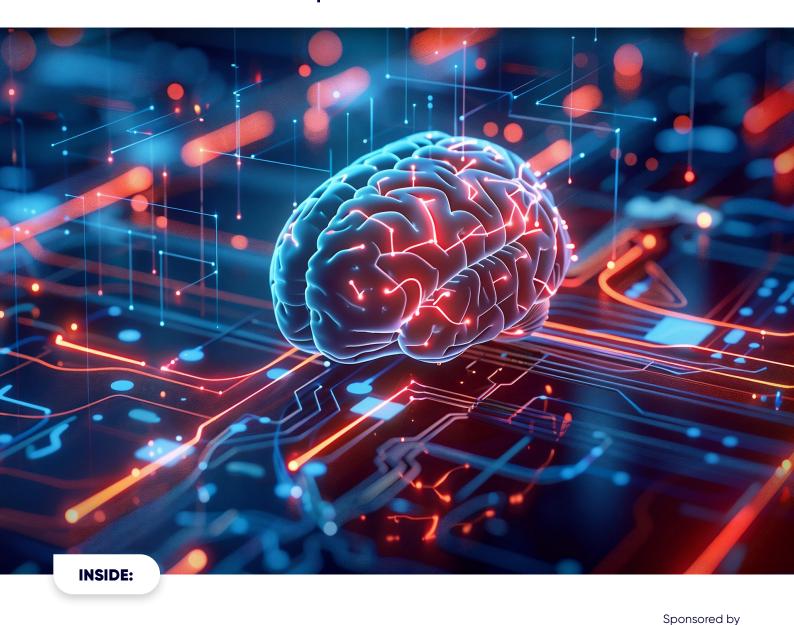
2024 PEX Report



INTELLIGENT AUTOMATION 2024 INDUSTRY REPORT

Combining the brainpower of AI with the muscle of process automation



- The trends shaping the intelligent automation landscape
- Case studies and guidance from Infocap, Gordon Food Service and Navy Federal Credit Union
- Intelligent automation success factors and challenges





What is intelligent automation?

Intelligent automation (IA), also known as intelligent process automation, combines artificial intelligence (AI) and robotic process automation (RPA), as well as other emerging technologies. By merging the "brainpower" of AI with the "muscle" of process automation, IA is uniquely positioned to not only transform business operations but also adapt and learn as it does so.

IA widens the scope of automation, incorporating applications that consist of but are not limited to pattern analysis, data assembly and classification. Spanning the entire automation journey, IA's potential for driving business efficiency and optimization is vast – made richer by the evolving capabilities of technology such as generative AI.

Businesses are increasingly turning to IA solutions that embrace a holistic approach to automation. It is designed to go beyond traditional automation – often focusing on replicating simple, repetitive tasks – to automate more complex, rule-based processes and even adapt to changing scenarios. Use cases are expanding all the time, with companies applying IA to streamline processes, cut costs, build predictive analytics and improve customer service, to list just a few examples.

For example, Gartner predicts that, by 2026, 30 percent of enterprises will automate more than half of their network activities, up from under 10 percent in mid-2023. This shift underscores the growing reliance on automation within

infrastructure and operations to enhance value, efficiency and agility. According to Chris Saunderson, senior director analyst at Gartner, infrastructure and operations (I&O) leaders are increasingly looking to Al-based analytics and augmented decision making – including IA – to improve operational resilience and responsiveness, address complexity and process increasingly large amounts of data through automation.

IA is evolving rapidly, with new, innovative platforms coming to the market, says Doug Shannon, global IA/generative AI thought leader and Gartner Peer Ambassador. "These tools are making automation more accessible to both technical and non-technical users, aligning with the principles of alignment, clarity and transparency (ACT) to ensure everyone involved has a clear understanding of the process and outcomes."

