Artificial Intelligence as a catalyst in business process services [Hype vs. Reality]

Artificial Intelligence (AI) is not a new phenomenon and the algorithms and the logics that form the basis of AI have persisted in the world of statistical analysis/mathematical modeling since the turing test, a test of a machine's ability to exhibit intelligent behavior, developed in 1950. What has changed now is that compute, storage and network have become cheaper and faster and AI algorithms for machine learning and deep learning are getting more efficient due to the investments that have happened in this space over the last few years. These advancements have expanded the scope of AI exponentially – AI now enables organizations to derive meaningful insights from large data sets for faster decision making and augments human capabilities to provide productivity benefits in the front, middle and back office work.

Artificial Intelligence is here to stay and change the nature of the workforce for good, but what needs to be seen and understood is, what is a good starting point for an organization to begin its AI journey? The moot point is how AI-based systems can be made more responsible and explainable and leveraged to boost the efficiency of the human worker, what are the use cases that organizations can identify and invest in in a more forward looking manner other than the ones where there is a clear productivity benefit and impact to the bottom-line. How to overcome the AI adoption barriers and scale it and a methodical approach to apply AI to business process services.

AI adoption barriers

A major reason for a conservative approach to AI adoption is the lack of trust.

Machine learning is the backbone of most AI-related success stories today, however, the lack of explanation behind certain decisions that AI systems make is a major roadblock. Effective frameworks need to be created that can explain the rationale behind a certain decision taken by an AI system. Explainable AI is the need of the hour, as it will help build trust amongst users and organizations.

A complementary feature that needs to be incorporated with each AI deployment is a strong governance and legal framework. What if certain AI decisions go haywire, who is going to be held accountable and what will be the repercussions of such a scenario?

Another limiting factor is the dearth of varied data sets available to be fed into AI systems. Machine learning thrives on large volumes of data, with its accuracy dependent on the length and breadth of the training data being used.

While some of these challenges are technology driven, a major point of contention for organizations today is the thought of reinventing their business models. Organizations will need to transform their operating models and a key factor for this is how the CXOs and board members prioritize initiatives and back them with resources.

Widespread AI adoption will also require organizations to retrain their existing employees and hire digital employees who are capable of handling AI systems. The true benefit of AI will be realized by augmenting human decisions with AI. This will involve reconfiguring the workforce to do more complicated and novel tasks.

Finally, ROI calculation remains a challenge for AI deployments as the product takes time to mature and come to optimum service levels as these are data driven technologies and require substantial training and retraining of the models.

Approach to applying AI in business process

While the potential and perceived benefits of AI are immense, organizations should keep in mind that AI isn't a one stop solution for their business issues. In order to transform business processes through AI, organizations should first ensure that the processes they pick for transformation through AI are standardized, harmonized, and simplified before feeding them to an RPA (Robotic Process Automation) or AI BOT. Automating a process that is not streamlined may lead to more chaos and not deliver the desired results.

Organizations should work closely with service providers to identify potential use cases in their business environment which are suitable to be transformed through AI. Generally, tasks that require a lot of time in human judgement and are complex in nature are suitable candidates for AI implementation.

Post identification of the right use cases, organizations should ensure that they collect enough data points related to the process which can be fed into the AI system. The more the amount

of data, the better the predictability of the AI systems. This is an extremely critical step in ensuring optimum results through AI, hence data validation prior to ingestion is a must. Once the data is ingested it is equally important to govern, refine, and expand the collection of data sets to ensure better results.

The delivery phase is where organizations and service providers need to ensure that training, testing, and validation of data sets are scaled to the actual production environment to ensure minimum errors during the go live phase. Cognitive systems are designed to learn from failure and improve through continuous feedback.

An alternate approach to this would be to have a use case backed / Applied AI philosophy, wherein service providers have first enlisted common industry problems and then tried to come up with point solutions that have a wider applicability across industry domains.

In the business process scheme of things, AI is considered mainly for extraction, abstraction, classification of information from unstructured documents/images, applying cognitive search, natural language processing, and text analytics of back office documents to derive meaningful insights from the documents for decision making.

The automation program doesn't necessarily have to start with an RPA program, but for faster ROI and Full Time Equivalent (FTE) benefit, considering the use cases to automate rule based repetitive, manual intensive processes is generally the first step in an enterprise automation journey. Tackling more judgement, reasoning based work dealing with unstructured data by bringing in cognitive automation is considered next once the RPA program has attained some level of maturity. After the processes are reasonably harmonized and standardized, the next step is to apply a combination of RPA and cognitive for end-to-end process transformation for seamless operations and make the transaction processing more straight through. A human in the loop may only be needed to handle the fall out cases and to give a review feedback to the model to retrain itself.

Investment in an AI and analytics program will be measured against the following business objectives as a success criteria:

- Revenue/profit increase
- Cost optimization
- Customer experience improvement

Future trends

As businesses become more insight and data driven, adoption of technologies that make sense of myriad and disparate data will fuel the advent of new genre of technologies. Current AI systems are duly supported by huge data sets and systems that consume a vast quantum of data. However, decision making is limited to scenarios where AI systems can join the dots based on known data only and cannot predict future outcomes for broken or incomplete data sets.

Fortunately, organizations have access to millions of data points that can be used to train AI systems. It is up to organizations to leverage these data points to get deep insights and build a future ready business model.

While current day computing systems are aiding AI systems find their feet, the future needs demand systems that are capable of processing data at a much faster pace, which is why industry experts and evangelists are excited about the discovery of Quantum computers. Quantum computers in effect are spooky devices that don't follow the normal rules of physics. Instead of bits, they use qubits. Quantum computers are touted to revolutionize computing, making today's super computers obsolete.

The way ahead

We are currently in the awareness phase from an industry perspective. The awareness phase is when most firms recognize changes as meaningful trends that demand a near-term response. The usage of AI in business process services is considered for predictive and prescriptive analytics to give businesses a competitive edge. For instance, the AI engine can enable the financial officer of an organization to take an informed decision on the

next investment for a product line or the CMO to rethink marketing strategies based on customer sentiments - these are the kind of applications that business leaders would be looking up to.

Current AI technologies are narrow in the sense that they are good at doing only one thing that they are supposed to do. Fully autonomous AI which can learn, sense, comprehend, understand and grow in intelligence on its own (singularity) is still farther away, but the technology is making great progress and with Quantum computing and artificial intelligence coming together, we would be able to realize the benefits of AI technologies multifold.

For business processes, AI automation should not be looked at for transformation and productivity benefits in the shared services organizations, captives, or GBS centers only, but should go beyond that, exploring client retained organizations to realize true business benefits.

Large scale adoption of AI across industry segments would require support from governments, academia, research organizations, standard bodies and tech giants like Microsoft, Google, IBM, and Amazon to realize the true benefits. Explainability, governance, identity and access management, control and trust in AI systems is the moot point that needs to be deliberated and standards and legal clauses need to be developed around it if we need the AI assistant into the workforce as the human still has to be accountable for the overall decision with AI systems augmenting the human capabilities.

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Anjum is a seasoned global lead with 18 + years of extensive technology and managerial experience in IT / ITES implementing solutions primarily in telecom, financial services, healthcare, industry domains for system integration and application outsourcing engagements for fortune 500 clients. Anjum is a recognized AI evangelist, practitioner, change coach and aspiring data scientist helping businesses transform to drive better business outcomes in a data driven economy.

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