



## Asian Journal of Management and Commerce

E-ISSN: 2708-4523

P-ISSN: 2708-4515

AJMC 2025; 6(2): 136-143

© 2025 AJMC

[www.allcommercejournal.com](http://www.allcommercejournal.com)

Received: 03-06-2025

Accepted: 04-07-2025

**Dr. Mukesh Kumar Verma and**  
Assistant Professor,  
Department of Accountancy &  
Business Statistics, University  
of Rajasthan, Jaipur,  
Rajasthan, India

**Akash Thakur**  
Research Scholar, Department  
of Accountancy & Business  
Statistics, University of  
Rajasthan, Jaipur, Rajasthan,  
India

**Corresponding Author:**

**Dr. Mukesh Kumar Verma and**  
Assistant Professor,  
Department of Accountancy &  
Business Statistics, University  
of Rajasthan, Jaipur,  
Rajasthan, India

# Study of investment in artificial intelligence industry across the world

**Mukesh Kumar Verma and Akash Thakur**

**DOI:** <https://www.doi.org/10.22271/27084515.2025.v6.i2b.644>

## Abstract

Artificial intelligence plays a vital role. The term AI was first used in 1955, and since then, much progress has been made. Investment is considered as one of the parameters of growth in any field, and this study investigates the same. The main objective is to know that how is AI market growing and what kind of investment is being made in this area worldwide. The world is classified into four parts for this purpose. The study is based on various published sources. Therefore, explorative research is used here. It is found that post 2000, a notable increase in investment was seen and highest investment in this sector was made by the US and China. India stands at fourth now. So, it is concluded that North America is at top and after which Asia and Europe come into the list. Finance, healthcare, automotive, retail and software development are found as the key attractor of AI investment. The conclusion says that AI industry has a rich future and countries other than US, China and existing one will also invest significantly in it.

**Keywords:** AI industry, Artificial intelligence, investment, global market, economic growth

## Introduction

### 1. Background of Artificial Intelligence & AI Investment

Information & technology systems have a significant effect on every type of activities in present world. These types of technologies have been developing tremendously in 21<sup>st</sup> century. Industry 4.0, technologies are shaping themselves to expand the role of IT in almost every part of work, and Artificial intelligence is collaborating between robotics and people (Javaid, Haaleem, Singh, & Suman, 2022) <sup>[20]</sup>. Industry 4.0 is a combination of tangible things and advanced technologies, such as AI and cloud work. Industry 5.0, the upcoming one of previous generation, is designed for efficient machines (Adel, 2022) <sup>[1]</sup>.

If one has to understand about artificial intelligence, it can be said that it is a field of computer science that is devoted to creating machines that are capable of learning, thinking, problem-solving, perceiving, and performing tasks that call for human intelligence (Collins, Denis, Conboy, & Mikalef, 2021) <sup>[18]</sup>. Artificial Intelligence has the potential and capabilities of this technology, which simulates human intelligence and thoughts similar to humans. Researchers started looking into ways to build machines that might resemble human intelligence in the middle of the 20th century, when artificial intelligence first emerged. John McCarthy initially used the word "Artificial Intelligence" at the Dartmouth Conference in 1955, which signified the start of AI as a separate academic discipline (McCarthy, Minsky, Rochester, & Shannon, 1955; Ritcher, Marin, Bond, & Gouverneur, 2019) <sup>[23, 26]</sup>.

The classification of AI is not specific everywhere, and different researchers, scholars and specialists use different methods to elaborate AI. Eight key components have been discussed regarding AI; Natural Language Processing (NLP), Machine Learning, Computer Vision, Robotics, Knowledge Representation, Decision Making, Reasoning and Natural Interaction (Rashid & kaushik, 2024) <sup>[25]</sup>. According to Russell and Norvig (2020) <sup>[28]</sup>, artificial intelligence (AI) is a general term used to model human cognitive processes using machines, including learning, problem-solving, reasoning, and perception. It includes several methods that allow computers to perform intricate tasks, such as machine learning, deep learning, and natural language processing. For instance, self-driving cars rely on computer vision and machine learning to move safely, whereas AI-powered virtual assistants like Siri and Alexa employ natural language processing to comprehend and react to spoken instruction (Goodfellow, Bengio, & Courville, 2016) <sup>[14]</sup>.

AI has a broad impact across industries, as evidenced by its application in healthcare for disease diagnosis and in finance for fraudulent transaction detection (Esteva, *et al.*, 2017) <sup>[11]</sup>.