A particularly interesting trend is the advancement in robotics, Shannon adds. "Robotics is transforming industries as we see new job markets emerge where workers are trained to wear VR headsets and suits to control robots, essentially mimicking human actions." These robots are not simply taking over jobs but are being trained by humans to learn these tasks over time, opening up opportunities for ongoing human involvement in the process, he says.. "This allows businesses to scale up robotics without fully displacing the workforce, creating a dynamic where the job market evolves alongside the technology."

"IA has been leveraged to automate inventory management and demand forecasting, helping in maintaining optimal inventory levels, limiting waste due to spoilage and reducing risks of overstocking or stock outs."

Deji Adedayo, Gordon Food Service



Trends shaping intelligent automation



Generative Al

The integration of generative AI into IA is one of the leading trends driving and molding the current landscape. "Generative AI is not only creating content but also reshaping enterprise strategies by augmenting human capabilities," says Nathaniel Palmer, CEO of Infocap. Tools like Microsoft Copilot and Amazon's AI-driven systems are enabling software development, customer engagement and even healthcare through personalized automation.

"Generative AI and large language models (LLMs) are increasingly being incorporated into platforms via stacked agents – thus automating (or rather helping to enable) more and more day-to-day tasks that require advanced natural language comprehension, content generation capabilities and decision-making capabilities," says Rahul Zende, principal data scientist at Navy Federal Credit Union.

This is all the rage amongst startups right now and is threatening to disrupt the whole expectation of startups being a "bunch of people working on an idea," he adds. "We should start seeing more and more single employee (aka founder only) startups crop up in the coming times."



Mass technology convergence

IA is also converging with multiple other technologies including natural language processing (NLP), process mining and intelligent document processing (IDP) to go beyond simple rules-based task automation to cognitive, knowledge-intensive work. "This is enabling adaptive, automations that interpret, act and optimize their actions in real-time based on the data they process, interacting with other systems more effectively. This can help automate more work within end-to-end processes," says Swarna Kuruganti, IA expert and thought leader. Kuruganti is a member of the VOCAL Council, a global community of decision makers and users of automation technologies, and previously oversaw digital innovation and operational transformation at the Moffitt Cancer Center.

"Multimodal capabilities amongst AI models are leading to a noticeable boost in IDP capabilities," adds Zende.

"These are becoming far more advanced, allowing for more confident extraction and processing of data from unstructured documents like checks, invoices, contracts and forms with lesser need for human intervention."



Sustainability goals

Sustainability has become a non-negotiable factor of modern business. Environmental responsibility is increasingly intertwined with automation to minimize the impact of emissions and waste. Sustainable automation practices not only align with global environmental goals but also benefit organizations in several areas.

In automation, sustainability involves optimizing energy usage, reducing waste and adopting eco-friendly practices across the entire lifecycle of processes. There are multiple new and emerging automation technologies that can help businesses measure and control resource consumption, with automation-enhanced predictive analytics extending the lifespan of equipment, minimizing waste and driving cost savings.









Expansion into non-traditional sectors

The expansion of IA into non-traditional sectors and transforming industries still clinging to manual work is another trend to note. IA will rapidly gain ground in domains still relying on traditional hand-operated processes – all the way from small practices to large organizations. Even in industries that still heavily rely on tasks being carried out manually (such as healthcare) legislative changes and technology leaps are requiring them to press forward with IA.

"From customer onboarding to invoice processing, Alpowered automation solutions are being implemented to
enhance customer experience, improve productivity, reduce
burnout and ensure compliance, regardless of the industry
and role," says Palmer. "This trend is driven by the need
for organizations to fast-track digital transformation and
adapt to rapidly evolving business environments," he adds.



Democratization of automation

The democratization of automation is accelerating the automation footprint in organizations. "The continuing rise of low-code and no-code tools is comprehensively democratizing capabilities for non-professionals, thus allowing non-technical business users to build and deploy automated workflows, websites and more without the need for extensive coding knowledge or the associated manpower," says Zende. This is impressively accelerating productivity for individuals and organizations alike and is

also incrementally eliminating the need for mediocre talent in those spaces, he adds.



