



Professional Services, Software & Solutions Group

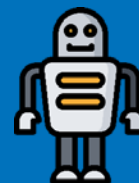
INTELLIGENCE IN ENTERPRISE AUTOMATION

RPA AND AI – FUTURE TECHNOLOGIES

With the advancement of technology, the futuristic fiction we have read is fast coming true. We already see Robots performing human tasks in a factory and it has become possible to perform many activities with a greater speed. Robots work not only with a greater speed than human beings but can also work 24x7 without taking any rest.



Studies have shown that in many work places about half of their activities, currently performed by the existing workforce, can be automated with the existing technologies. This Robotic Process Automation (RPA) is useful to carry out simple rule- based tasks with greater speed and in an economical way, and it has the potential to change today's workplace just like machines did during the Industrial Revolution.



RPA is ideal for performing the routine tasks such as entering purchase invoices in an ERP system, opening of customer's account. It not only reduces mistakes but also generates a lot of savings in terms of work and cost that was till now done manually. However, it is must to provide instructions to the software robots, because they themselves are not intelligent enough at least till today. RPA robots are dumb. They will do exactly what you have trained them to do each time. This is both its strength and weakness. A strength because they will carry out the process compliantly and accurately, but a weakness because it precludes any self- learning capability. This inability to self-learn is a constraint for RPA. Other constraint for RPA is that it can't make complex decisions i.e. it can't use judgment in a process. The robot requires structured data as their input.



When the input data is semi structured or unstructured then we have second set of tools the "Intelligent Automation" (IA) which is enabled by cognitive technologies. This artificial Intelligence (AI) is a broad term for a machine's ability to imitate a human's way of sensing things, making deductions and communicate e.g. real time analysis of traffic congestion through traffic camera by the machine vision in the control room, which is very helpful in taking preventive measures. However, cognitive technologies are at a nascent stage but have a huge potential to transform the business across the globe. This AI with "cognitive reasoning" can be used to support and augment the RPA process.



PROCESS AUTOMATION

TYPES AND BENEFITS

Process automation began in the 19th century in the textile industry, when factory machines began to be used for weaving, stitching and spinning cotton. As the nature of work has changed, so has the method of automation. Many organizations have applied technology to business processes through the use of ERP and other business applications, but the full benefits by the business are yet to be realized which is possible by way of using two genres of tools RPA and IA. These two are different types of technology, but they complement each other very well. One can use RPA without AI, and AI without RPA, but the combination of the two together is extremely powerful.



Robotic Process Automation (RPA)

RPA technologies are useful for simple processes that are rule based manual and are of repetitive nature methodical steps. RPA software 'robots' are able to perform such routine business processes by mimicking the way the people interact with applications through a user interface.



Examples



Retrieval of information from one system and entering it into another.



"Drag and Drop functionality", making entries in the journal, ordering, billing etc.

The RPA solutions are generally cost effective, require shorter implementation time and carry lower risk than large IT transformations. However, it is important to find the right process and apply the RPA judiciously.

