Artificial Intelligence – Not a Buzzword anymore. It's Evolving and Growing Fast

AI is rapidly making its way into processes across industries, driving organizational change and digital transformation.

Artificial Intelligence has been the talk of the decade and each year, there's been a growth in its adoption, evolution, and capabilities to resolve business problems of cost, profitability and sustainability. And at this fast pace, more and more organizations are exploring artificial intelligence (AI) and creating business cases to bring it home.

This paper is an attempt to understand artificial intelligence, its types and their benefits, and key trends and application areas of AI. It also looks at the right way to approach an AI project and justify a business case.

What is Artificial Intelligence

At times, we forget to understand the meaning of AI and tag any kind of automation as AI.

Automation focuses on the use of technology to do human tasks, which are repetitive in nature by following a defined step-by-step process. This common definition of automation is often confused with AI. While automation is the start of the roadmap to AI, artificial intelligence emulates human performance by learning from it.

AI is dependent on the availability of data and the quality of data from which it learns. It works by combining large volumes of data and intelligent algorithms, and learns automatically from patterns and attributes of the data.

Quick glance at common AI technologies

There are many types of AI. At a broad level, here are some of the sub-fields of AI. Each of these types complement others in many business applications.

Machine Learning – Machine Learning (ML) is sometimes also used as a synonym to artificial intelligence. While AI is a broader term, Machine Learning focuses on applications being trained with the help of algorithms, big data, and APIs. Machine Learning platforms are used for predictive analysis and decision-making.

Neural Networks and Deep Learning Platforms – Neural networks replicate human brain where information is retrieved from external sources, is passed through various nodes (units), and is categorized and analyzed to derive meaningful insights. Deep learning platforms use neural networks where data undergoes changes and refinements based on the inputs received which is further used for predictions and decision-making.

Virtual Agents – These are computer software/ interfaces that can have intelligent conversations with customers to provide them solutions just like humans. These are in the form of chat bots, which are trained to interact with humans on customer service apps and portals and are available 24x7.

Decision Management – This is a platform organizations use to drive insights for optimized operational decisions. It receives inputs from various disjointed systems. These are used where high volume decision making is required especially for customer service.

Natural Language Processing (NLP) and Natural Language Generation (NLG) – This AI field is the most widely used application in business. It is a medium where a machine generates data and gives output based on the natural language (text/speech) input it receives.

Natural Language Generation on the other hand converts data into text or language at a high speed for a human to read. This is used to create business reports, financial reports etc. where a lot of human effort is involved if done manually or with any other tool.

Key trending uses of Artificial Intelligence

AI was coined in 1950s and like any other technology, its use was limited to government and defense. It was not before 2010s when AI was put to more widespread use in businesses. It is hard, if not impossible, to predict its growth in decades to come as it is still evolving with its implementation in newer areas.

Here are some areas where AI is being used and is directly impacting us on a day-to-day basis.

Retail – With consumers more connected to the retailers, AI has enabled sellers to predict and pitch even before the customer searches for the product.Effective Decision Management has enabled sellers to maintain their inventory at optimum level without blocking their capital. They are also connected to whole sellers and manufactures in real time.

Many Influencers and thinkers are terming artificial intelligence as the New Electricity.

Banking – From consumer banking to wealth management to investment banking, all core areas of a banking institution host AI solutions to provide better and predictive customer service to its customers, prevent fraud, predict consumer behavior and pitch the right product and service. AI helps de-risk large transactions, and enables banks to comply with changing regulatory norms.

Healthcare – AI mediums like machine learning, natural language processing are being widely used to transform patient data into meaningful insights to arrive at cost-effective medical solutions for patients, and precision diagnosis. Data from medical devises and wearables is being used to make this happen.

Manufacturing – Cost reduction, time to market, maintaining quality standards, inventory management are some key challenges in manufacturing. AI, over the last few years, has provided solutions to tackle these. With data being collected at each step and fed into intelligent systems, AI has made decision making more insightful.

As per IDC, worldwide revenues for the AI market, including software, hardware, and services, are forecast to grow 16.4% year over year in 2021 to $327.5B.

AI in back office transformation

If we look at the most common business use cases for AI implementation, we cannot complete our conversation without mentioning enterprise back office operations. Finance and accounting, human resource, supply chain, and IT support are some examples.