Standardized and ethical practices

As IA adoption grows, organizations are prioritizing effective governance and standardization to ensure consistency, security and compliance across automation initiatives. Expect to see more businesses invest in ethical AI frameworks, transparency measures and governance mechanisms as well as IA Centers of Excellence to manage and optimize automation programs. This reflects a growing awareness of the societal impacts of automation technologies including concerns about bias, privacy and job displacement. "Governments and regulatory bodies are expected to introduce stricter frameworks governing the use of AI and automation, particularly in sectors handling sensitive data like healthcare and finance," says Palmer.



Cost and budget pressures

Amid ongoing economic uncertainties and inflation rates, the relentless pursuit of cost optimization is a defining characteristic of modern business success. Financial business pressures are undeniable while competition is fiercer than ever. Leaders are constantly seeking ways to do more with less to support cost savings and support profit. IA can aid organizations significantly in this regard, offering solutions that transform operations, reduce labor costs and improve efficiency – all of which have significant impact on the bottom line.



Biggest benefits of intelligent automation



Operational efficiency

One of the most significant areas of potential for IA is its capability to enhance operational efficiency of organizations, experts agree. "IA can significantly reduce manual work and streamline processes," says Shannon. Platforms which translate standard English into code allow businesses to interact with automation without needing specialized coding knowledge. "This aligns perfectly with the ACT model by providing clear and transparent processes that boost productivity," he adds.

IA continues to streamline and optimize complex business processes by combining the power of AI, machine learning and other technologies, adds Zende. "Due to the automation of repetitive, time-consuming tasks, we are likely to see a short-term decrease in employee headcounts, as the boost in productivity/efficiency allows higher-skilled employees to focus on higher-value strategic work while cutting out their lesser-skilled counterparts," he says. However, the faster execution of tasks, reduced processing times and significant improvements in overall productivity and operational efficiency are bound to create new employment opportunities for the people that are/were displaced in recent times.



Enhanced decision-making

Agile operating capabilities with improved decision-making is another key potential benefit of IA, says Kuruganti. "RPA, combined with other AI technologies, enables better data-driven, contextually adaptable decisions."

Al-powered decision intelligence systems can analyze vast amounts of data in real time, offering actionable insights that support faster and more accurate decision-making. "These systems can optimize workflows, predict trends and identify risks, allowing businesses to stay competitive and agile in a fast-changing environment," says Palmer.

Platforms with expert agents are enabling businesses to make decisions faster by processing unstructured data, adds Shannon. "By aligning automation with business goals (ACT model), organizations can ensure their decision-making is clear and aligned with their long-term objectives," he says.



Scalability and growth

IA helps businesses to scale efficiently up and down (to handle seasonal surges or unexpected opportunities and crises) without adding significant human resources. "By eliminating inefficiencies, companies can allocate resources to more strategic tasks, driving both productivity and profitability," says Palmer.

The integration of robotics in IA enables businesses to scale while maintaining human involvement, adds Shannon. "Workers controlling robots via VR not only help the robots learn but also create new roles in emerging job markets. This incremental approach to automation, where humans teach robots gradually, ensures that as technology evolves, so do the opportunities for human workers to contribute." IA is also enabling growth supported by a hybrid workforce where humans, augmented with Al-RPA bots, adopt elevated roles to support growth with more complex, value-added work, says Kuruganti.



Customer experience and engagement

By automating customer interactions through Al-powered chatbots, virtual assistants and personalized service workflows, businesses can offer 24/7 support, faster response times, multi-channel communication options (including multi-lingual) and solutions more tailored to customer needs. "This not only increases customer satisfaction but improves acquisition and retention rates as well," says Palmer. "IA also provides deep insights into customer behavior and preferences, allowing businesses to create personalized experiences at scale, which is crucial for shortening sales cycles, speeding up new customer acquisition and building long-term customer loyalty."

"With IA technology processing vast amounts of unstructured data, businesses must ensure that data is handled securely and ethically."