Global investments in artificial intelligence (AI) have increased dramatically, demonstrating the potential of technology to revolutionize many industries. The overall amount of AI investments increased from \$18 billion to \$119 billion between 2014 and 2021, with generative AI making up about 30% of these investments by 2023. This significant increase demonstrates the growing global interest in and trust in AI technology. The United States has been at the forefront of AI development on a regional scale, outpacing other countries in terms of venture capital funding, companies, and AI patents awarded between 2017 and 2021. Significant investments in AI have been made by major U.S. tech businesses; by early 2024, OpenAI was valued at \$86 billion, and by mid-2024, NVIDIA had surpassed \$3.3 trillion in market capitalisation, making it the largest company in the world. The European Union introduced the InvestAI project in Europe, a €200 billion program designed to support the development of AI. Of this amount, €20 billion will be used to build four AI gigafactories that will train extremely complicated models. With approximately €110 billion committed to its AI sector, including sizeable contributions from foreign organizations, France has also experienced a large influx of private investment. With the United Arab Emirates making calculated efforts to establish itself as a global AI hub, the Middle East has become a significant participant in the AI space. The national security adviser for the United Arab Emirates, Sheikh Tahnoun bin Zayed Al Nahyan, is making large investments in artificial intelligence (AI), including a \$50 billion fund named MGX.

Rapid expansion and regional diversification have defined the global AI investment environment. Significant investments in Europe and the Middle East have demonstrated a worldwide commitment to promoting AI technology, even though the United States remains at the forefront of AI development. Stakeholders must however, continue to be on the lookout for any economic hazards connected to this quick expansion of investment.

## 2. Importance of AI Investments in global economic growth

In the modern world, artificial intelligence (AI) is vital because it spurs innovation, improves productivity, and changes industries. Automation driven by AI increases productivity in industries such as manufacturing, banking, and healthcare by reducing human labor and minimizing mistakes. AI greatly improves patient outcomes in healthcare by enabling robot-assisted operations, personalized medicine and early disease identification. AI driven algorithms in finance improve risk assessment and fraud detection, thereby guaranteeing safe and effective transactions. AI also drives intelligent transportation systems such self-driving cars and intelligent traffic control, which minimize collisions and improve traffic flow. Additionally, chatbots and virtual assistants powered by AI-driven natural language processing improve customer service and enhance user experience and corporate productivity. Artificial Intelligence (AI) investments have the potential to revolutionize many industries and are essential for the expansion of the world economy. AI boosts

productivity and fosters creativity by automating repetitive operations and streamlining intricate procedure. The relationship between technical developments such as AI and economic growth has been thoroughly examined by economist Erik Brynjolfsson, who has shown how these innovations enhance productivity and the well-being of society. The direction of a country's economy is also significantly influenced by strategic investments in AI. For example, China's government has pledged to achieve a 5% economic growth goal by 2025, with a particular emphasis on high-tech sectors like artificial intelligence and green engineering. This strategy emphasizes how AI can modernize sectors and support economic growth. In an effort to diversify its economy away from oil, the United Arab Emirates is investing a significant amount of money in artificial intelligence. By positioning Abu Dhabi as a global AI powerhouse, MGX hopes to attract top tech companies worldwide and promote innovation. However, prudence is required due to the sharp increase in AI investments. The \$340 billion increase in AI spending by major tech corporations has sparked concerns about possible economic bubbles. Deutsche Bank researchers caution that if these investment booms are not handled carefully, they may result in economic downturns similar to previous financial crises.

### Objectives of the study

The following research goals should be considered to thoroughly examine the expansion of the artificial intelligence (AI) sector worldwide. The aim of this study is to determine the investments made worldwide in the field of Artificial Intelligence and how Artificial Intelligence is being used sector-wise across the world.

### So, objectives of the research are:-

1. To assess the global market trends and projections,
2. To identify key industries for AI market,
3. To evaluate regional growth patterns,
4. To investigate future outlook.

### Research Questions

#### So, the questions raised from the above objectives are:-

1. What are the differences in market sizes and growth rates for the AI industry among North America, Europe, and Asia-Pacific?
2. How is artificial intelligence incorporated into the operations of sectors such as manufacturing, healthcare, and finance etc.?
3. What are the trends of investment in Artificial Intelligence across the globe & what are future expectations?

### Research Methodology

This study aims to search for funding and investments scenarios worldwide. The data have been used from various reports, articles and research papers. This study aims to find some notable points regarding AI investment, and thus, explorative research has been conducted here. Classification of taken geographical areas have been done on the basis of major economic countries or a combination of them. Therefore, in this study, world is mainly classified into four categories: 1) North America, 2) Europe, 3) Asia-Pacific, and 4) Other.

**Historical Trends in AI Investment:** The development of

artificial intelligence (AI) investments can be divided into discrete stages, each of which reflects the economic climate and technological development of the era.

**1. Early Investments in AI (1950s-1990s):** Anticipation greeted AI research in the 1950s, which resulted in early financing that came mostly from government sources. Nonetheless, the field went through "AI winters," or times when funding and interest were low, particularly from 1974 to 1980 and 1987 to 2000. Significant reductions in research funding have resulted from these downturns, which were frequently caused by unfulfilled expectations and technological constraints.