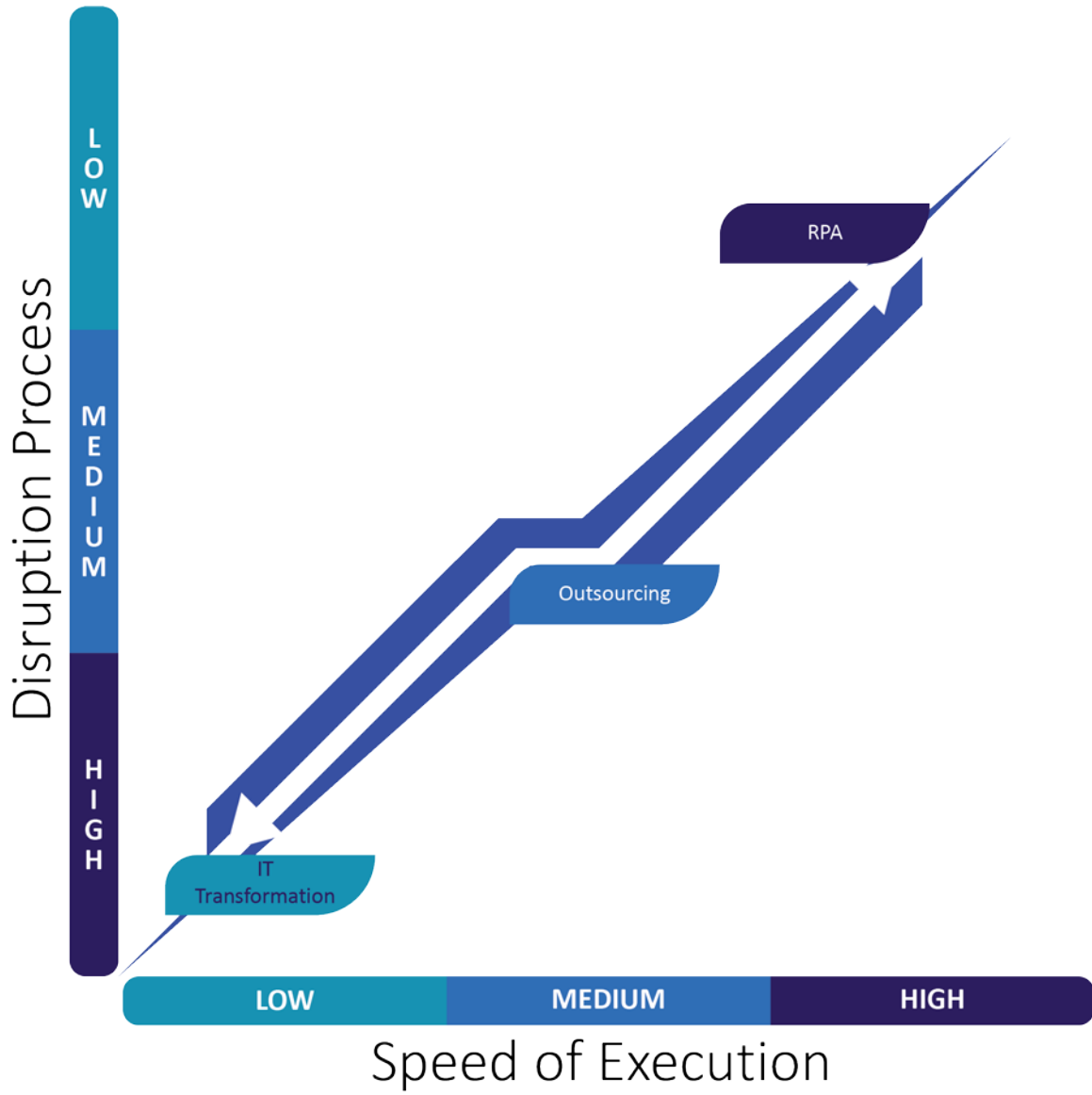
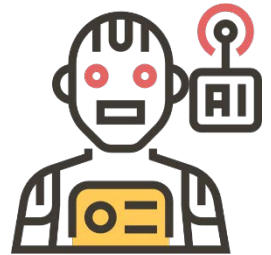


Figure 1: Shows a comparison of RPA with Traditional Transformation approach.

Intelligent Automation (IA)

Applied alone, RPA has great potential for automating routine tasks. On the contrary, non-routine tasks- those involving intuition, creativity, problem solving or judgement- would be difficult to automate. Rapid developments in the field of Artificial Intelligence(AI) creating new technologies such as cognitive which have human like capabilities i.e. recognizing hand writing, identifying images and natural language processing. When combined with RPA and big data, these cognitive technologies can perform non routine tasks or even automate those tasks completely.



Examples



Global banks are leveraging IA to improve the regulatory compliance processes by monitoring all electronic communications.



Wealth management firms are using IA to review and analyze portfolio data of their clients.



Crop insurance providers use IA to evaluate crop health and assess claims accurately. It also helps farmers to know the problems early and thereby maximize their yield.