Doug Shannon, global intelligent automation and Al thought leader





Intelligent automation in action



Gordon Food Service

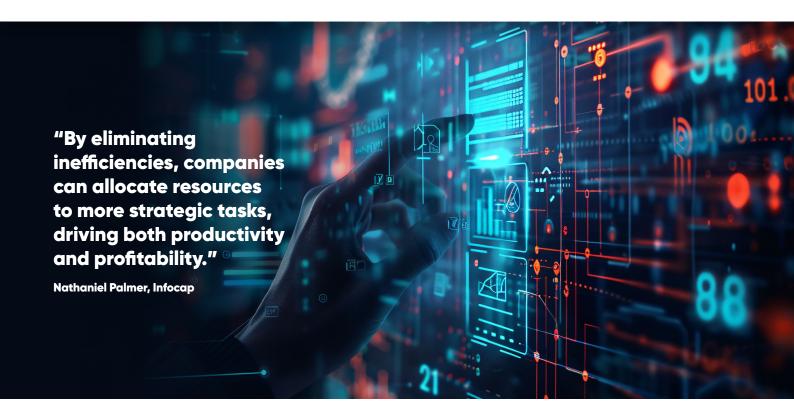
Deji Adedayo is IA lead and product owner (North America) at Gordon Food Service (GFS), the largest family-operated broad-line food distribution company in North America. It serves the Midwest, Northeast, Southeast and Southwest regions of the US and coast-to-coast in Canada.

Adedayo has led numerous transformative projects across various industries, demonstrating a blend of technical acumen and strategic insight with a commitment to optimizing processes and enhancing efficiency. During his time at GFS, IA has played a progressively impactful role. "I remember a couple of years back when I started at GFS, the IA program was very new," he says. Fast forward to a few years after, IA is increasingly being leveraged to enhance operations across several key business areas, as it is across much of the food distribution industry generally, he adds.

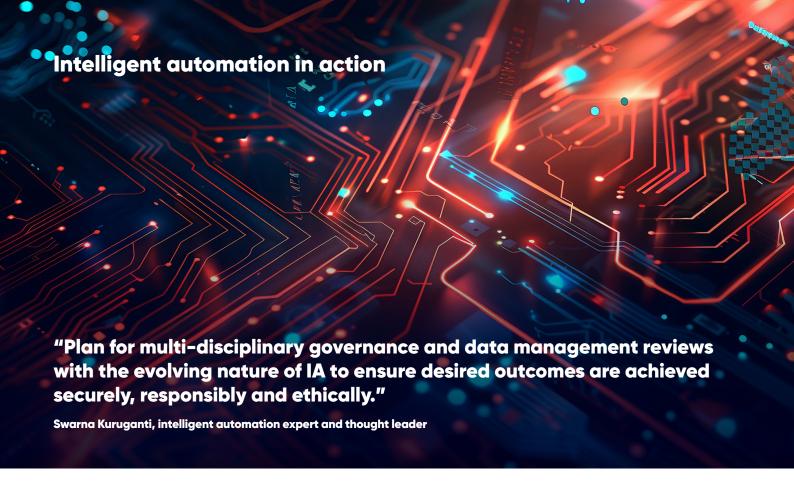
A prime example is in finance. "IA has been leveraged for automated invoicing and payments, financial forecasting and planning, expense management and optimization, regulatory compliance and fraud detection," Adedayo says. IA helps to reduce human keying errors, accelerate billing processes and esure accuracy, as well as reduce the workload of finance teams, decrease the risk of payment errors and reduce risks of fines/legal issues.

IA has also enhanced supply chain optimization as well as logistics and distribution, Adedayo says. "IA has been leveraged to automate inventory management and demand forecasting, helping in maintaining optimal inventory levels, limiting waste due to spoilage and reducing risks of overstocking or stock outs." Likewise, IA tools help to analyze delivery routes and traffic data in real time to optimize schedules and speed up delivery time. "IA is also helping with preventive maintenance – shortening time to inspect equipment and trucks."

