



AI IN EDUCATION AND BEYOND: TRANSFORMING CUSTOMER EXPERIENCES AND SECTORIAL PRACTICES IN THE DIGITAL ECONOMY

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Objective: This research delves into the increasing prominence of Artificial Intelligence (AI) in the current economy, particularly in enhancing customer experiences and reshaping traditional approaches across various sectors, including education.

Results: With the shift towards online shopping for convenience and customization, AI has emerged as a pivotal tool for businesses. Educational institutions are transitioning from conventional methods, exemplified by Arizona State University's adoption of Alexa to provide students with streamlined institutional information. Furthermore, advancements in AI, supported by fast GPUs and access to vast training data, have enabled innovations like driverless cars, as highlighted by Russell Glenister's insights. The COVID-19 pandemic has further accelerated the demand for AI-driven, no-touch interactions due to the imposed social distancing norms.

Conclusions: AI's integration into daily life and the economy is undeniable, paving the way for new industries, consumer devices, job shifts, and more. While the exact ramifications of AI and the Internet of Things remain uncertain, they hold the potential to significantly disrupt and reshape the global economy.

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Introduction

Artificial intelligence is a term used in science to describe the design and development of machines and computers that can carry out tasks and make choices without the involvement of humans. An artificial intelligence system can think for itself, even at the most fundamental level, to put it another way.

Artificial intelligence is already present in our daily lives, including our homes, places of employment, and public locations.

Significance of AI:

Using a streaming platform like Netflix, Hotstar, or Amazon Prime, an AI system collects data on your watching patterns to determine what series people might like to see next in order to generate suggestions for the user.

Digital assistants that use speech recognition, like Amazon's Alexa, receive information from its customers in the shape of spoken language, which is then converted into a text file by an algorithm to determine what the user wants it to do.

Although Google uses artificial intelligence to sift among millions of search results to locate the one we are looking for, AI in media platforms helps curate the information in current feeds to be more relevant to a business.

To keep the "driver" and passengers safe during the voyage, self-driving vehicles use a complex system of AI algorithms to make choices in real-time while they drive. A central computer in these vehicles uses machine learning to arrive at judgements based on patterns discovered by a variety of sensors, including proximity to other vehicles, traffic signals, and changes in the road's weather. These vehicles receive data from a variety of sensors.

On a broader scale, artificial intelligence is used extensively in modern medicine to diagnose and cure illnesses and injuries. In order to make a more accurate diagnosis, medical AI systems can take data from a patient or a clinician and apply what it has learned about diseases via experience to find minute patterns in that data.





Categories of AI

1. Reactive AI- optimises outcomes based on a set of inputs using algorithms. AIs that play chess, for instance, are reactive systems that maximise the winning strategy. Reactive AI has a tendency to be somewhat static and is unable to learn from or adjust to unexpected events. So, with identical inputs, it will provide the same output.
2. Limited AI - AI can update itself based on fresh observations or data or adapt to previous experience. The quantity of updating is frequently minimal (thus the term), and the memory is typically quite short. For instance, autonomous vehicles can "read the road" and adjust to new circumstances, even "learning" from prior experience.
3. Theory-of-mind AI - are completely adaptable and have a wide capacity for learning and memory. These AI include sophisticated chatbots that could pass the Turing Test and deceive someone into thinking it was a real person. These AI are remarkable and cutting-edge, yet they lack self-awareness.
4. Self-aware AI - become sentient and conscious of their own existence, as the name suggests. Some academics think that an artificial intelligence will never become conscious or "living," remaining in the science-fiction category.

AI's role in businesses:

AI solutions are quickly gaining popularity as a way to analyse the data already available and respond to trends in that data to assist businesses in making better decisions.

Marketing: The customer information accessible can assist marketers anticipate future purchases from customers. AI can also recognise customer evaluations, and if they are unfavourable, it can point a marketer in the direction of CRM optimization.

In **production**, artificial intelligence (AI) aids in identifying the variable need, which enables a producer to adjust production to suit the demand.

With the use of algorithmic shortest paths and the management of items like delivery drones, which are expected to be a frequent logistics solution in the future, AI aids in the reduction of delivery routes.





They can use the information from their past sales to estimate future sales with the aid of AI. These insights can aid strategists in making important choices regarding the direction their businesses should go in the future.

Business Transformation and AI

Artificial intelligence is typically viewed as a supporting tool rather than a substitute for human intelligence and innovation. Machine learning, CRM, cybersecurity, internet searches, and personal assistants are few of the most common applications of AI.

Machine Learning

Machine learning is widely used in systems that gather massive amounts of data. For instance, data is acquired from detectors connected to different assets by advanced energy management systems. Before presenting the huge volumes of data to your company's decision-makers, algorithms using machine learning contextualise it so that they can understand better power usage and maintenance needs.

Cybersecurity

Artificial intelligence is an essential ally, even when it comes to identifying security flaws in computer systems. Hussain mentioned that he worked with TD Bank to integrate AI into common banking practises. Hussain is the founder and CEO of AI concierge company Flybits and a visiting scholar at MIT. Unbelievably, by observing patterns in data input, AI systems may detect cyberattacks and other cyberthreats. When a danger is identified, it can go back through the data to locate the source and aid in preventing further threats.

Customer Relationship Management

The banking industry is a prime illustration of how AI can support client relationships. The Massachusetts Institute of Technology visiting professor and founder of AI concierge business Flybits, Dr. Hossein Rahnama, collaborated with TD Bank to integrate AI into routine banking activities.

As per Rahnama, customers will receive a personalised message if walking near to the bank in case the mortgage is due for renewal with a bank in 90 days or less.





“If you’re looking at a property for sale and you spend more than 10 minutes there, it will send you a possible mortgage offer”.

