

Harnessing AI for Global Marketing Practices: An Integrated Secondary Review of Scholarly Works

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ABSTRACT

In this modern era, technology is one of the main concerns of every segment. In this technological context, one word first comes to everyone's mind, i.e., artificial intelligence (AI). AI is a scientific way to make a machine think like a human being. AI is the science of making a smart machine that can help make decisions and collect and process data in the twinkling of an eye. AI can be used for many purposes, like marketing, healthcare, household purposes, etc. In this digital epoch, marketing uses AI to bring about a revolution in marketing methods and strategies. AI helps marketers think about new areas of marketing. AI brings a revolution to marketing history. With the help of AI, marketers can introduce more efficient, effective, innovative, and customer-centric campaigns to attract their customers. AI has had a significant impact on the global marketing process. Machine learning and deep learning algorithms (GPT) are subsets of AI that help marketers use data efficiently and effectively. The Boston Consulting Group anticipates that by 2035, artificial intelligence is poised to contribute \$950 billion to India's economy. The main objective of this study was to reveal the uses of AI in the marketing domain, identify challenges, and provide probable solutions. This study was based on secondary data. Secondary data were collected from reviewing various scholarly articles and research papers. A systematic literature review was employed. This study was an integration of views from various scholarly articles. Future scholars and managers can use this paper to get a clear idea about the impact of AI on marketing and various challenges and solutions.

KEYWORDS: Artificial intelligence, Marketing, Machine learning, deep learning algorithm, customer-centric.

INTRODUCTION

In this modern era, technology is a prime component of improvement. We want to create an automated world. AI is one of the main trendsetters. AI is a science that can make a machine think like a human being. AI makes human work easier and performs work accurately with very little time. AI is a technology that possesses intelligence like a human being.

The term AI was first coined by Alan Turing in 1950. After that, it gained popularity in 1955 through a workshop by John McCarthy. In 1959, the term machine learning was introduced by Arthur Samuel. The 1980s were an era of rapid growth. The expert system was first used in the commercial market in the

1980s. In 1981, the Japanese government allotted \$850 to develop a fifth-generation computer system. In 2021, open AI was developed by Dell-E, which can process data in a few minutes. In India, national strategies for AI were prepared by NITI Aayog and are used in various sectors (<https://www.tableau.com/data-insights/AI/history>).

Marketing is a process that companies adopt to publicise their products or services, build their customer base, etc. Marketing includes selling, advertising, and distributing products and services among consumers. Not only that, but by using marketing strategies, organisations can forecast their

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future demands. In this regard, AI helps a lot to prognosticate future demand.

The application of AI in marketing is an old concept. Day by day, it increases its circumference and tightens its grip on marketing. Now, most companies use AI applications to satisfy different needs. AI applications can predict the future needs of customers. Predictive analysis can be done by AI. Machine learning (a subset of AI) can already be an easy path to analyse data and help in decision-making. By using machine languages, anyone can easily instruct computers to analyse large amounts of data within a few seconds. By using ChatGPT, companies can write content for marketing, which has a huge impact on customers' minds and moulds their purchasing behaviour.

AI bridges the gap between the real world and the virtual world, and the virtual world easily reads the minds of customers and provides them with services according to their wishes. AI embarrasses digital marketing, and it is logical to develop AI-based marketing to grab the market in the present time (N. Wirth, 2018). Brand and customer interaction is initiated by AI, and the main focus should be on identifying the target customers and their needs (Abid Haleem, Mohd Javaid, and Mohd Asim Qadri). Ravi Pratap Singh, Rajiv Suman, 2022.

The study emphasised the application of AI in marketing in a global context, its growth, and the revenue earned by using AI in marketing.

Reviews of literature:

It is a technique to go through scholarly articles and get their gist for another research work.

Name of researchers and year of publication	Research paper's title	Findings
Mr. Somnath Hadalgekar, Dr Nandini Desai(2023)	A study on the role of Artificial Intelligence in Digital Marketing.	AI helps digital marketers to understand customer's needs and expectations.
Dr. M. Robinson1, R. Vishnuprasanth (2023)	A Study on Artificial Intelligence in Marketing Mix-Conceptual Framework.	This study emphasised on application of AI for implementing a marketing mix.
ALAKSHMI PRIYANKA, MHARIHARARAO, M PRASANNA, Y DEEPIKA(2023),	A Study on Artificial Intelligence in Marketing	This study revealed how AI helps marketing to attract customers.
Ian Phau, Varsha Jain(2023)	AI marketing and AI- based promotions impact on consumer Behavior and the avoidance of consumer autonomy threat	This study identified various tools of AI used for marketing
Abid Haleem , Mohd Javaid , Mohd Asim Qadri ,Ravi Pratap Singh , Rajiv Suman(2022)	Artificial intelligence (AI) applications for marketing: A literature-based study	AI is an integral part of marketing. By using AI, the industry can easily identify its target customers and their needs. It also helps to collect data, process data, and conclude.
Abid Haleem, Mohd Javaid, Mohd Asim Qadri,Ravi Pratap Singh, Rajiv Suman.2022	Artificial intelligence (AI) applications for marketing: A literature-based study	It revealed the application of AI in various marketing segments.
Sanjeev Verma, Rohit Sharma, Subhamay Deb, Debojit Maitra(2021)	Artificial intelligence in marketing: Systematic review and future research direction	AI helps in the formation of Marketing strategies and helps in targeting, positioning, etc. AI is a part of the industrial revolution.
Raman Tiwari, Smitri Srivastav, Rajat Gera(2020)	Investigation of Artificial Intelligence Techniques in Finance and Marketing	This study emphasised on application of AI in stock market and sales forecasting.