Other use cases include automating repetitive and rule-based tasks such as data entry, reducing time spent on administrative tasks and minimizing the likelihood of errors, along with helping to improve customer satisfaction, adhere to compliance standards and drive growth, according to Adedayo.







The benefits speak for themselves. "Incorporating IA has not only helped in streamlining processes and operations, but provided that competitive edge needed by enhancing capabilities and improving service delivery." Here are four examples:

- Increased efficiency and productivity: IA technologies like RPA have helped optimize workflows, automate repetitive and time-consuming tasks and reduce the time and effort required to complete processes/tasks, says Adedayo. "We have saved thousands of hours of annual time spent performing mundane and administrative tasks."
- Operational cost reduction: IA has helped optimize resource utilization, reducing waste and minimizing errors, which in turn cuts down operational costs.
- Enhanced decision-making: "IA has enhanced decision-making by providing new and actionable insights into processes, helping managers make better, informed decisions."
- Direct impacts to bottom line: IA technologies are helping to identify and submit claims to vendors for refunds, bringing back thousands of dollars, Adedayo says.

From an industry perspective, Adedayo predicts IA to have a huge impact on the future of the highly competitive food distribution sector, transforming supply chains, customer service and data-driven decision-making.

"IA can optimize the entire supply chain, from forecasting demand and managing inventory to logistics and delivery." Automated systems will increasingly be able to predict demand with high accuracy, adjust inventory levels in real time and optimize delivery routes to reduce costs and delivery times.

As for customer service, Al-driven chatbots and virtual assistants that can handle customer inquiries and orders around the clock will offer more personalized and responsive experiences, providing immediate responses and updates on order status, delivery date and time and product availability, Adedayo says. What's more, evolving IA tools can collect and analyze data from various points in various areas, generating new insights into customer preferences, behaviors, market trends and operational bottlenecks, helping to reduce fuel consumption and cost on parts and equipment for transportation.

Intelligent automation success factors



Business alignment

For IA to succeed, it must be aligned with a company's strategic goals, allowing teams to clearly see and understand automation processes, says Shannon. "This transparency enables better collaboration across departments, fitting perfectly within the ACT model." A clear vision and strategy, with strong leadership backing and long-term commitment, is also essential, adds Zende. "Whimsical ideas and halfhearted initiatives are going to die quicker deaths, and we will see the differences much more clearly amongst success and failure in implementations."

Identify specific processes and workflows where automation can add the most value, whether it's cost reduction, customer satisfaction or operational efficiency, says Palmer. "A clear vision ensures that automation initiatives are not fragmented, narrowly defined or purely tactical, but part of a larger effort to achieve measurable outcomes like improving productivity or accelerating digital transformation. Without strategic alignment, automation projects risk becoming disjointed, unlocking a mere fraction of the potential overarching benefits."



Robust data management

Automation systems rely heavily on data to function effectively. Clean, well-organized and accessible data is a critical enabler of IA. "Businesses must ensure they have well-defined and active data governance practices in place, including the integration of data from different systems, applications and departments," says Palmer. "Data governance will become even more critical as automation systems process increasingly large data flows, with complex interconnections from source to destination."



Talent development and iterative learning

Talent development is key to IA success. "With IA comes the responsibility to update processes and people to take advantage of them and avoid misses in utilization of automations that are in place," says Zende.

Shannon agrees, citing the importance of iterative learning and human involvement. "As robots and Al systems evolve, iterative learning and continuous improvement become critical." The ACT framework supports this by ensuring that processes are clear and aligned with business goals, while also allowing room for human oversight and adjustment, he adds. While jobs that were once thought to be replaced by robots may be overtaken slowly over time, there will be new opportunities to train and leverage human expertise as these systems evolve. "This requires businesses to be agile and forward-thinking in how they implement and scale these solutions," Shannon says.



Transparency and trust

Building trust in automation is essential, and transparency plays a huge role in that, Shannon says. Businesses need platforms that allow them to implement automation that is easy to understand and explain, making it easier to gain buy-in from all stakeholders. "This is critical as companies scale, especially in areas where robotics and AI are involved in mission-critical operations."