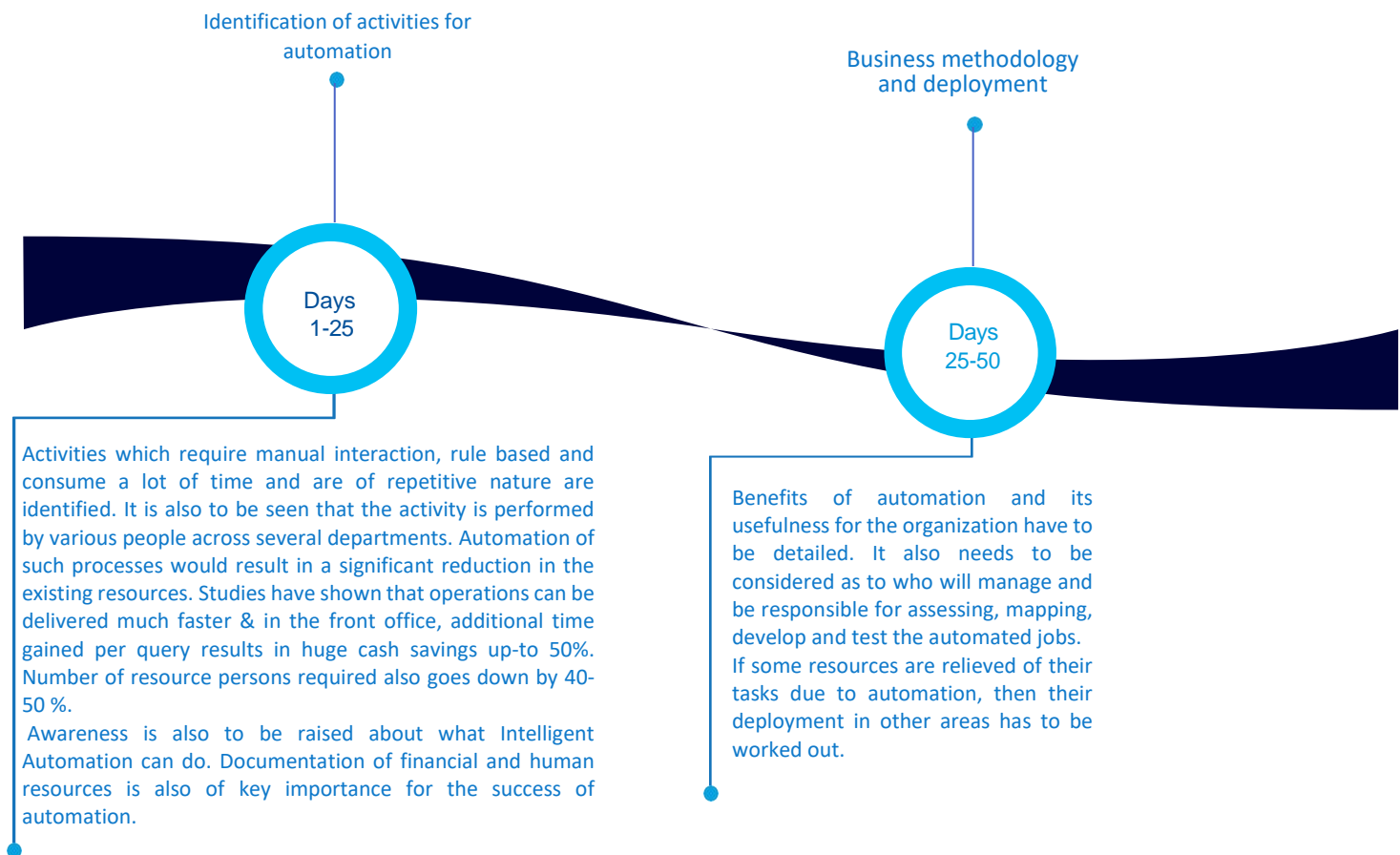
Most industries operating on the World Wide Web are susceptible to fraudulent users and banking is no exception. There is a growing demand to protect them from fraud. Criminals are often the first to exploit emergent technologies. and turn their complexity against their users. Email scams and credit card fraud are common examples. By tracking thousands of signals in real time and sharing information across the network of clients, it has become possible to catch the fraud cases to a great extent and help the customers.

Potential Benefits of Automation



Intelligent automation journey

We have identified the following 4 steps to develop an automation strategy. With this action plan we can achieve our objective very fast. Achieving some early successes will help build momentum and give the intelligent automation agenda credibility required to move forward.



...scaling up

Identification of
Automation
Partners

Days
50-75

Consider various options of sourcing the automation partner and select the vendor that meets your requirements. Prepare evaluation criteria and make sure that the vendor's technology fulfills all of your parameters. Pricing model also needs to be carefully examined so that you are getting the best value of your money.

Automation
Roadmap

Intelligent automation is a vehicle to transform your business but it needs to co-exist with other functional components. Roadmap for automation should look beyond the initial deployment. Outline the automation journey based on the challenges defined in your business. Roadmap should also take into account various other factors such as quality of data which can influence the success of Intelligent Automation.