P Jain, K Aggarwal(2020) International Research Journal of Engineering and Technology, 2020	Transforming Marketing with artificial intelligence	It gave an overview touse of AI for making marketing strategies
Yingrui Xi(2020)	Values of artificialintelligence in marketing	This study identified relationship betweenAI and marketing.
Vinchhi DEVANG, Shroff CHINTAN,TannaGUNJAN, Rai KRUPA(2019)	Applications ofArtificial Intelligence inMarketing	This study identified the importance on AI in Marketing.
K. Siau, Y. Yang(2017)	Impact of artificial intelligence, robotics,and machine learning on sales and marketing	This study identified importance of robotics and machine learning in sales and marketing.
Balaji, M.S., Roy, S.K.(2017)	Value co-creation with Internet of things technology in the retailindustry	This study said that the Internet bridges the gap between the real world and the digital worldand shows how to satisfy customer expectations byusing Internet of things technology in the retail industry.

Research Gap:

There were a huge number of research papers on AI in marketing and its implementation. However, very few of them emphasized the Indian scenario and the application of AI in marketing in India. AI is in a growing position in India but still has a long way to go. Different tools are used for implementing AI. This study tried to identify the uses of AI in marketing in India, the application of various AI tools for marketing in India, the revenue earned by using AI in marketing in India, and the challenges faced in implementing AI in marketing in India.

Objectives:

1. To study the uses and application of AI tools in marketing.
2. To study the challenges faced by implementing AI in marketing in India.

Methodology:

Data were collected from various secondary sources like research papers, research articles, websites etc. Research papers and articles were studied from Scopus, Google Scholar, Sodhganga etc. A systematic literature review was employed.

Discussion:

In this modern era, we cannot think without AI. Many sectors introduce AI as an important part of business strategies. One of them is marketing, which is a useful means of making marketing more effective and attractive. Marketing means identifying the target customer and their needs and providing goods or services according to those needs.

McKinsey analysis (2018) showed that AI contributes a lot to marketing. A Deloitte global survey (2020) revealed that there are three basic objectives of AI.

1. Increasing the ability and effectiveness of existing products or services in the market.
2. Introducing new products and services to the market.
3. Build a strong relationship with the customer by understanding their needs.