Internet and data research

Massive amounts of data are analysed by artificial intelligence to identify trends in user search trends and provide them with more relevant information about their condition. As users use their devices increasingly regularly and as Artificial Intelligence technology advances, they will get a more tailored user experience. This will make it easier for you to target a very specific market, which has significant ramifications for your small businesses.

Digital Personal Assistant

Artificial intelligence can be used for more than just giving clients of a company a more tailored experience. It may also alter internal operations of your business. AI assistants can be used to manage emails, keep track of your calendar, and even provide suggestions for streamlining procedures.

AI in Global Business

AI in the form of robots have been of immense help from food-delivering robots to vacuums that operate autonomously. Siri and Alexa are intelligent personal assistants that can look up meal recipes, order the necessary ingredients, and play the ideal music as you cook.

These are only a few of the numerous ways that artificial intelligence is transforming our daily lives, both at home and at work. Artificial intelligence (AI) is having an increasingly big impact on how we conduct business, both now and in the future. This is especially true in light of COVID-19. It seems to be present everywhere, from advertising and marketing to consumer experience, product innovation, maintenance, and more.

Due to globalisation, followed by developments in internet, and technology, following are the few more examples of application of AI in businesses:

- **Salesforce** is a platform for customer relationship management that offers data solutions to businesses in the education, manufacturing, and other sectors. Einstein, the platform's AI assistant, makes product suggestions based on user behaviour and data to estimate which deals are more likely to close, foresee which leads are more likely to convert, and forecast





quarterly weather patterns. Einstein assists numerous corporate divisions in automating difficult operations by utilising the client data Salesforce logs.

- **CrowdStrike** : With its Falcon security suite, CrowdStrike gives businesses the ability to safeguard online resources. Falcon Horizon, a cloud-based application from the company, uses AI-based behavioural analysis to identify anomalous trends. CrowdStrike's technology makes it simple to discern more serious concerns from false alarms and deploy defensive measures for real-time cyber threats, even if a company maintains many cloud platforms.
- **Textio** gives recruiters the knowledge they need to create more effective recruitment marketing content by utilising the capabilities of natural language processing. Massive volumes of language data are used by enhanced writing technology to identify prejudiced language, perplexing jargon, and other expressions that can discourage potential applicants from submitting. As a result, using Textio's platform, teams can quickly create intelligent employment adverts.
- In order to strengthen its portfolio of cybersecurity products, **Sophos** has created the SophosLabs Intelix platform for businesses. An API-driven platform makes use of AI and machine learning to recognise hazards and gather information for classification. Moreover, Sophos offers comprehensive threat intelligence so that users may assess the seriousness of a situation and take the necessary precautions.
- **Twilio** provides businesses with a flexible contact centre platform with automation tools, such as chatbots, call routing procedures, and auto-responses for after-hours inquiries, to personalise the customer care experience. The product from Twilio can also convert to voice, WebChat, SMS, and WhatsApp formats, enabling companies to communicate with clients via their preferred platform.
- **People.ai** is a complete AI platform for customer success, marketing, and sales. It helps teams register customer activity into CRM systems more quickly by collecting data about customer activity from sources including emails, calendars, and phone conferences. Once all client information has been gathered, the platform offers sales and marketing teams insights to increase the precision of crucial tasks like forecasting and determining the effectiveness of campaigns.





- A group from many disciplines like computer science, education psychology and education has the cutting edge is the International Artificial Intelligence in Education Society (AIED). On January 1st, 1997, the international AIED society was established. Through hosting the International Journal of AI in Education (IJAIED) and AIED conference series, it brings researchers together.
- Artificial intelligence is a new technology that is already changing educational institutions and resources. The availability of teachers is necessary for the best educational practises in the field of education. The employment of teachers, who are vital to the educational system, has changed as a result of artificial intelligence. The AI primarily makes use of advanced analytics, deep learning, and machine learning to track how quickly one person is moving in comparison to others.

AI's help us in daily activities of a customer helps through smart products, smart assistants, help-desk chatbots, facial recognition technology, personalised recommendations, personalised advertising and marketing messages , predictive maintenance, fraud detection, delivery and travel and many more.

Amazon utilises AI in combination to its well-known Alexa devices to track consumer spending patterns and predict the number of units of a particular product customers would purchase.

Conclusion

As current economy having businesses focusing on making their customer reach faster, with customised products, AI has become one such destination as many customers is preferring online shopping to save time, ease, and customisation.

AI may be utilised to improve experience and learning across all fields, including education, on a global scale. The conventional approaches to teaching and learning are gradually being abandoned by many academic institutions, including several colleges, because they are antiquated. They have already started providing voice assistants to students in place of paper learning resources or websites with complex data for their campus-related information. As an example, Arizona State University has made Alexa available to prospective students in an effort to provide them with more consistent, understandable, and reliable institutional information regarding their needs on campus.





AI has become very useful and is seen as making its relevance in everyday life. AI is beginning to make previously unthinkable things, like driverless cars, possible, as mentioned by Russell Glenister, CEO and founder of Curation Zone. Fast GPUs and accessibility to training data are two essential enablers that make driverless cars a reality. An large amount of precise data is needed to train driverless automobiles, and completing the training quickly is essential. Processor was too slow five years ago, but the advent of GPUs made everything feasible.

Customers are increasingly seeking digital, no-touch connection with businesses as a result of COVID-19 because they are constrained by and concerned about physical encounters in a novel, socially distant society.

Artificial intelligence will surely play a part in the future, whether it is a happy or unhappy one, as it is coming closer and closer. As this technology develops, the world will see the emergence of whole new industries, a broad range of consumer devices, the replacement of some jobs, and the development of others entirely. Although its impacts are still unknown, artificial intelligence and the Internet of Things have the potential to dramatically disrupt the economy.

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