Developing a capacity building programmer for the functional technology team is also of paramount importance so that it becomes self-sufficient.





ARTIFICIAL INTELLIGENCE AND CUSTOMER'S EXPERIENCE

After embedding Artificial Intelligence into their business applications, the organizations can transform the customer's experience to their advantage in several key areas such as sales, marketing and customer service.

Sales people always remain connected on their mobiles with their company and customers. AI is very useful in analyzing the data and predicting sales forecast and take necessary measures to improve the sales. As more customer information becomes available through big data, the market campaign begins keeping the customer's preferences and choice. Today the enterprises face a very big challenge of maintaining a high quality customer service. Here Artificial Intelligence technology led virtual agents like chat bots are becoming popular and are taking over traditional call center IVR to route customers to the right agent or queue and improve the overall quality of customer service and serve them better.

All big organizations are already using Artificial and machine intelligence to predict customer's behavior and revamp their strategy taking into account the customer's experience e.g .Facebook uses machine learning to post relevant content and advertisements based on the things you liked, groups you joined and pages you follow. Amazon sends periodic emails when a product you searched for is available at a low price, as well as product recommendations that may be of interest to you. All of these is the result of machine learning.

WAY FORWARD



As robotic solutions grow more robust, it has the potential to benefit a large number of people at reduced cost. Intelligent Automation (IA) though still nascent has enormous market potential and is more powerful. Rapid growth of RPA presents a large threat as well as an opportunity to traditional BPO providers. Any strategic partnership between them could be of mutual benefit.

RPA software has the limitations as they are not able to work with unstructured data. Realizing this, the big vendors are already focusing their attention to add some element of cognitive capabilities to their existing tools such as speech recognition, natural language processing and extracting information from images etc. Both RPA and IA solutions have to be worked together in any enterprise for the best results.

We are now fast moving in the direction where Robots replicate the human brain. There is a myth that Robots can now think like humans. But the truth is that neither RPA nor IA solutions can replicate human reasoning. In-fact RPA software robots mimic the behavior of humans when they interact with application user interface but they follow highly methodical instructions and simple conditional logic. To conclude using RPA and AI the entire processing in any enterprise could be re-engineered. Parts of the process that may originally have been expensive to execute suddenly becomes easier and cheaper to run. In different parts of the world, the AI is being widely used in almost all the disciplines including legal and financial matters. AI is also being used to predict when and where epidemics will happen. AI is also being used to offer entertainment recommendations on the basis of user's conversation. University of Zurich has developed the deep Neural Network software which helps drones to identify trails and paths and leads them to lost or injured hikers with 85% accuracy. Automated Insights have developed a free system that can analyze data to write personalized reports. AI can also be used to automate a full branding package and the service can be provided on a subscription basis. In the sports also wearable fitness tracker and AI personal trainer are becoming very popular and provide useful feedback.