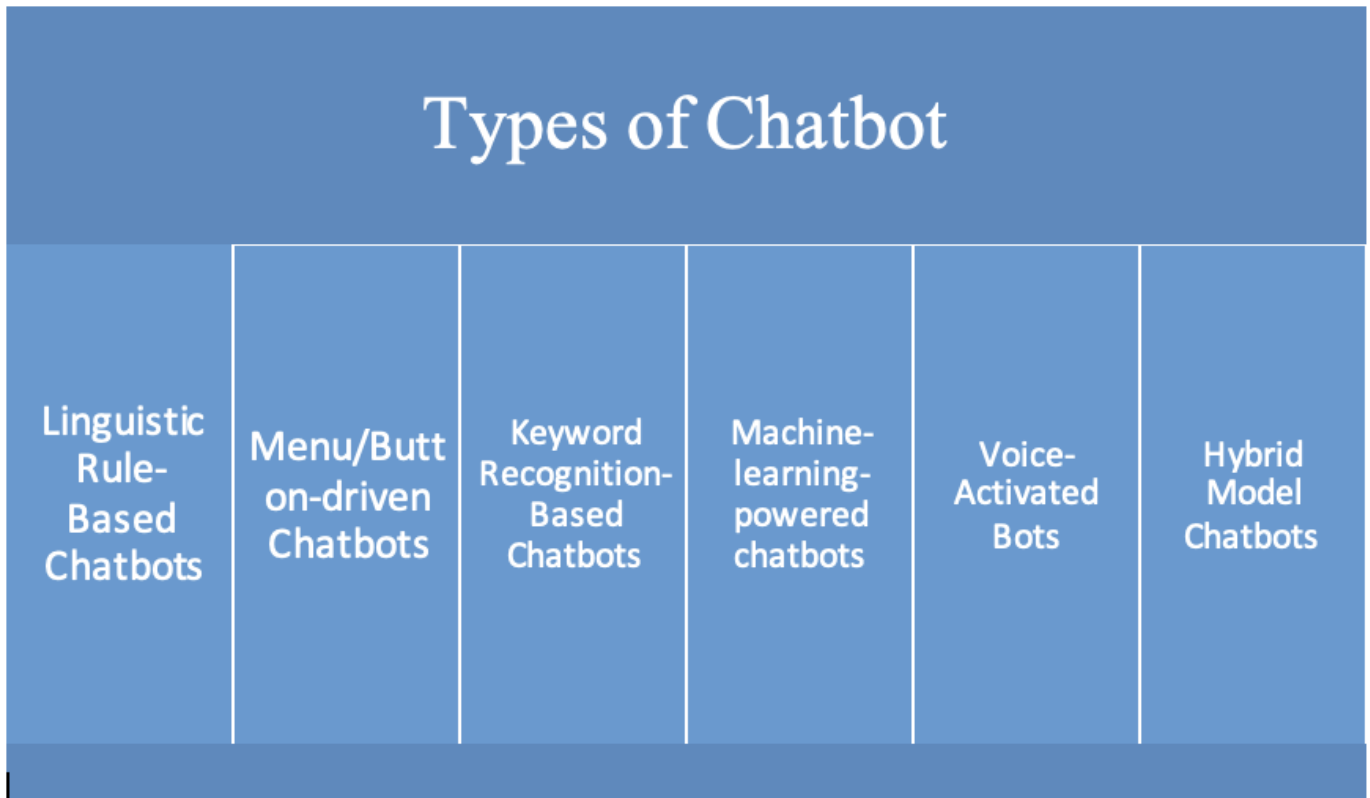
Various applications already adopted by modern managers make the work easier and more effective. AI helps customers make their search more fruitful. AI can identify customers' needs from their browsing history and make their browsing journey more delightful.

AI has a huge impact on the Indian marketing sector. AI-powered business policies are enlightening organisations and making them more powerful. One survey done by Boston Consulting Group revealed that India will achieve the goal of \$950 by 2035 with the help of AI implementation. The Indian AI market has grown 30% from 2022 to 2028. AI-powered organisations have grown from 15 in 2016 to 300 in 2022.

AI-driven tools are now an integral part of marketing.

AI-driven Chatbot: -

A chatbot can provide all the information about the products and services. It is a question-and-answer application that solves the queries of customers 24x7. It is a virtual agent that identifies the customer's needs and helps them make a decision. Some popular chatbots are as follows:



(Source: <https://www.engati.com/blog/types-of-chatbots-and-their-applications>)

1. Linguistic Rule-Based Chatbots:

It uses the if/then algorithm to create a discussion flow. Conversation flow can be created by words, phrases, etc.

2. Menu/Button-driven

It is a very common type of chatbot that is used by marketers. This kind of chatbot gives answers to the questions, provides solutions, and clarifies all inquiries.

3. Keyword Recognition-Based Chatbots:

Keyword recognition-based chatbots differ from menu-based ones in that they can comprehend user input and provide relevant responses. These chatbots rely on customizable keywords and employ natural language processing (NLP) to ascertain the most fitting response for user queries.

4. Machine-learning-powered Chatbot:

Machine-learning chatbots use ML and AI to solve customer queries.