**2. AI Investment Growth during the Rise of Machine Learning (2000s):** An important period for artificial intelligence (AI) was the 2000s, which saw a rise in funding and notable developments in machine learning. The renewed interest in AI during this period resulted in more investment from the public and business sectors. The dot-com bubble, a time of excessive investment in internet-based businesses that peaked in 2000, had an impact in the early 2000s. The investment conditions became more conservative as a result of the ensuing crash. Investments in venture capital, which rose in the late 1990s, fell precipitously. The venture capital sector shrank to approximately half its size in 2001 by the middle of 2003. The mid-2000s saw a resurgence in AI research, especially in machine learning, despite the initial decline. This comeback was facilitated by the availability of massive datasets, greater processing capacity, and algorithmic advancements. Businesses started to see how machine learning could boost efficiency and innovation in a variety of industries. Although there are few precise data on AI investments made in the 2000s, the decade laid the groundwork for the significant expansion seen in the years that followed. For example, it was predicted that global sales of AI and cognitive systems would rise from \$12.5 billion in 2017 to over \$46 billion by 2020. This growth graph demonstrates the growing trust and enthusiasm for AI technology that began in the 2000s. The 2000s were a pivotal decade for AI, with renewed emphasis on machine learning advancements replacing the cautious investment atmosphere that followed the dot-com bubble. The foundation for the subsequent decades of phenomenal rise in AI funding and applications was established during this time.

**3. Deep Learning revolution and surge in AI Funding (2010s-Present):** Due largely to developments in deep learning, the 2010s were a pivotal decade in artificial intelligence (AI), and as a result, funding for AI increased significantly. Global AI funding increased exponentially between 2016 and 2018, more than doubled between 2016 and 2017, and tripled by 2018. Advances in AI domains, industry maturation, and geopolitical competitiveness are some of the factors contributing to this surge. A major factor was technological competition between China and the United States, as both countries greatly increased their spending in artificial intelligence. China received 44% of worldwide AI funding in 2018, compared to 41% from the United States. During this time, the AI sector also developed, as seen by the move to later-stage investment. While Series A rounds almost doubled and Series B to late-

stage rounds increased from 15% to 35% during the same time period, seed investment rounds fell from almost 70% in 2013 to just over 25% in 2018. Funding for certain AI fields such as computer vision (CV) and machine learning (ML) has increased significantly. While CV-related categories increased from roughly \$1 billion to \$8 billion over the same period, ML-related investments increased from about \$4 billion in 2016 to about \$15 billion in 2018. AI startup financing hit all-time highs in the 2020s as a result of this investment momentum. Nearly half of the \$209 billion raised by U.S. entrepreneurs in 2024 came from funding for AI businesses alone, which brought in \$97 billion. As businesses look to create more affordable AI models, the emergence of deep learning has also impacted investment choices. Large language models may now be produced at much lower costs owing to methods such as model distillation. For example, research teams from UC Berkeley and Stanford produced competitive models with training costs of less than \$1,000, whereas Deep Seek built models with training costs of almost \$5 million. From the 2010s to the present, the deep learning revolution has sparked an unparalleled increase in AI funding. Geopolitical variables, scientific advancements, and changing investment approaches have changed the AI funding environment and established AI as a key force behind both technological and economic advancement.

## Global Landscape of AI Investment

### 1. Market Size and Valuation of AI Industry Investments

The market size and investment valuations of the Artificial Intelligence (AI) sector have grown significantly in recent years. In 2023, the worldwide AI market was estimated to be worth USD 515.31 billion, per Fortune Business Insights survey. It is anticipated to increase at a compound annual growth rate (CAGR) of 20.4% from USD 621.19 billion in 2024 to an estimated USD 2,740.46 billion by 2032. With \$67.2 billion in 2022- much more than other countries- regional investments show the US to be the world leader in private AI investments. China, however, demonstrated its significant commitment to AI development by reaching \$7.8 billion in private AI investments that same year. Significant investments in infrastructure, especially in data centers, have also fueled the AI sector. According to projections, the market for hardware and software related to data centers and artificial intelligence may expand by 40% to 55% a year, reaching \$1.4 trillion by 2027. Significant investments in AI technologies are being made by large organizations. For example, Nvidia's data-center revenue forecasts have been updated to reflect the growing demand for AI infrastructure, with lifetime revenue estimates rising from \$200 billion to \$600 billion.