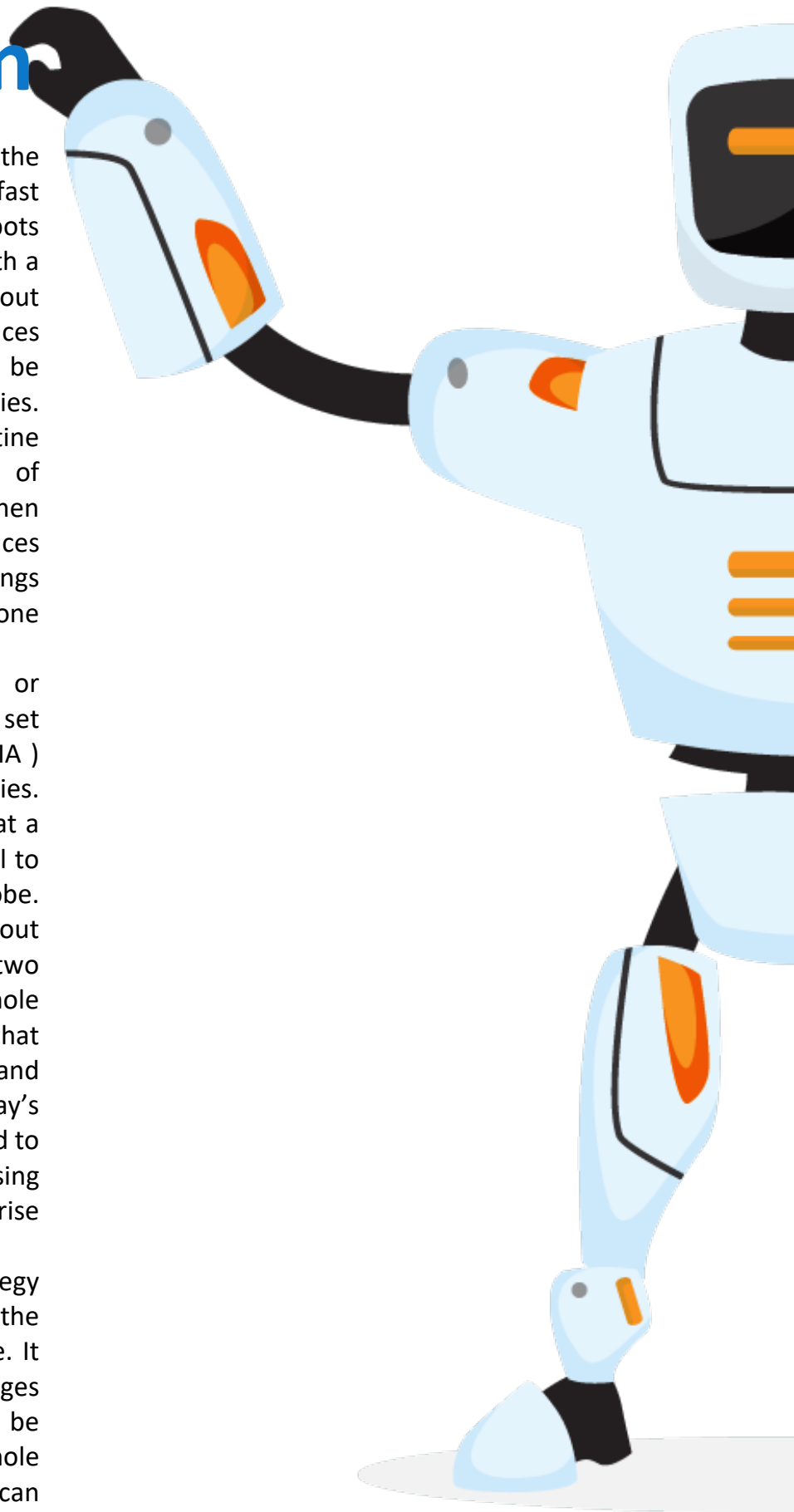
Today's enterprise systems generate enormous volume of data that can be fed into IA and machine learning technologies to analyze meaningful trends and produce actionable points. This is very useful in building and maintaining stronger customer relationships.

Conclusion

With the advancement of technology, the futuristic fiction we have read is fast becoming true. We already see Robots performing human tasks in a factory with a greater speed and working 24x7 without taking any rest. In fact at some work places almost half of their activities can be automated with the existing technologies. RPA is ideal for performing the routine tasks that are rule based and are of repetitive nature or we can say that when the data is structured. It not only reduces mistakes but also generates a lot of savings in terms of work and cost that was done manually till now.

When the data is semi -structured or unstructured then we have the second set of tools the “Intelligent Automation” (IA) which is enabled by cognitive technologies. Though the cognitive technologies are at a nascent stage but have a huge potential to transform the business across the globe. One can use RPA without AI, and AI without RPA, but the combination of the two together is extremely powerful. Our whole objective is to make some processes that are expensive to execute, easier and cheaper to run and also fast. In today's changing world no enterprise can afford to sit back and do nothing .To conclude, using RPA and AI the processing in any enterprise could be re-engineered.

This white paper has outlined the strategy that can be deployed relating to the automation processes in any enterprise. It also briefly depicts as to how the challenges associated with the automation are to be handled and integrated into the whole business transformation process. One can learn from the experience of other industries.



How PS3G can help?

PS3G will assist the clients to develop an automation strategy. Our business strategy teams do a deep research to identify the activities suitable for automation, taking into account the prevailing market conditions and the customers' requirements. Our consultants also help the clients to reorganize their office structure and in capacity building of the existing workforce so that they become self-sufficient. Our sole aim is to make our clients attain competitive position in their business so that they can thrive well in the digital world.





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