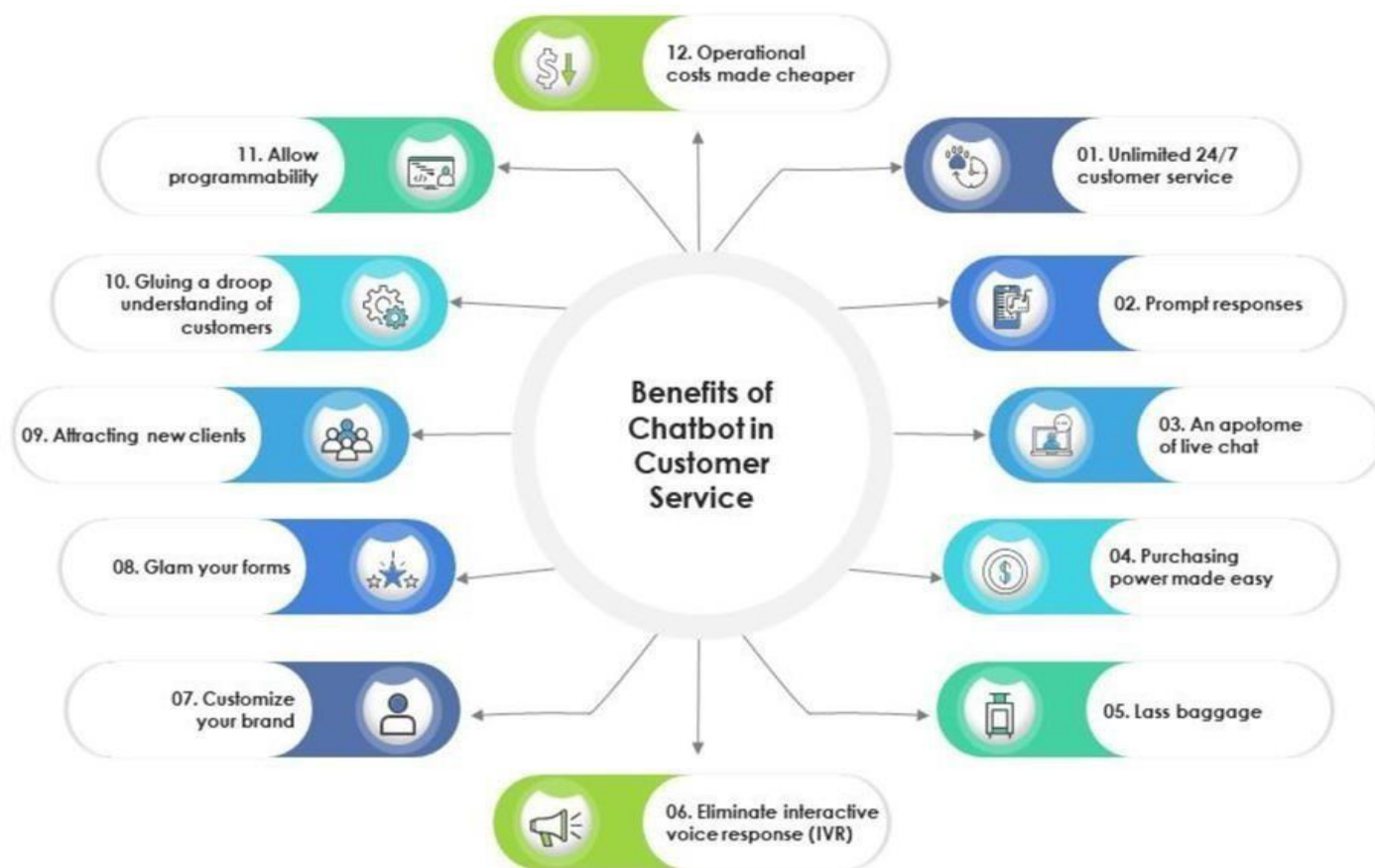
5. Voice-Activated Bots:

Businesses are increasingly adopting voice-based chatbots or voice bots to enhance conversational interfaces with a more vernacular touch.

6. Hybrid Chatbot

It resolves customer queries, satisfies customers, and improves customer experience.

Benefits of Chatbot in customer service



(Source: <https://www.analyticsvidhya.com/blog/2023/03/machine-learning-for-marketing/>)

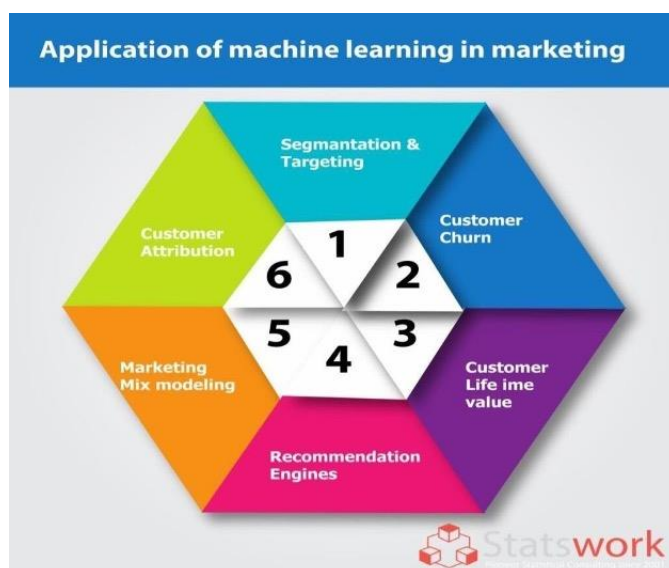
Machine learning in marketing:

ML is an important part of digital marketing. 51% of organizations use machine learning as a useful strategy for marketing (survey by Salesforce). Through machine learning, companies can easily identify customers’ needs and modify products and services based on their needs. ML can analyze customer feedback, predict trends, and save customers time. A machine learning algorithm is a program that helps automate the process. It can analyze large amounts of data to make future predictions perfectly. This assists in enhancing marketing campaigns, including the creation of advertisements and email campaigns, for optimization purposes.