### 2. AI Investment trends by region

**2.1 North America (USA, Canada):** With large sums of money entering into software and infrastructure development, the US has been a leading investor in AI. Nearly half of the \$209 billion raised by U.S. companies in 2024 came from AI startups, which raised a record \$97 billion. With investment businesses such as the Brookfield Corporation allocating substantial cash to AI initiatives, including a €20 billion investment in France's AI sector, Canada has also been active in the subject. The US has invested most in AI, with \$3,28,548 million spent in the last

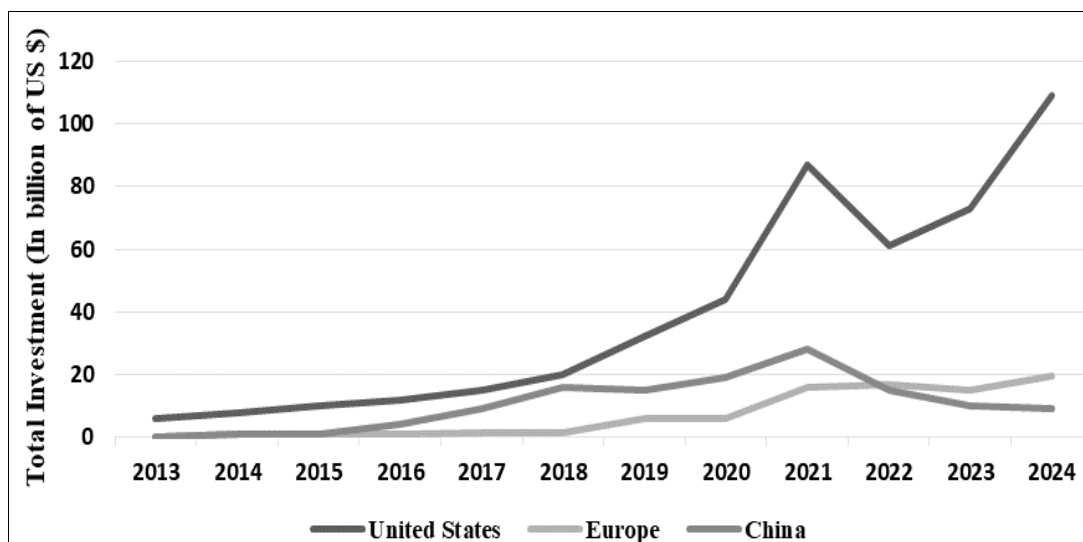
5 years & \$67,911 million in 2023 alone, a 65.94% increase from that of 2019. US President Donald Trump also declared an investment in the private sector of up to \$ 500 billion for the development of Artificial Intelligence infrastructure.

**2.2 Europe (UK, Germany, France, etc.):** Significant investments have resulted from European nations' growing recognition of AI's significance. With €20 billion set aside for the construction of AI gigafactories, the European Union established Invest AI, a €200 billion program designed to support AI development across member states. Nearly €110 billion in private AI investments have been made in France with assistance from organizations such as Brookfield Corporation and the United Arab Emirates. Germany also rank 5<sup>th</sup> with having approximately \$1,847 million in AI investment. Sweden has had the most significant growth rate in AI investment during the past 5 years, at 2310%. Although Artificial Intelligence and Block Chains are the two most significant technologies of current time, the European Union has only 7% of annual equity investments in both; on the other hand, the US & China together account for 80%.

**2.3 Asia-Pacific (China, India, Japan, and South Korea):** China emerged as a significant player in AI, accounting for 44% of global AI funding in 2018, followed by the United States at 41%. China spent \$132,665 million on AI from 2019 to 2023, around 60% less than the United States. The

other giant in Asia, India has 4<sup>th</sup> rank with an investment of approximately \$16,147 million in AI in the last five years. India has also demonstrated great interest in improving AI technologies by co-chairing the 2025 AI Action Summit with France. With an emphasis on incorporating AI into consumer electronics and other industries, South Korea and Japan are still making significant investments in the technology.

**2.4 Other Emerging AI Markets (Middle East, Latin America, and Africa):** Significant investments in AI have been made in the Middle East, especially in the United Arab Emirates. For example, France financed between €30 and €50 billion for AI infrastructure. With an emphasis on using AI to boost economic growth and solve regional issues, America and Africa are progressively boosting their investments in AI. According to a report by Stanford University, *Chart 1* is prepared below. As per the chart the US, Europe and China all promote investment in the field of Artificial intelligence and in this report, the growth of global private investment is shown. As we can see, this report shows data from 2013 to 2024, through which it can be clearly seen that US is continuously maintaining its lead in this field, and the difference between US and Europe and China is very high. US private investments in global eye investments have hit almost 109 US billion dollars, which is almost 12 times more than in China and 24 times more than in Europe. This gap is huge and clearly shows the dominance of the US in this sector.



Source: HAI Centered Artificial Intelligence. <https://hai.stanford.edu/news/ai-index-2025-state-of-ai-in-10-charts>

**Chart 1:** Global Private Investment in AI by geographical area 2013-24

We can say all around that technological developments and significant commitments from the public and private sectors are driving the AI industry's explosive expansion in market size and investment prices.