Governance and ethical use should be carefully considered too. "Plan for multi-disciplinary governance and data management reviews with the evolving nature of IA to ensure desired outcomes are achieved securely, responsibly and ethically," says Kuruganti.







Intelligent automation success factors



Managing expectations

Managing expectations in and around IA projects has become extra critical, says Zende. "ChatGPT and AI services in everyone's hands are making things look too easy. People expect too much too soon out of projects these days, and so making sure to create a reasonable set of goals, milestones and checks is very important." Calculating and communicating return on investment (ROI) is key here too, as is defining and tracking project-specific benefits.

"Gain clarity on IA's role within complex enterprise tech stacks, including trade-offs between commoditized RPA functionality embedded in larger enterprise platforms versus focused RPA platforms to better integrate into the technology landscape," says Kuruganti. Executive attention favouring AI investments will trigger more justification for IA investments with technology debt, increasing the importance of maintenance and monitoring, she adds.



Leadership commitment and cross-departmental collaboration

Leadership buy-in is critical to drive the adoption of IA, and executives must champion automation efforts, provide the necessary resources and foster collaboration across departments like IT, operations and finance. "Cross-departmental collaboration ensures that automation initiatives are not siloed but are integrated into the broader enterprise strategy and value chain, maximizing their impact," says Palmer.



Continuous monitoring and optimization

After deployment, IA systems require ongoing monitoring to ensure they are performing as expected and delivering the desired outcomes. "This includes tracking key performance indicators (KPIs) such as process speed, error reduction and cost savings," says Palmer. Continuous optimization is needed to refine automation workflows, correct issues and adapt to changing business requirements.





Intelligent automation challenges



One of the biggest challenges businesses face with IA is change management. "Resistance to change for fear of job displacement or distrust in the reliability of automated systems is very common," says Adedayo. Getting buy-in from all levels of an organization can be difficult, particularly if the benefits and uses of IA are not well understood. "These can prevent growth and idea generation."

Humans have yet to perfect change management in today's times of rapid change and innovation, adds Zende. "Socializing and integrating new IA is still a daunting task and it takes a dedicated effort to achieve success in this regard."

Employees need to understand the purpose of automation and how it will impact their work. "Communication, early and often, ensures that the workforce is prepared to collaborate with automation technologies rather than seeing them as a threat," says Palmer. Engaging employees early helps foster a culture that embraces automation as a tool that complements human work. "Human-centric automation, where technology augments rather than replaces human capabilities, leads to better outcomes and greater adoption."



Integration with legacy systems

Another major obstacle is integrating new IA systems with existing legacy technology, and while some AI and platforms can help streamline operations, there will always be a need for developers to bridge the gap. This is a common hurdle for businesses in food distribution

that often lack the necessary flexibility or functionality to seamlessly integrate with new technologies, says Adedayo. "Furthermore, varying requirements may not be easily compatible with existing IT infrastructure."

Many organizations struggle with integrating IA tools into outdated, fragmented IT infrastructure, echoes Palmer. "Legacy systems often lack compatibility with modern automation technologies, leading to inefficiencies and costly upgrades. This challenge will persist as businesses move toward digital transformation but continue to operate on older systems that are no longer business enablers – instead they are deteriorating foundations, crumbling under layers of technology debt that threatens to come to an untimely and unpredictable end of life."

Beware of automation silos too, as these pose a significant challenge to effective implementation and scalability of IA, warns Adedayo. "Implementing fragmented, department-specific IA without a cohesive, organization-wide strategy often leads to scalability issues."



Another key challenge is maintaining data security, privacy and compliance with regulations. "With IA technology processing vast amounts of unstructured data, businesses must ensure that data is handled securely and ethically," says Shannon. Government and regulatory authorities are increasingly aware of and concerned about how evolving data/autonomous technology can and is being applied, especially in the AI era.