A few popular ways to use machine learning for marketing are as follows:

1. Predictive analysis: ML is a tool to analyze past data and predict the future based on the past. Here, data is collected from customer transactions and website interactions.
2. Group segmentation: By using ML, marketers can divide customers into small groups based on their preferences. Data is collected from social media interaction and website interaction.

3. Email marketing: In this process, the marketer sends personalized emails to the customers based on their preferences, and data is collected from browsing history, purchasing behavior, etc.
4. Social media advertisement: It targets different types of customers and collects data from their browsing history.

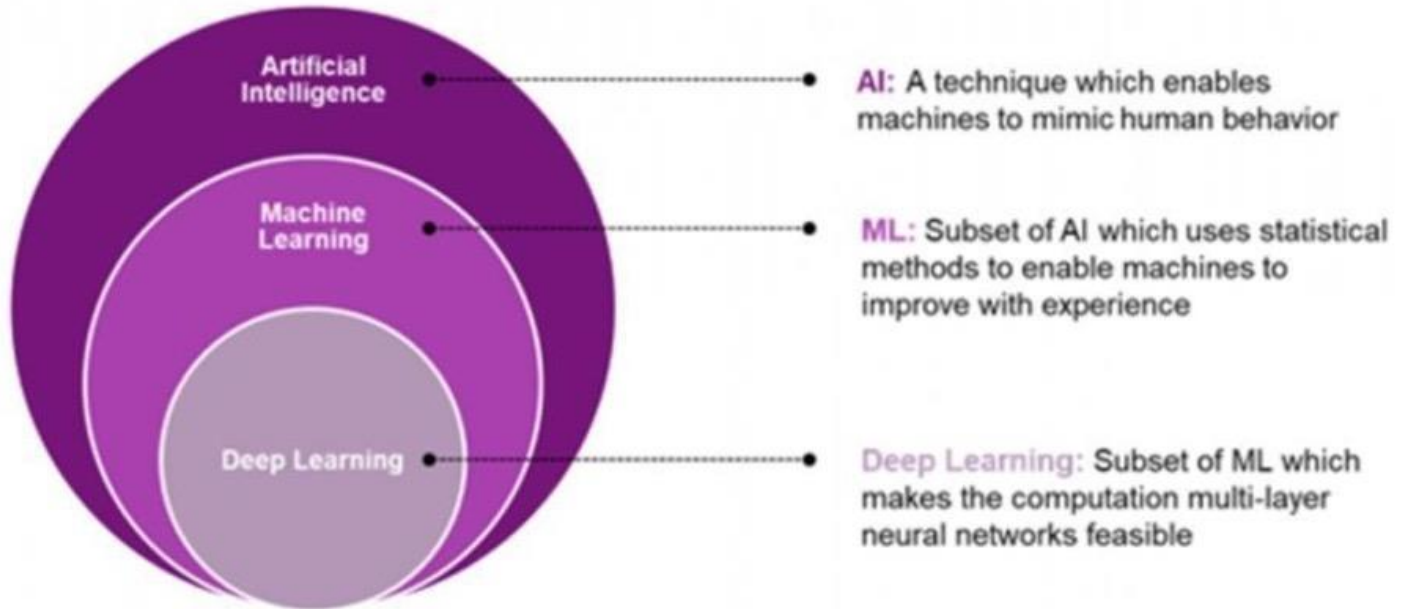


(Source: <https://statswork.com/blog/application-of-machine-learning-in-marketing/>)