Artificial Intelligence has not only made a significant difference in these areas but these are also the areas which foresee even better use cases with every incremental AI implementation.

Order to Cash – AI has proven powerful in sealing revenue leakages. Algorithms ensure errors and missing information don't interfere with receiving timely payments, managing disputes effectively, and managing exceptions.

Procure to Pay – AI in P2P space is all about how effectively the system can handle anomalies, make the entire process more seamless, identify areas of savings, and learn from trends and patterns how procurements are being made.

Some other processes which cut across industries and prove to be ideal candidates for Artificial Intelligence implementation are:

Inventory management, logistics, insurance underwriting, warranty management, and human resource function.

- Most of the time, these challenges are not because of the limitation of technology or lack of funding but the organization's choice of solution.
- Decision of selecting an AI solution also gets largely influenced by the peers in the market and the ambition of moving towards AI faster.

Organizations should not forget the larger objective when it comes to AI implementation. While contracting, ensure that you focus on realizing the business benefit and solution's scalability rather than signing a contract for buying an AI suite. Contracts should be output-driven.

Artificial Intelligence in the future

Some insights from industry analysts predict growing and more engaging AI involvement

- AI will continue to refine business processes complemented by RPA
- Companies like Amazon and Google who are the front runners will make services more personalized
- AI on AI will be possible with data and information generated from AI
- We may not have new devices but our existing devices will become smarter
- AI will encounter cyber threats as they become more sophisticated
- No one will remain untouched by AI
- We will be giving much more information to the government and organizations for using their services, though unknowingly. This could be a concern. AI might have an answer.

The current COVID-19 pandemic has accelerated the growth of AI in many ways.

AI Engineering Process and AI of Things

While the demand for AI grows and stakes go high, businesses have realized that there has to be a formal AI Engineering Process, which would include DevOps, Data Ops and Model Ops. As AI impacts the current systems and business processes, running an AI project cannot be treated in isolation.

Success of AI depends on Data Analytics and in turn the source of the data itself: IoT, in this sense, complements AI. More focus will be on effective use of IoT for a larger AI purpose, hence the term AI of Things (AIoT).

Artificial Intelligence as a business case

Even with the growing importance and benefits of AI, its usage and trends, getting funds approved for AI programs from the board is still a challenge as until now many organizations perceived AI as a thing of the future. Major reasons being the cost, the risk of failure and lack of AI-trained resources. While the above concerns are real, but ignoring AI is not an option if organizations want to stay relevant in the market.

Word of caution - Don't go for sudden forced changes.

- Understand your requirement – A particular AI implementation may not require resources, who are otherwise required to implement a high-end AI solution.
- Define your project well – Keep the outcome in mind while preparing the business case. Define the purpose, audience and solution.
- Check on case studies of similar organizations in your segment.
- As AI may lead to cultural shifts in the organization, make sure your workforce is ready for it. Conduct enough campaigns to onboard them.
- While selecting an AI solution, keep in mind the solution should have transparency.

AI deals with decision making by replicating human minds, but AI-enabled outcomes can be unintentionally biased. Selecting the right IT solution for AI is of key importance.

> Only about 53 % of AI projects successfully make it from prototype to full production, according to Gartner research.

Reference

[1]https://www.forbes.com
[2]https://www.gartner.com
[3]https://www.crn.com
[4]https://www.cio.com
[5]https://www.everestgrp.com

About the author

Sumit Chadha
Program Manager
Products & Advisory, DOP - EOT

Sumit has 18+ years' experience in project and program management across Digital Application Development & Maintenance, Managed services, and Organization Change Management.

Wipro Limited
Doddakannelli, Sarjapur Road,
Bangalore-560 035,
India

Tel: +91 (80) 2844 0011
Fax: +91 (80) 2844 0256
wipro.com

Wipro Limited (NYSE: WIT, BSE: 507685, NSE: WIPRO) is a leading global information technology, consulting and business process services company. We harness the power of cognitive computing, hyper-automation, robotics, cloud, analytics and emerging technologies to help our clients adapt to the digital world and make them successful. A company recognized globally for its comprehensive portfolio of services, strong commitment to sustainability and good corporate citizenship, we have over 190,000 dedicated employees serving clients across six continents. Together, we discover ideas and connect the dots to build a better and a bold new future.

For more information, please write to us at
info@wipro.com

IND/INT-EOT/MAY2021-APRIL2022