### 3. Sectors using Artificial Intelligence worldwide

Currently, AI is used in almost every corner of the world according to their needs and convenience. Since 1955, when the name Artificial Intelligence was first used, the world is currently moving towards Generative AI. Generative AI is an advanced form of general AI in which, based on the data given by the user, Generative AI performs same tasks as would be performed by the humans and provides solutions

to their users. The solution or output is appeared to be a human solved situation.

McKinsey & Company published their article on *"The State of AI: How organizations are rewiring to capture value"*, in which they surveyed many organizations and industries about using artificial intelligence in their business operations. They surveyed the number of organizations using AI and generative AI in at least one business function. They also survey how organizations across industries use AI and Generative AI. On the basis of their study, they concluded about incorporation of such technology is based on activities using AI.



**Table 1:** How many organizations are using AI in at least 1 business function?

Activity	Tech	Profess Service	Adv. Industry	Media & Telecom	Consumer Goods & Retail	Fin. Services	Healthcare, Pharma etc.	Energy & Material
Mark & Sales	55	49	48	45	46	40	29	33
Product/ Service Development	39	41	39	26	21	25	22	17
IT	31	16	26	22	20	24	30	26
Service Operation	30	23	24	37	13	26	14	13
Knowledge Management	26	34	17	26	12	16	24	13
Software Engineering	36	9	17	30	8	20	13	8
Human Resource	16	17	13	22	8	11	7	16
Risk, Legal & Compliances	12	9	6	6	11	21	5	9
Strategy & Corporate Finance	14	14	21	10	7	7	6	5
Supply Chain/ Inventory Management	10	4	15	3	14	4	2	6
Manufacturing	5	3	13	3	8	0	5	7

Source: <https://www.mckinsey.com/capabilities/quantumblack/our-insights/the-state-of-ai>

#### 4. Key Sectors Attracting AI Investments (Healthcare, Finance, Automotive, Retail, etc.)

Investments in artificial intelligence (AI) have been carefully focused on important industries, each of which utilizes AI's revolutionary potential to improve customer experiences, operations, and decision-making.

**4.1 Finance:** With a compound annual growth rate (CAGR) of 30.6%, the market is expected to rise from USD 38.36 billion in 2024 to USD 190.33 billion by 2030, showing a significant inflow of AI investments into the financial sector. Applications of AI, including robo-advisors, virtual assistants, algorithmic trading, fraud detection, risk management and financial planning, are responsible for this increase. Financial firms use AI to process vast amounts of data and improve their investing strategies and market forecasts. Notably 60% of financial institutions reported a 30% or greater decrease in operating costs, and over 70% indicated increased operational efficiency as a result of AI. Furthermore, 75% of businesses reported an improvement in customer satisfaction, and 80% of them intended to raise their investments in AI over the next two years, highlighting the technology's crucial role in determining the direction of finance.

**4.2 Healthcare:** AI investments in the healthcare industry focus on improving operational efficiency, treatment planning and diagnosis. AI-powered solutions help with patient outcome prediction, medical image analysis and treatment plan personalization. The goal of integrating AI into healthcare is to lower costs, while simultaneously improving the quality of patient treatment. In 2022, the healthcare AI market brought about \$12 billion in investment, according to Frost & Sullivan.

**4.3 Automotive:** AI has been adopted by the automobile sector to propel development in driver-assistance technologies, driverless vehicles and predictive maintenance. AI investments have improved car safety features and accelerated the development of self-driving technologies. According to McKinsey, in 2022, investments in AI for driverless cars exceeded \$10 billion.

**4.4 Retail:** AI investments in the retail industry concentrate on improving inventory management, streamlining supply chains, and customizing consumer experiences. Retailers can anticipate customer behavior, effectively manage inventory levels and customize marketing tactics to suit

individual preferences through AI-driven analytics. Increased sales and client loyalty are two benefits of smart AI use.

**4.5 Software Development:** Investments in AI are increasingly moving towards software development outside traditional industries. As the market moves beyond AI infrastructure, investors are now concentrating on software firms, because they see software as a long-term opportunity. This change is caused by a number of variables, including volatility brought on by tariffs, decreased demand as a result of cheaper AI models from China's Deep Seek and U.S. restrictions on chip exports to China. As the market develops beyond AI infrastructure, analysts believe that software will present the largest long-term opportunity. Thus, it can be concluded that AI investments deliberately focus on industries in which technology can significantly enhance productivity, judgement and consumer interaction, thereby opening up new opportunities for development and innovation.

#### 4.6 Expected Future AI Market and Investments

As discussed above, Artificial Intelligence is being adopted with different growth rates across the world. Almost the entire world is turning its attention towards AI. Almost every region is expanding their field of AI according to their convenience and limited resources. Hence, there is no doubt that there is considerable progress in the in the field of AI in the future. According to Babian *et al.* (2024) <sup>[3]</sup>, firms that have used AI technology in their operations grew faster in sales.

