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INTELLIGENT AUTOMATION: HOW AI IS TRANSFORMING RPA

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Artificial intelligence is a very wide area and we'll dive a bit deeper into that to see how it is helping automation to become more and more effective. **We have heard of terms like natural language processing, deep learning, machine learning, computer vision, and we'll see that with reference to business processes as to how it can make it more effective and more intelligence.**

Now you have heard of robotic process automation. It's been widely accepted in the market and the implementation is growing at a speed of about 30 to 40 percent every year. Robotic process automation is typically where routine, mundane, manual activities are being automated. Whatever is being done manually is being programmed so that it can be repeated scaled up to achieve same thing automatically instead of a human operator doing that. Now it is extremely easy because of advent of technology to automate any such process. And once you implement that, the returns are visible very fast. And that's the reason RPA is so popular.

The RPA processes help you achieve close to 100% accuracy because it will do exactly what you ask it to do. It is extremely fast in terms of turnaround time so that productivity goes up. And that results in extremely cost effective operations because you can scale it up, scale it down without any incremental cost.

But even if RPA is so popular and getting adapted so widely and so fast, still it has inherent limitations that we discussed about regarding the intelligence discretion. And artificial intelligence can definitely help in these areas.

Let's consider invoice processing, which is automated using RPA, wherein you get the invoices in electronic format and then the robot reads the required details from the invoice. It performs the required verifications and makes the subsequent entries in some ERP system for subsequent processing. Now as long as the invoices are coming in electronic format, RPA performs extremely well. But in case invoice comes in the scanned format, then the data is not available electronically and in such cases RPA fails. Typically, it will mark it as an exception for some human operator to handle. So when it comes to reading a document, RPA fails. Consider the case of customer support in which the requirements are coming in the electronic format say in ticketing system.

Then a robot can perform that service very easily. But in case there's a voice call, then you need human operator here. So we are speaking about two cases, where the inputs are coming in unstructured text format. It is coming into the human voice where normal RPA fails.

However, there is natural language processing part of artificial intelligence, which can very easily handle that part, wherein it can read the unstructured text, find the required information and make it available in electronic format for a robot to perform subsequent operations.

Now, even in case of data available in electronic format, say for example, banking transactions where all the transactions are available in electronic format, a robot will be able to use that information at a very higher level, but it will not be able to derive any intelligence out of that which can be extremely beneficial for the organization. But with the advent of deep learning and artificial intelligence, a robot can go into multiple layers of data, transform that, detect any suspicious transactions.

And these patterns can flag as a fraudulent transaction before a fraud takes place, which can save millions of dollars for any organization. So we see that deep learning is another aspect of artificial intelligence, which makes automation extremely more effective.

Similarly, there is something called machine learning. Now, if you automate the process over the period of time, a robot will keep on doing that. But there's nothing like experiential learning involved into that. On the other hand, if you have a human operator performing certain operations, over period of time, that person will understand exceptions, learn with the experience and apply that experience to the subsequent transactions, which is absent in a pure cut RPA automation, but with advent of machine learning, the robot will keep on learning from previous experiences. Say for example, if you're handling automation of claims processing. Now, looking at the acceptances and rejections of the previous claims, the machine learning feature will analyze all these exception cases. It will build its own algorithm as to what other cases to be accepted. What are the cases to be rejected and use this algorithm for subsequent operations so that such instances can be performed swiftly without any human intervention. There are a lot of business processes in which the information is input in terms of images. There are a lot of business applications which are accessed remotely using IDP or Citrix where the data is available in an image format.

In such cases, a typical RPA will definitely fail. But there is something like machine vision, a computer vision, which is again another aspect of artificial intelligence which will help us analyze these images, dig deeper of the information available and extract meaningful information so that this information can be passed on to a robot to perform subsequent operations.

So now we have seen that natural language processing, machine learning, deep learning machine vision, these are various important aspects of artificial intelligence which are available easily for any robot to perform operations more swiftly. Now we have seen that robotic process automation itself with so many limitations is still to be exploited and adapted widely. With advent of artificial intelligence, on top of that, the scope widens a lot and thanks to the technology that artificial intelligence is becoming more and more stronger with more and more easier use of adaption to wider practical business processes. And that makes it extremely challenging and promising for future businesses to perform their business more in an agile way.