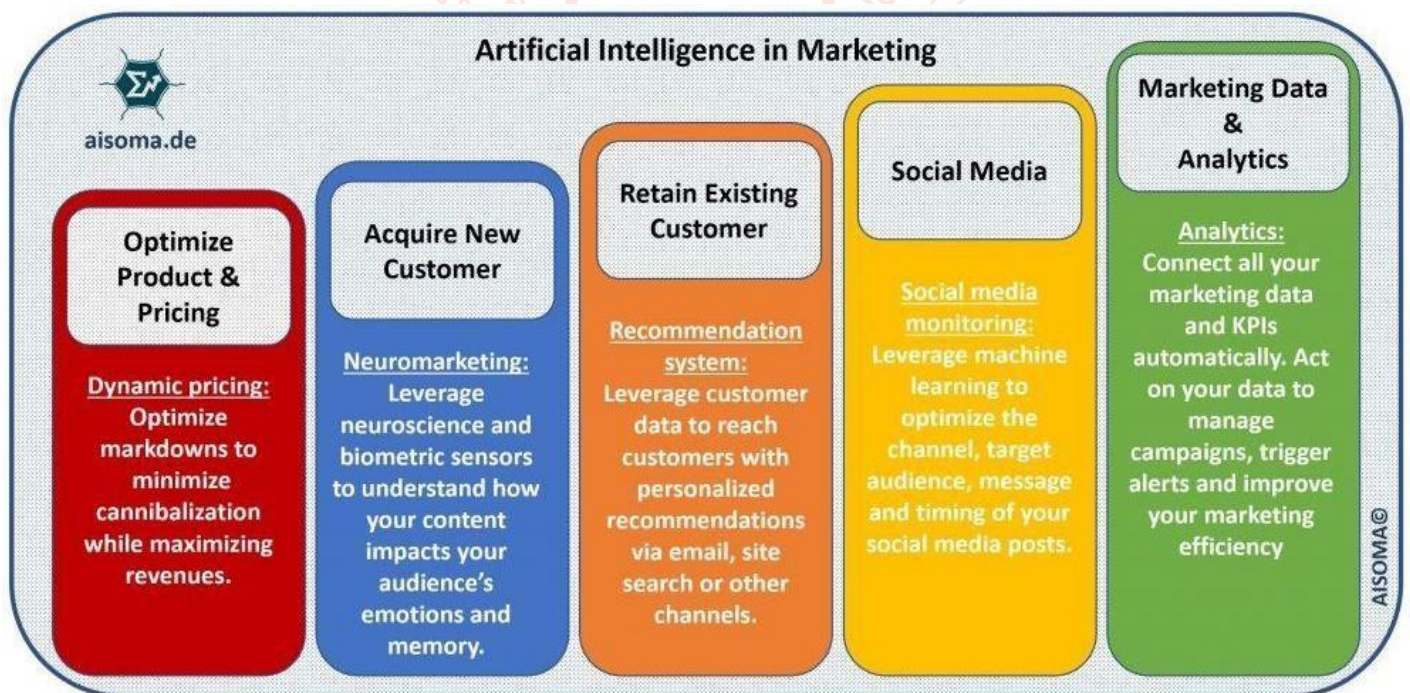
The above diagram clearly shows in which situations machine learning can be applied. From website interaction or from customer browsing history, ML identifies perspective customers and their needs. Based on that, organizations identify their customers. ML also helps customers make decisions and collects customers' feedback. ML can predict the future by analysing data. It is more important to retain existing customers than to welcome new ones.

Deep learning algorithm

Deep learning is a subset of machine learning. The algorithm that is used by deep learning contains different layers of decision-making units. Deep learning predicts the future effectively, analyzes data in a very short time, and identifies customers.