As per the data by the Statista, AI market would touch \$244.22billion by the 2025 & it is expected to see an annual growth rate of 26.60%, which will result a market volume of \$1.01 trillion by 2031. As per this data the largest share in this portion would be of United States. Also, another report by Precedence Research shows that the global AI market in 2024 was \$638.23 billion and expected to reach about \$3680.47 billion by 2034.

According to Rashid & Kaushik (2024) <sup>[25]</sup>, AI has potential for application in medical diagnosis & development, self-driven vehicles & traffic control, inventory management, personalized shopping, forensic work, automated education, manufacturing, precision farming & other fields of agriculture and energies & utilities etc.

The UN Trade & Development (UNCTAD) report shows that the global AI market will jump to \$4.8 trillion in 2033 from \$189 billion in 2023, by which AI could acquire its

share to approximately 29% from 7% of present status. But there would also be a risk for the global market to become divided on this matter, because in 2022, there were approximately 100 companies that had a 40% of share in AI related research and development projects, and such companies were related to only USA or China. In addition, these two countries hold 60% of patents in AI industry and produce one third of AI publications. Therefore, these two countries hold strong positions for future AI investors. However, it is possible that other countries, which are not contributing too much now, would also become heavy investors in the field of AI. It can also be observed that every type of country and company evolves with AI. The data show the cumulative share of countries with a national artificial intelligence strategy by grouping countries and their significance share AI related projects. Developed, developing and least developed all are forwarding towards indulging with AI industry. From 2017, all types of countries started investing in AI industry, but developed countries have indulged at a higher rate.

Such types of reports & data indicate about the bright future of AI as an industry. Worldwide AI technologies are getting opted by industries and they are getting benefits by this as stated by Babian *et al.* (2024) <sup>[3]</sup>, and thus this type of result becomes strong base for the better inclusion market and industry with AI.

## 5. Outcomes and Conclusion

Artificial intelligence is a type of technology that is required and become necessary for faster growth in any sector of industry. Use of artificial intelligence has started few decades ago as its initial type. Applications of AI started being used in almost every sector gradually and world economies have started incorporating this into their routine or specific matters. Yes, it is notable that USA played a pivotal role in this field. For initial phase of AI some countries or alliances had started investing into these industries, but as the world started moving towards Generative AI, many parts of world started investing their funds in this industry because it can be clearly seen by the world that this is the demand of time. The United States, Europe and China are the top economies which largely fund AI development. From past few years, USA has left everyone behind in terms of investment in such field and developed some tools also that are being used globally. But yes, China is also behind the USA, as the second highest investor in AI. China has also developed some tools that are being used in many countries. India also stands on fourth position in AI investment. Apart from these, France, Germany, Japan & Korea are also investing significantly AI technologies.

Now on the basis of the research questions, following outcomes are drawn.

**Q1.** What are the differences in market sizes and growth rates for the AI industry among North America, Europe, and Asia-Pacific?

**Outcome:** it can clearly be seen that North America has the market cap for AI. Since then, the economies of Europe and Asia Pacific have invested heavily in such field. In North America, the USA is the leading country in terms of AI investments, whether by public or private ways. In Europe, France and Germany are key countries for AI investment.

When it comes to the Asia Pacific, China is leading the market of such technology and is stated in the top position just after the USA in such matters. India also has a large market for AI investment. Middle Eastern countries are also doing significant investment in this technology, especially United Arab Emirates is taking its step towards AI.

With regard to the growth rate for AI investment in such countries, the USA is growing faster than others. However, this does not imply that other countries are lacking in this area. China, India and other countries from Europe are also accelerating their funding towards AI at a significant growth rate but yes, lower than the United States.

**Q2.** How is artificial intelligence being incorporated into the operations of sectors like manufacturing, healthcare, and finance etc.?

**Outcome:** It is found that the use of AI in the finance sector is specifically linked with fraud detections, robo adviser and virtual assistant & trading. Along with these applications, operational costs are decreased and efficiency is increased by incorporating AI in finance. AI is used for diagnosis and treatment planning in healthcare. With the help of AI, technologies like self-driving cars and driver assistants are prevalent in the automobile sector. In the field of retailing, it also plays a crucial role in observing the behavior of customers and their habits, and by which it is providing significant data to the companies or suppliers. Apart from these specific fields or sectors, there are many other areas in which industries are using AI for multiple purpose, such as deep seek and Chat GPT etc.

**Q3.** What are the trends of investment in Artificial Intelligence across the globe?

**Outcome:** It is found that significant investment in AI began from late 1990s. 2000s were the pivotal time for AI industry and in last few years, investment in AI has boomed worldwide. Many projections have found, that have predicted that investment in such industry will become multiple time of present in next 10 years.