Automation introduces new security vulnerabilities, particularly when handling sensitive data. "Misconfigurations or weaknesses in automated processes can expose organizations to cyber threats and regulatory non-compliance that runs rampant without visibility into whether the guardrails of compliance are working as intended," warns Palmer.

Intelligent automation challenges

As organizations invest and adopt new technologies to stay at the forefront of innovation, they are under continual pressure to do so in line with evolving frameworks and standards. Falling foul of these could be disastrous from a business perspective, with the negative ramifications having the potential to outweigh even the most fruitful of benefits.



Talent and skills shortages

The lack of skilled professionals in Al, data analytics and automation is another big challenge. "Businesses need experts to design, deploy and maintain automation systems, yet there is a growing talent gap in these areas," says Palmer. What's more, as automation reshapes job roles, organizations must invest in upskilling their workforce, which can be time-consuming and expensive. "The cost of doing nothing or underinvesting in talent is a hidden cost that is all too easy to ignore."



Scalability and flexibility

Scaling IA solutions across an enterprise is no mean feat. While many companies start with small, isolated automation projects with a bottom-up approach, expanding them across different departments and processes requires substantial investment and planning that connects to a focused and well supported top-down strategy. "Flexibility is key, as businesses need automation systems that can adapt to changing processes and market conditions, both at the macro level of business strategy down to the micro level of infinite implementation details," says Palmer.



High upfront costs

There are significant upfront costs to consider too, especially for small and mid-sized businesses. These include purchasing IA software, upgrading infrastructure and hiring skilled talent. While the long-term ROI of automation is significant, the initial investment and ongoing maintenance expenses pose a challenge if the strategy for scoping top-line and bottom-line impact of automation didn't factor in the full account for the lifecycle of automation costs.





Agentic process automation:

The future of intelligent automation?

Of all the factors shaping the future of IA, agentic process automation (APA) – a paradigm that could revolutionize digital automation by harnessing the power of AI agents – is perhaps the most compelling. It introduces AI-driven agents that analyze, decide and execute complex tasks with minimal human intervention to already increasingly sophisticated automation capabilities.

"Agentic AI and multi-agent frameworks represent two different approaches to enterprise automation, each with its own strengths and focus," says Shannon. "AI is centered around task-based automation. These agents are designed to perform specific tasks and can pass tasks between each other."

While agentic AI improves efficiency by automating individual tasks, it is not focused on defining unstructured data or managing more complex enterprise operations, he adds. "It excels in task execution but may not be the ideal starting point for enterprises looking for a more holistic solution."

On the other hand, the multi-agent framework is a more comprehensive approach. "Each agent in this framework specializes in different activities and works together to manage tasks, processes and, importantly, to define and structure unstructured data."

This coordinated effort provides better clarity and transparency across enterprise operations. The multi-agent framework also involves human oversight through a humanin-the-loop approach, where humans collaborate with AI agents to get more done. "This empowers employees rather than replacing them, allowing businesses to achieve more without the need to fire or hire additional staff," Shannon says. "While agentic AI is good for automating tasks, the multi-agent framework offers a more flexible and scalable solution. It enables enterprises to handle both structured and unstructured data, making it more suitable for today's complex business environments."

So, to what extent will APA transform the future of IA? The answer is somewhat complex. There are many tasks and processes that today's IA is best suited to perform. This is particularly true for predictable, rules-based tasks of lower complexity and variation that RPA can handle reliably and efficiently. RPA's strength also lies in its ability to coexist with technology advancements. Likewise, AI will continue to deliver higher computational efficiency, reliability and trustworthiness than APA in certain areas. APA is therefore likely to partner with IA, creating a diversely skilled pool of technology that works together to enhance the efficiency and effectiveness of process automation.

"In industries like finance, healthcare and software development, Al agents will handle routine tasks like risk analysis, customer support and even coding, leading to significant operational efficiency," says Palmer. "This evolution will bring about more independent, adaptable and self-learning systems, drastically reducing the need for human oversight."

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