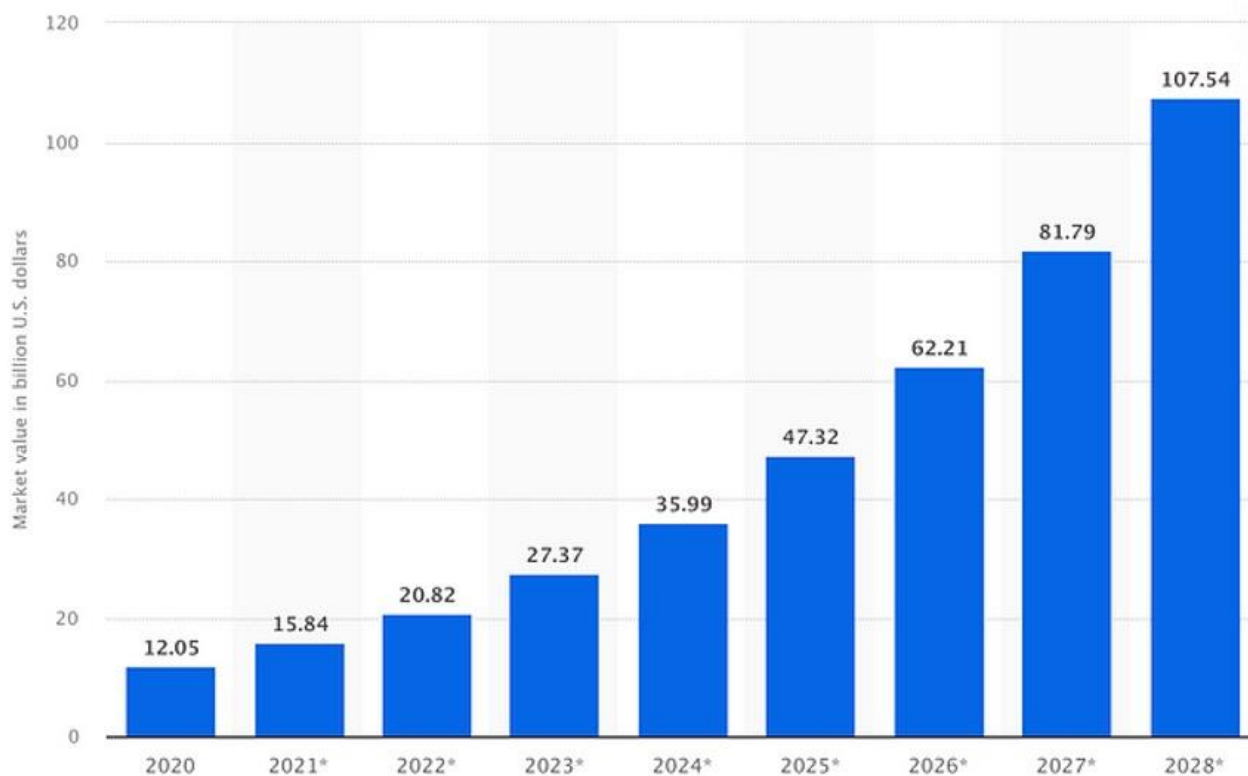


(Source: <https://opendatascience.com/artificial-intelligence-and-machine-learning-in-practice-anomaly-detection-in-army-erp-data/>)



(Sources: <https://www.aisoma.de/the-importance-of-machine-learning-in-your-digital-marketing-strategy/>)

Artificial intelligence ensures optimum utilization of resources and maximizes revenues.



(Source: Market value of artificial intelligence (AI) in marketing worldwide from 2020 to 2028 (in billion U.S. dollars) Source: Worldwide; The Insight Partners; Statista; 2020. <https://medium.com/@juliannafaithrizzo/influence-of-ai-marketing-on-customer-experience-personalization-and-manipulation-c3f72f417f31>)

The growth of the market is very much visible in the above-mentioned diagram. It shows the market value of AI in marketing is growing every year. The diagram shows a prominent upward growth from the year 2020 to the year 2023. It also predicts the future growth of AI in marketing worldwide.

Some challenges and their solutions

Some challenges restrict organisations from using artificial intelligence in marketing.

1. Algorithms bias:

It is a big challenge to implement AI. Algorithms are created by data. It describes the inclination of algorithms to mirror human biases. It is a consistent and replicable error in entering data that initiates an unfair outcome. Examples: giving preference to one group over another. To solve this problem, an ensemble model should be generated by amalgamating algorithms trained on smaller datasets, utilizing them as the training data for the comprehensive ensemble model. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

2. Data security

For prediction and decision-making, AI needs data. Theft and data manipulation are very common in this process. If anyone hacks an AI system, they may use this data for some unfair purpose. To protect confidential data, organisations can use the k-anonymity technique, or they can use a permissioned blockchain or cloud solution. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

3. Deployment Lag Time

Implementation of AI is a complex process. It takes time to install and needs tanning to use. So before implementing AI in the overall business, install it in a small place and observe the changes that take place for AI. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

4. Cybersecurity

Now everyone uses AI. It provides lots of benefits, but at the same time, it creates some vulnerable areas where criminals may attack. Criminals may use AI to manipulate data and invade systems without permission. To control this situation, use a cloud strategy that continuously tests security and verifies that the system is secure. (<https://www.orientsoftware.com/blog/ai-challenges/>)

5. Data Privacy

This is a critical issue. To perform a specific function, AI uses the data of the user without informing the user. So users must keep their important data in an isolated place. The hydromorphic encryption technique is used to protect data. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

6. Black Box

AI is very difficult to understand for non-technical people. Why a system makes a specific decision is very difficult to explain. To resolve this problem, regularisation and Bayesian optimisation techniques may be used. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

7. Lack of skilled workers

AI is a very complex process. Properly skilled people are needed for AI implementation. There is a shortage of skilled personnel in this field. So universities need to concentrate more on preparing skilled engineers who can handle AI properly. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

8. No Transparency

Machine learning and deep learning are complicated technologies. Sometimes skilled technologists also cannot understand how a specific algorithm works. Insufficient transparency exists in the learning process of neural networks from datasets, necessitating expert support to diagnose and rectify issues in model performance when anomalies arise. To address challenges in AI implementation, it is crucial to adhere to best practices in the development of AI applications. This involves establishing clear metrics to assess model performance and opting for simpler algorithms when appropriate. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

9. Slow Response

AI-powered applications need more time to study data sets and make decisions. Sometimes it is very time-consuming. Active learning and online learning can be used to rectify this problem. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

10. High development costs

Implementing AI is very costly. It increases the cost of software development, so optimisation of resources is important. For the optimisation of resources, proper processes and channels are essential. Choosing current technology may be a way to reduce the cost of AI implementation. (Sources: <https://www.orientsoftware.com/blog/ai-challenges/>)

Conclusion:

This study revealed that AI is an integral part of marketing. AI enhances the quality of products and services by continuously surveying them. It collects huge amounts of data and identifies trends by analysing them. There are various tools marketing uses for implementing AI. AI helps marketers earn more revenue. AI is very difficult to understand and complicated to implement. Proper training is required to enhance the abilities of technologists. AI opens a new path for everyone.