Currently, AI is used in almost every sector of economy, such as technology, professional services, advance industries, media & telecom, consumer goods & retail, financial services, healthcare and energy sector etc. Within these different industries, AI is being used in different ways like, marketing and sales, knowledge system, risk ascertainment, supply chain, inventory management etc. Thus, it can be clearly seen that AI has been incorporated into every sector and field of the economy, and has become a reason for attracting investment towards this.

Several projections show that AI market will expand multiple times in the near future. The USA and China will undertake massive investment in AI projects; even private sectors are also doing heavy investments and will do the same in the future. In addition to these two big giants in AI field, many countries will enlarge their investment in AI in near future. Reports predict high peaking AI investments in the next 10 years.

## 6. References

1. Adel A. Future of Industry 5.0 in society: Human-centric solutions, challenges and prospective research areas. J Cloud Comput. 2022;11.

- <https://doi.org/10.1186/s13677-022-00314-5>
2. Artificial Intelligence Market. Artificial intelligence market. Precedence Research. 2025. Available from: <https://www.precedenceresearch.com/artificial-intelligence-market>
3. Babian T, Fedyk A, He A, Hodson J. Artificial intelligence, firm growth, and product innovation. *J Financ Econ*, 2024, p. 151. <https://doi.org/10.1016/j.jfineco.2023.103745>
4. European Investment Bank. Artificial intelligence, blockchain and the future of Europe. 2021. <https://doi.org/10.2867/126279>
5. Bhattacharya J. AI investment statistics: Trends, impacts, and future projections. *SEO Sandwich*. 2025 Mar 11. Available from: [https://seosandwich.com/ai-investment-stats/?utm\\_source](https://seosandwich.com/ai-investment-stats/?utm_source)
6. Brown E, Jin B. The "Spy Sheikh" taking the AI world by storm. *Wall Street J*, 2025. Available from: [https://www.wsj.com/tech/ai/abu-dhabi-spy-sheikh-ai-c4a9d48c?utm\\_source=chatgpt.com](https://www.wsj.com/tech/ai/abu-dhabi-spy-sheikh-ai-c4a9d48c?utm_source=chatgpt.com)
7. Brynjolfsson E, McAfee A. The business of artificial intelligence. 2017;7:3-11.
8. Collins C, Denis D, Conboy K, Mikalef P. Artificial intelligence in information system research: A systematic literature review & research agenda. *Int J Inf Manag*, 2021, p. 60. <https://doi.org/10.1016/j.ijinfomgt.2021.102383>
9. Columbus L. Roundup of machine learning forecasts and market estimates, 2018. *Forbes*, 2018 Feb 18. Available from: [https://www.forbes.com/sites/louiscolumbus/2018/02/18/roundup-of-machine-learning-forecasts-and-market-estimates-2018/?utm\\_source](https://www.forbes.com/sites/louiscolumbus/2018/02/18/roundup-of-machine-learning-forecasts-and-market-estimates-2018/?utm_source)
10. Money Control. AI start-up funding hit a record \$97 billion in 2024 in US. 2025 Jan 7. Available from: [https://www.moneycontrol.com/technology/ai-startup-funding-hit-a-record-97-billion-in-2024-in-us-article-12904850.html?utm\\_source](https://www.moneycontrol.com/technology/ai-startup-funding-hit-a-record-97-billion-in-2024-in-us-article-12904850.html?utm_source)
11. Esteva A, Kuprel B, Novoa RA, Ko J, Swetter SM, Blau HM, *et al*. Dermatologist-level classification of skin cancer with deep neural networks. *Nature*. 2017;542:115-118.
12. Finerva. 3 reason behind the explosive funding growth of AI, 2019 May 13. Available from: [https://finerva.com/report/ai-funding-growth/?utm\\_source](https://finerva.com/report/ai-funding-growth/?utm_source)
13. Goodell JW, Kumar S, Lim WM, Pattnaik D. Artificial intelligence and machine learning in finance: Identifying foundations, themes and research clusters from bibliometric analysis. *J Behav Exp Finance*. 2021;32(3). <http://dx.doi.org/10.1016/j.jbef.2021.100577>
14. Goodfellow I, Bengio Y, Courville A. *Deep learning*. MIT Press; 2016.
15. Hirschberg J, Manning CD. Advances in natural language processing. *Science*. 2015;349(6245):261-266. <https://doi.org/10.1126/science.aaa8685>
16. Holland S. Trump announces \$500 billion investment in AI. *Reuters*, 2025. Available from: <https://www.reuters.com/technology/artificial-intelligence/trump-announce-private-sector-ai-infrastructure-investment-cbs-reports-2025-01-21/>
