2023	October 2023
Low-Code Application Development Platforms PEAK Matrix® Assessment 2023	November 2023
Quality Engineering (QE) Specialist Services – Provider Compendium 2023	November 2023
Next-generation Quality Engineering (QE) Services – Provider Compendium 2023	January 2024
Generative AI for the Future of Application Services – Propelling Productivity and Reshaping Cost Paradigms	January 2024
Application Transformation Services PEAK Matrix® Assessment 2024 – North America	Q1 2024
Low-code Application Development Platforms Provider Compendium 2024	Q1 2024

Note: [Click](#) to see a list of all of our published Application Services reports



Everest Group is a leading research firm helping business leaders make confident decisions. We guide clients through today's market challenges and strengthen their strategies by applying contextualized problem-solving to their unique situations. This drives maximized operational and financial performance and transformative experiences. Our deep expertise and tenacious research focused on technology, business processes, and engineering through the lenses of talent, sustainability, and sourcing delivers precise and action-oriented guidance. Find further details and in-depth content at www.everestgrp.com.

Stay connected

Dallas (Headquarters)
info@everestgrp.com
+1-214-451-3000

Bangalore
india@everestgrp.com
+91-80-61463500

Delhi
india@everestgrp.com
+91-124-496-1000

London
unitedkingdom@everestgrp.com
+44-207-129-1318

Toronto
canada@everestgrp.com
+1-214-451-3000

Website
everestgrp.com

Social Media
 @EverestGroup
 @Everest Group
 @Everest Group
 @Everest Group

Blog
everestgrp.com/blog

NOTICE AND DISCLAIMERS

IMPORTANT INFORMATION. PLEASE REVIEW THIS NOTICE CAREFULLY AND IN ITS ENTIRETY. THROUGH YOUR ACCESS, YOU AGREE TO EVEREST GROUP'S TERMS OF USE.

Everest Group's Terms of Use, available at www.everestgrp.com/terms-of-use/, is hereby incorporated by reference as if fully reproduced herein. Parts of these terms are pasted below for convenience; please refer to the link above for the full version of the Terms of Use.

Everest Group is not registered as an investment adviser or research analyst with the U.S. Securities and Exchange Commission, the Financial Industry Regulatory Authority (FINRA), or any state or foreign securities regulatory authority. For the avoidance of doubt, Everest Group is not providing any advice concerning securities as defined by the law or any regulatory entity or an analysis of equity securities as defined by the law or any regulatory entity.

All Everest Group Products and/or Services are for informational purposes only and are provided "as is" without any warranty of any kind. You understand and expressly agree that you assume the entire risk as to your use and any reliance upon any Product or Service. Everest Group is not a legal, tax, financial, or investment advisor, and nothing provided by Everest Group is legal, tax, financial, or investment advice. Nothing Everest Group provides is an offer to sell or a solicitation of an offer to purchase any securities or instruments from any entity. Nothing from Everest Group may be used or relied upon in evaluating the merits of any investment. Do not base any investment decisions, in whole or part, on anything provided by Everest Group.

Products and/or Services represent research opinions or viewpoints, not representations or statements of fact. Accessing, using, or receiving a grant of access to an Everest Group Product and/or Service does not constitute any recommendation by Everest Group that recipient (1) take any action or refrain from taking any action or (2) enter into a particular transaction. Nothing from Everest Group will be relied upon or interpreted as a promise or representation as to past, present, or future performance of a business or a market. The information contained in any Everest Group Product and/or Service is as of the date prepared, and Everest Group has no duty or obligation to update or revise the information or documentation. Everest Group may have obtained information that appears in its Products and/or Services from the parties mentioned therein, public sources, or third-party sources, including information related to financials, estimates, and/or forecasts. Everest Group has not audited such information and assumes no responsibility for independently verifying such information as Everest Group has relied on such information being complete and accurate in all respects. Note, companies mentioned in Products and/or Services may be customers of Everest Group or have interacted with Everest Group in some other way, including, without limitation, participating in Everest Group research activities.