References

- [1] Dr. M. Robinson, R. Vishnuprasanth. 2023. A Study on Artificial Intelligence in Marketing Mix- Conceptual Frame-Work. International Journal of Research Publication and Reviews, Vol 4, no 3, pp 2584-2587.
- [2] Mr. Somnath Hadalgekar, Dr Nandini Desai. 2023. A study on the role of Artificial Intelligence in Digital Marketing. Eur. Chem. Bull. 2023,12(Special issue 4).
- [3] Ian Phau, Varsha Jain. 2023. AI marketing and AI-based promotions impact on consumer behavior and the avoidance of consumer autonomy threat. First published:14 September 2023 <https://doi.org/10.1002/cb.2248>.
- [4] A LAKSHMI PRIYANKA, M HARIHARARAO, M PRASANNA, Y DEEPIKA. 2023. A Study on Artificial Intelligence in Marketing. International Journal For Multidisciplinary Research. E-ISSN: 2582-2160 Volume 5, Issue 3, May-June 2023.
- [5] Balaji, M.S., Roy, S.K. 2017. Value co-creation with Internet of things technology in the retail industry. Journal of Marketing Management Volume 33, Issue 1-2, 2 January 2017, Pages 7-31.
- [6] Abid Haleem , Mohd Javaid , Mohd Asim Qadri, Ravi Pratap Singh , Rajiv Suman. 2022. Artificial intelligence (AI) applications for marketing: A literature-based study. International Journal of Intelligent Networks Volume 3 , Pages 119-132.
- [7] Sanjeev Verma, Rohit Sharma, Subhamay Deb, Debojit Maitra. 2021. Artificial intelligence in marketing: Systematic review and future research direction. International Journal of Information Management Data Insights Volume 1, Issue 1.

- [8] Vinchhi DEVANG, Shroff CHINTAN, Tanna GUNJAN, Rai KRUPA.2019. Applications of Artificial Intelligence in Marketing. Annals of “Dunarea de Jos” University of Galati Fascicle I. Economics and Applied Informatics. Years XXV – no1, ISSN-L 1584-0409 ISSN-Online 2344-441X.
- [9] Abid Haleem, Mohd Javaid, Mohd Asim Qadri, Ravi PratapSingh, Rajiv Suman.2022. Artificial intelligence (AI) applications for marketing: A literature-based study International Journal of Intelligent Networks, Volume 3, Pages 119-132.
- [10] Raman Tiwari, Smitri Srivastav, Rajat Gera.2020. Investigation of Artificial Intelligence Techniques in Finance and Marketing. International Conference on Smart Sustainable Intelligent Computing and Applications under. Science Direct Available online at www.sciencedirect.com, Procedia Computer Science 173 (2020) 149–157.
- [11] P Jain, K Aggarwal.2020. Transforming marketing with artificial intelligence. International Research Journal of Engineering and Technology.
- [12] K. Siau, Y. Yang.2017. Impact of artificial intelligence, robotics, and machine learning on sales and marketing. Twelve Annual Midwest Association for Information Systems Conference (MWAIS 2017), pp.18-19.
- [13] <https://hbr.org/2021/07/how-to-design-an-ai-marketing-strategy>
- [14] <https://timesofindia.indiatimes.com/blogs/voices/from-data-to-decisions-how-ai-is-reshaping-the-future-of-marketing-in-India/>
- [15] <https://www.linkedin.com/pulse/15-applications-artificial-intelligence-marketing-most-farioli>
- [16] <https://martech.org/ai-and-marketing-what-the-stats-show/>
- [17] <https://www.imarcgroup.com/india-artificial-intelligence-market>
- [18] <https://www.marketresearchfuture.com/reports/enterprise-artificial-intelligence-market-5794>
- [19] <https://www.hindustantimes.com/business/india-s-ai-market-likely-to-see-20-growth-over-next-five-years-report-101656480360788.html>
- [20] <https://www.hindustantimes.com/business/india-s-ai-market-likely-to-see-20-growth-over-next-five-years-report-101656480360788.html>
- [21] <https://indiaai.gov.in/article/india-s-ai-market-to-reach-usd-7-8-billion-by-2025-says-ids-latest-report-on-ai>
- [22] <https://www.adgully.com/how-indian-brands-are-harnessing-ai-for-growth-135469.html>