

Global Generative Artificial Intelligence (AI) Market Assessment, By Component [Software-On Premises, Cloud Based; Services-Managed Service, Professional Service], By Technology [Transformers, Diffusion Networks, Generative Adversarial Networks (GANs), Variational Auto-Encoders], By End-user [Banking, Financial Services and Insurance (BFSI), Educational, ICT and Telecommunications, Healthcare, Media and Entertainment, Automotive, and Transportation, Others], By Region, Opportunities and Forecast, 2016-2030F

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Abstracts

Global Generative Artificial Intelligence (AI) Market size was valued at USD 6.93 billion in 2022 which is expected to reach USD 72.80 billion in 2030 with a CAGR of 35.95% for the forecast period between 2023 and 2030. Generative AI has several benefits, including increased understanding of abstract ideas, effective production of high-quality material, and enhanced identity protection. Because of this, generative AI is widely used in a variety of sectors, including information and technology (IT), robotics, entertainment, marketing, healthcare, education, banking, financial services, and insurance (BFSI). The availability of large data sets, increasing demand for deep learning, and expansion of the Internet of Things (IoT) are driving the market expansion.

Moreover, for spam identification, image compression, and processing data stages like eliminating noise from visual data to improve picture quality, generative AI uses unsupervised learning techniques. In addition, supervised learning algorithms are

employed in image categorization and medical imaging. Owing to its various benefits, many companies are exploring their way into the market. For example, the release of ChatGPT generative AI by a startup named OpenAI has sparked competition among big tech giants such as Google and others to create technology that has the potential to revolutionize civilization.

The market is driven due to the integration of AI in autonomous vehicles as well. For example, Tesla is developing autonomous algorithms utilizing data from car sensors. Also, while communicating with potential clients, marketers are increasingly utilizing AI tactics, notably in the areas of data collecting and message targeting. Approximately 68% of B2B marketers adopt automation as part of their marketing strategy. Similarly, Netflix is a prime example of leveraging generative AI for personalized recommendations. The company's recommendation algorithm analyses user viewing patterns, ratings, and other data to generate personalized recommendations for each user, increasing user engagement and retention. However, the shortage of specialized labor and high implementation costs restrain the growth of this sector, and generative AI has security vulnerabilities that might lead to greater identity theft.

Rising Adoption Owing to its Advantage of Automation

One of the key benefits of generative AI is that it can automate processes like product design, content production, and data analysis that often require human input. Since Generative AI can produce content that appears to be identical to human-created output, many businesses are looking to simplify their processes and allocate more of their human resources to other projects. By integrating hyper-automation technologies such as generative AI, machine learning, and robotic process automation (RPA), etc., with improved operational procedures, organizations are expected to reduce operational expenses by 30%. Moreover, generative AI frequently outperforms humans in these activities, resulting in increased productivity and quality. According to the National Bureau of Economic Research, generative AI increases productivity by approximately 14%.

Integration of Generative AI by Big Firms

While the economic recession in the United States and Europe has clouded the prognosis for discretionary spending, the adoption of Generative AI provides room for many big companies to expand budgets with an aim to enhance productivity and provide more value to consumers. Technical budgets are expected to continue to grow as savings from generative AI adoption are reinvested in new programs.

In 2023, NVIDIA, a leading manufacturer of high-end graphics processing units (GPUs), declared to incorporate generative AI into every product, service, and business activity. Shift from general-purpose to accelerated computing will result due to the firm's trillion dollars of deployed global data center equipment. Similarly, Myntra, a fashion shopping site owned by the Flipkart group, has launched 'MyFashionGPT,' a search tool powered by ChatGPT. This latest invention enables consumers to convey their fashion demands, allowing them to select their preferences from over 2 million designs. Additionally, the company announced the debut of 'MyStylist', an AI-based stylist expert that gives users professional style suggestions and vernacular searches in 11 languages on its platform.

Government Initiatives and Regulations

Governments worldwide are actively supporting the generative AI market through a range of initiatives. Their efforts include providing funding and grants, establishing research and innovation centers, developing policies and regulations, promoting talent development and education, fostering industry collaboration and partnerships, and investing in AI infrastructure.

Ministry of Electronics and Information Technology (MeitY) launched Digital India Bhashini as an independent business division, which is based on Chat-GPT, which would assist students in learning scientific and technological topics in their own language .

Moreover, The European Union has proposed new copyright restrictions for generative AI. Companies adopting generative AI tools, such as ChatGPT, will be required to declare any copyrighted information utilized in the creation of their systems, as per an early EU agreement that pave the way for the world's first comprehensive legislation controlling the technology.

Healthcare Industry Contributing to Market Expansion

The generative AI market is primarily driven by the healthcare sector, and in the years to come, further expansion and innovation are expected to boost the market. Generative AI is expected to assist or enhance 40% of all healthcare labor hours. Medical imaging is utilizing generative AI to enhance illness diagnosis. These systems learn to recognize patterns and anomalies that are hard for human doctors to spot by examining massive datasets of medical radiographic films. Moreover, generative AI helps in building

biological molecules, prosthetic limbs, and other things from scratch when used in conjunction with 3D printing, CRISPR, and other technologies. Moreover, it results in early cancer diagnosis and more efficient treatment regimens.

North America Making Significant Contributions

Owing to the presence of many market players and government support, North America has emerged as a dominant region in the adoption and development of generative AI. The United States, particularly the Silicon Valley area in California, has been at the forefront of generative AI research and development. Many leading technology companies and research institutions in the U.S., such as OpenAI, Google, Facebook, NVIDIA, and IBM have made substantial contributions to advancing generative AI technologies. In addition, the United States' National Science Foundation (NSF) announced the establishment of 11 new NSF National Artificial Intelligence Research Institutes and announced an additional USD 140 million investment for the setup which broadens the scope of these institute to cover 40 states and the District of Columbia.

Impact of COVID-19

Due to the COVID-19 pandemic, there have been several effects on the global market for generative AI. Several companies have been pressured to reduce expenses, and purchases of generative AI technology have either been postponed or abandoned. However, the need for generative AI solutions has increased significantly in several industries. For instance, the need for AI-powered medical diagnosis and treatment solutions has surged in the healthcare sector. The virus outbreak has also boosted the need for remote work solutions, which has raised the need for chatbots and virtual assistants, thereby boosting the global generative AI market.

Key Players Landscape and Outlook

Solutions for a wide range of applications, including text-to-image, image-to-image, and super-resolution, are provided by several market participants in generative AI. Market players are engaged in active acquisitions and mergers with the motive to dominate the industry. Apart from this, companies are integrating AI in pre-existing software. For instance, Microsoft Corp., a software firm based in the United States, announced Microsoft 365 Copilot , an AI assistant feature for Microsoft 365 services and apps, in March 2023. Businesses may benefit from Microsoft 365 Copilot by saving time, simplifying and automating IT operations, and improving productivity.

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*Companies mentioned above DO NOT hold any order as per market share and can be changed as per information available during research work

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