



COMBINING RPA & AI FOR BUSINESS SUCCESS

BY JEAN-JACQUES BÉRARD, EXECUTIVE VICE PRESIDENT, RESEARCH & DEVELOPMENT, ESKER



AI CAN BE SCARY

Alan Turing. Stephen Hawking. Bill Gates. Elon Musk. All these great minds of the computing world warned against the dangers of Artificial Intelligence (AI), and they have a point. The implications of any new technology need to be considered carefully — especially ones that, according to Stephen Hawking, could make humanity extinct.¹ In addition to envisioning new ways to make it truly useful, societal pressures that come with any new technological advancement must be addressed. Apart from the sci-fi scenario that evil robots will take over the Earth, the biggest fear that people express about AI and its related technologies is that their jobs will be replaced by it. This is not totally unfounded, as a 2019 McKinsey Global Institute Report estimates that that “about half of all the activities people are paid to do in the world’s workforce could potentially be automated by adapting currently demonstrated technologies.”² Yet, focusing on whether AI will replace certain human-performed activities rather than entire occupations would be a preferred approach to considering the implications. Leveraging automation that includes AI allows for a better quality and understanding of the data and an acceleration of work processes, all packaged into flexible, scalable solutions that can increase savings and productivity. This is the reason why this fast-evolving yet increasingly accessible technology is quickly gaining traction in business process applications.

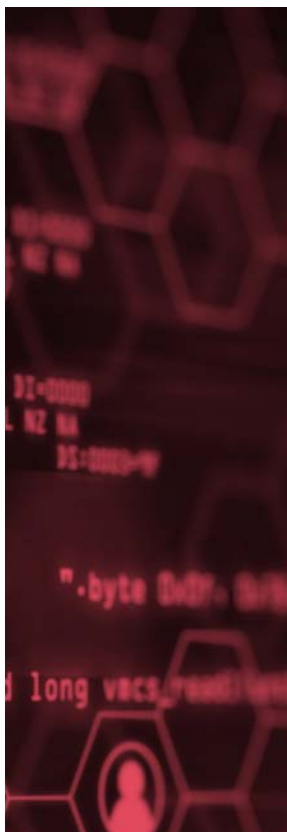
When business process automation first caught hold in the early 2000’s, it was clearly intended as an economical replacement for tasks previously carried out entirely by humans. Since warning bells have gone off about the economic and social impacts of such massive changes, though, the conversation needs to change from hype to a more rational examination of how humans and machines will work hand-in-(robotic)-hand in the future. “As processes are transformed by the automation of individual activities, people will perform activities that complement the work that machines do, and vice versa,” Bughin et al. write in their report.² In the last few years, for example, AI-powered automation has evolved to enable the optimisation of the entire cash conversion cycle, thereby enhancing previous automation technologies that had already changed the workflows of finance and customer service staff considerably.



...BUT NOT THAT SCARY IF APPLIED JUDICIOUSLY

The two versions of automation currently most in use in finance and customer service functions are Robotic Process Automation (RPA) and AI with its various subcategories such as Machine Learning and Deep Learning. Often used somewhat interchangeably, these two technologies are not the same thing.

RPA in its most simple form, also frequently referred to as a “bot”, is basically a piece of code that executes strictly defined tasks repetitively and thereby automates business processes, such as signing into and pulling information from vendor and customer portals. You can think of it as an Excel macro that executes a set of instructions. RPAs, however, are not limited to Excel. They can be very useful when the same tasks need to be carried out repeatedly without any adaptation. This also means, though, that an RPA can easily “break” if the applications that the code interacts with change. The strictly task-focused, rules-based approach, however, can relieve the customer service or finance staff from the drudgery of repetitive work.



Once adaptive behaviour is required - such as error resolution or analysis – the dynamic nature of AI comes into play. The term AI generally describes the mimicking of human, “natural” intelligence by using algorithms. This imitation of cognitive functions then allows for the extraction and analysis of large amounts of data, which are concentrated and processed to provide insights and inform future actions. The process of learning and adapting to the collected data constitutes what is generally referred to as machine learning. In a procure-to-pay (P2P) or order-to-cash (O2C) environment this can refer to the mechanism of the algorithm learning how orders and invoices – as well as all collateral functions - are processed and exceptions are handled. Analyses can then be performed on the collected data while at the same time utilising auto-learning technology to ensure the continuous improvement of these inherent processes and simultaneously optimise its accuracy and efficiency.

Combining the task execution of RPA with AI’s text capture, analysis, and auto-adapting capabilities is what enables veritable automation of business processes. Esker’s Order Management and Accounts Payable solutions both embed multiple AI-based recognition layers: after the characters on inbound orders and invoices have been gathered using text extraction or OCR, data capture technologies are applied to give meaning to those characters -- for example identifying invoice date, PO number, amount totals or line-item information. The multi-layer AI engine that combines Esker Synergy, a Deep Learning neural network possessing auto-learning and teaching capabilities and trained on historical data, converts the extracted information into data that can be input into the ERP. The real value of this hyper-automation solution lies in combining multiple technologies. For example, an order or an invoice is retrieved from a portal via RPA, its data recognised by AI and then pushed into the ERP using an API or web services integration tool, with the final step of an RPA function confirming the process on the portal.

By building on RPA, AI makes the solution adaptable and flexible. While leveraging these two complementary technologies enables successful end-to-end automation, AI does not depend on RPA to create value. To analyse and automate complex business processes, AI and its various subcategories are able to provide a comprehensive and robust structure whose learning, reasoning and self-correction capabilities can provide greater process efficiency.



WITH GREAT POWER COMES GREAT RESPONSIBILITY

Whereas RPA is a low-risk yet short-term investment, combining it with AI adds a whole new dimension of process automation adapted to the long term. This complementary relationship alone should be of special interest to those in charge of technology investments in an organisation. Yet businesses would be amiss if cost reduction and labour replacement were the only goals that decision-makers had their eyes on. Of course, even before industrialisation, there were fears of the replacement of workers, but humans have not been replaced (yet!). Rather than eliminating jobs, the introduction of AI capabilities into the workplace can enable staff resources to be directed to higher-value tasks such as enhanced customer service activities, performing analyses, identifying process improvements, and negotiating payment terms.

This requires, however, that businesses invest in the skill development of their employees as well as focus on innovation – both technological and social. Jacques Bughin and Eric Hazan of McKinsey Quarterly refer to this as Technological Social Responsibility (TSR).³ TSR amounts to a “conscious alignment between short- and medium-term business goals and longer-term societal ones.”³ By aligning business goals with societal interests in a sustainable manner we would be taking the wind out of the sails of those that see calamity in every new technology. According to Jaron Lanier and Glen Weyl, “regardless of how one sees it, an understanding of AI focused on independence from—rather than interdependence with—humans misses most of the potential for software technology.”⁴

Sources

¹ “Stephen Hawking Warns Artificial Intelligence Could End Human Race”, The Economic Times, March 14, 2018

² Bughin, Jacques; Chui, Michael; Dewhurst, Martin; George, Katy; Manyika, James; Miremadi, Mehdi; Willmott, Paul: “Driving Impact at Scale from Automation and AI”, McKinsey & Company, February 2019

³ Bughin, Jaques & Hazan, Eric: “Can Artificial Intelligence Help Society as Much as it Helps Business?” Wired, March 15, 2020

⁴ Lanier, Jaron & Weyl, Glen: “AI is an Ideology, Not a Technology” Wired, March 15, 2020