

Artificial Intelligence: Possibilities of transforming the workplace

Well, I always say this that AI has been existing since 1950s. It is not something which we have discovered 10 or 15 years back. John McCarthy was one of the most influential people in the field. He is known as the "father of artificial intelligence" because of his fantastic work in Computer Science and AI. McCarthy coined the term "artificial intelligence" in the 1950s. AI entered India through the works of professor H.N. Mahabala in the 1960s at IIT Kanpur.

Now coming to workplaces. It is imperative that we understand the use cases that we want to transform using AI. Do we have the required data / information available. Is the data robust. Now reverse the word AI its nothing but IA which in my mind is the most important ingredient to have before we embark on any journey using AI. IA is nothing but Information Architecture. Do we have this in place at our organizations. Is the architecture robust , scalable and tolerant enough to move to greater heights if required. Do we have the right skills in place to run the use cases or do we have the right partner who would work with us closely to make this happen. Is the use case related to any of the core systems in the organisation if yes how do we later IP protect it. Is the raw data structured , semi structured or unstructured. Should I build a data warehouse / data lake first then run the AI algorithms on top of it for more meaningful outputs or should I simply let it run as is in the present scheme of things. Then from a people perspective do we have the right skill set internally or do I completely outsource it. What is the ROI time horizon that we have for such a project is it 1 year or more. Therefore, how commercially viable it is. Well, these are just some of the questions that come to my mind with respect to applying AI on a certain use case.

Now what are the different use cases of applying AI in transforming a workplace. Well for starters you can improve lighting control, temperature control, space management, and room control. By creating an optimal, personalized workplace environment for your staff, you'll be able to boost productivity and employee engagement. One of the benefits of AI for business is that it handles repetitive tasks across an organization so that employees can focus on creative solutions, complex problem solving, and impactful work. This is what we call Automation as. It is a feared word too as it's pretty obvious isn't it. What this process is actually doing is that it takes a repetitive and mundane task from a person and does it faster than a human. You must be thinking then, "It is taking our jobs!" Although there is some truth to it, it is only one side of the coin.

According to the World Economic Forum, there are 133 million jobs that it has created while contributing to the decline of 75 million roles. Artificial intelligence is reshaping the way businesses function today. In the past two decades, the world has seen heightened activity in Information Technology. This has led to significant changes at work. This also means there's so much that automation can do to help the organization contribute more towards employee engagement.

Let's start with the people function. Well imagine in large manufacturing, IT and other organizations how many resumes one has to go through. One incorrect word in the resume will not push the respective to the next round. Well here you have the HR AI that can parse

through 1000's of resumes in seconds, tag the keywords and thereby brings the correct resume in the eyes of the HR. For existing employees today skilling and upskilling is a tall ask at almost all the companies in every sector how then I could get a smart learning module who can not only skill the person but be like a machine mentor to him / her throughout the journey of the employee in the respective organization. Learning is not done solely through assignments and quizzes as anyone would tell you. There is also the option of adding live workshops that are valuable to the company. There are so many ways automation can help skill an employee in a rigorous but timely manner.

Onboarding new employees not only in a timely manner but efficient manner as well. You could have an automated applicant tracking system that can be used to make the process easier. It helps keep track of where the new applicant stands in the hiring process and keeps them engaged until the onboarding process. Similarly for performance review just imagine you have a system in place that keeps a track of the repetitive tasks, goals etc and thereby rates the employee. Per person productivity could also be measured in an automated manner. Similarly you now have automated employee friendly chatbots though personally I am not such a great fan of those especially from a AI tech perspective but yes these are available.

Now for business turning data into not only insights but actionable insights. So, one you have predictive dashboards and then you have prescriptive dashboards as well. AI applications that provide big data insights can:

- Identify significant changes in patterns.
- Isolate trends
- Create detailed reports that can help companies see if they are on the right track
- Perform deep-content analysis and do evidence-based reasoning.
- Uncover any changes in the customer's behaviour that might affect the business's bottom line.
- Predict what key business metrics the company needs to track to optimize performance.

AI also increases the data & Information security. According to this Chrome report, "53 percent of frontline workers use messaging apps such as Facebook Messenger or WhatsApp up to six times a day for work-related reasons. But 68 percent of them said they'd stop if given approved internal communication tools."

Using WhatsApp, an application that ranks the worst at protecting your privacy, for business purposes is extremely dangerous since it's just a security breach waiting to happen.

Machine learning is one of the most common types of AI in development for business purposes today. Machine learning is primarily used to process large amounts of data quickly. These types of AIs are algorithms that appear to "learn" over time.

If you feed a machine-learning algorithm more data, its modelling should improve. Machine learning is useful for putting vast troves of data – increasingly captured by connected devices and the Internet of Things – into a digestible context for humans.

For example, if you manage a manufacturing plant, your machinery is likely hooked up to the network. Connected devices feed a constant stream of data about functionality, production and more to a central location. Unfortunately, it's too much data for a human to ever sift through; and even if they could, they would likely miss most of the patterns. Machine learning can rapidly analyse the data as it comes in, identifying patterns and anomalies. If a machine in the manufacturing plant is working at a reduced capacity, a machine-learning algorithm can catch it and notify decision-makers that it's time to dispatch a preventive maintenance team.

But machine learning is also a relatively broad category. The development of artificial neural networks – an interconnected web of artificial intelligence “nodes” – has given rise to what is known as deep learning. Deep learning is an even more specific version of machine learning that relies on neural networks to engage in what is known as nonlinear reasoning. Deep learning is critical to performing more advanced functions – such as fraud detection. It can do this by analysing a wide range of factors at once.

For instance, for self-driving cars to work, several factors must be identified, analysed and responded to simultaneously. Deep learning algorithms are used to help self-driving cars contextualize information picked up by their sensors, like the distance of other objects, the speed at which they are moving and a prediction of where they will be in 5-10 seconds. All this information is calculated at once to help a self-driving car make decisions like when to change lanes.

Deep learning has a great deal of promise in business and is likely to be used more often. Older machine-learning algorithms tend to plateau in their capability once a certain amount of data has been captured, but deep learning models continue to improve their performance as more data is received. This makes deep learning models far more scalable and detailed; you could even say deep learning models are more independent.

So the future overall holds a great promise for humanity as a whole, its important to be constructive in a positive manner when designing the use cases and its mighty important for us to be diligent and smart while implementing them.

ABOUT THE AUTHOR



Nirvan Biswas

**Chief Information and Platforms Officer,
National Bulk Handling Corporation (NBHC)**

Mr. Nirvan Biswas, Chief Information and Platforms Officer at National Bulk Handling Corporation (NBHC). He is a Hands-On IT leader with over 21+ years of rich experience across a diverse set of Industry segments across multiple technology / business frameworks.

At NBHC, he is actively involved in strategic planning and implementation of technologies that enhance operational efficiency of NBHC's highly distributed operations and further allows greater measurement and mitigation of risks. He was awarded the 'Newcomer CTO Award' at the CIO Strategies Indian Awards 2008 by Time Magazine for a unique SOA Implementation in that year.

Apart from winning numerous awards / honors over the years, in 2017 he was awarded the IDC Digital Transformation & in 2018 the Economic Times CIO award (Enterprise Technology award) and in 2023 the World CIO 200 award from India. He also holds a Patent in Simulation and identification of In and Out drops in the area of Network movement. He is a Computer Science Graduate from IIT Mumbai.

Disclaimer: The information contained in the article represents the views and opinions belong solely to the author, and not necessarily to the author's employer, organization, committee, or other group or individual.