17. Business Insider. There's still one part of the sinking AI trade that Goldman says you should buy into, 2025 Mar 7. Available from: [https://www.businessinsider.com/ai-stocks-to-buy-software-palantir-sales-nvidia-goldman-sachs-2025-3?utm\\_source](https://www.businessinsider.com/ai-stocks-to-buy-software-palantir-sales-nvidia-goldman-sachs-2025-3?utm_source)
18. Business Insider. Buy AI stocks in this corner of the sector, 2025 Mar 7. Available from: [https://www.businessinsider.com/ai-stocks-to-buy-software-palantir-sales-nvidia-goldman-sachs-2025-3?utm\\_source](https://www.businessinsider.com/ai-stocks-to-buy-software-palantir-sales-nvidia-goldman-sachs-2025-3?utm_source)
19. Business Insider. The AI dollar store is here and could be trouble for big tech, 2025 Mar 7. Available from: [https://www.businessinsider.com/deepseek-openai-distillation-big-tech-trouble-cheap-commodity-ai-2025-3?utm\\_source](https://www.businessinsider.com/deepseek-openai-distillation-big-tech-trouble-cheap-commodity-ai-2025-3?utm_source)
20. Javaid M, Haaleem A, Singh RP, Suman R. Artificial intelligence applications for industry 4.0: A literature-based study. *J Ind Integr Manag*. 2022;7 (1):83-111. <https://doi.org/10.1142/52424862221300040>
21. Litman T. Autonomous vehicle implementation predictions-implications for transport planning summary. Victoria Transport Policy Institute, 2024. Available from: <https://coilink.org/20.500.12592/wtbc2>
22. Mattackal LP, Cherian JM. As US chip darlings struggle, some bet on software as next big AI play. *Reuters*, 2025 Mar 6. Available from: [https://www.reuters.com/technology/artificial-intelligence/us-chip-darlings-struggle-some-bet-software-next-big-ai-play-2025-03-06/?utm\\_source](https://www.reuters.com/technology/artificial-intelligence/us-chip-darlings-struggle-some-bet-software-next-big-ai-play-2025-03-06/?utm_source)
23. McCarthy J, Minsky ML, Rochester N, Shannon CE. A proposal for the Dartmouth summer research project on artificial intelligence. *Dartmouth Conference Proposal*. 1955.
24. O'Brien M. US ahead in AI innovation, easily surpassing China in Stanford's new ranking. *AP*, 2024 Nov 21. Available from: <https://apnews.com/article/ai-us-china-competition-stanford-index-uk-india-c8eb9be0253eb39776c3e38d05f1a329>
25. Rashid AB, Kaushik MA. AI revolutionizing industries worldwide: A comprehensive overview of its diverse application. *Elsevier (Hybrid Adv)*, 2024, p. 7. <https://doi.org/10.1016/j.hybadv.2024.100277>
26. Ritcher OZ, Marin VI, Bond M, Gouverneur F. Systematic review of research on artificial intelligence applications in higher education: Where are the educators? *Int J Educ Technol High Educ*, 2019, p. 16. <https://doi.org/10.1186/s41239-019-0171-0>
27. Rosenbush S. Companies' AI bets are reaching astronomical heights. *Wall Street J*, 2024.
28. Russell S, Norvig P. *Artificial intelligence: A modern approach*. 4<sup>th</sup> US Ed, 2020.
29. Singla A, Sukharevsky A, Yee L, Chui M, Hall B. *The state of AI: How organizations are rewiring to capture value*. McKinsey & Company, 2025.
30. Statista. Artificial intelligence-worldwide, 2025 Apr. Available from: <https://www.statista.com/outlook/tmo/artificial-intelligence/worldwide>
31. Tanner B. USA leading the charge on AI investment. *Intelligent CIO*, 2024 Aug 8. Available from: [www.intelligentcio.com/north-america/2024/08/08/usa-leading-the-charge-on-ai-investment/](http://www.intelligentcio.com/north-america/2024/08/08/usa-leading-the-charge-on-ai-investment/)
32. TC9214. AI in finance market size, share, industry, overview, growth, latest trends, 2025.
33. Fortune Business Insights. Artificial intelligence market size, share & industry analysis, by component, by

development, by enterprise type, by function, marketing and sales, product/service deployment, 2025 Feb 24. Available from:  
[https://www.fortunebusinessinsights.com/industry-reports/artificial-intelligence-market-100114/?utm\\_source](https://www.fortunebusinessinsights.com/industry-reports/artificial-intelligence-market-100114/?utm_source)

34. The Times. China's leaders vow to meet ambitious 5 percent growth target for 2025, 2025 Mar 7. Available from: [https://www.thetimes.com/business-money/companies/article/chinas-leaders-vow-to-meet-ambitious-5-percent-growth-target-for-2025-ncf3cntl2?utm\\_source=chatgpt.com&region=global](https://www.thetimes.com/business-money/companies/article/chinas-leaders-vow-to-meet-ambitious-5-percent-growth-target-for-2025-ncf3cntl2?utm_source=chatgpt.com&region=global)
35. UNCTAD. AI market projected to hit \$4.8 trillion by 2033, emerging as dominant frontier technology, 2025.