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From Automated to Autonomous: How AI Can Transform AP

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Executive Summary

For a majority of leaders overseeing accounts payable ("AP") over the last two years, the global pandemic made it patently obvious that manual processes are no longer acceptable and must be stricken from the workplace. That is to say that AP automation and the overall digital transformation for the function are no longer simply "nice-to-have," they are required. But how AP leaders approach their transformation projects and the underlying systems that they use can and will have a direct and meaningful impact on the initiative's overall success and bottom line results.

Within a relatively short time, Artificial Intelligence ("AI") has become one of the most transformative innovations to emerge within enterprise software and the ePayables solutions market. This technology has quickly emerged as a key component in next-generation ePayables solutions and is impacting those that adopt it across the full Invoice-to-Pay process, including the areas of capture, extraction, validation, posting, and matching. This Ardent Partners research report examines how AI is enabling AP departments to accelerate the shift and transition from automated processes to autonomous operations and the direct impact this shift is having on invoice processing costs and speed as well as B2B payment accuracy.
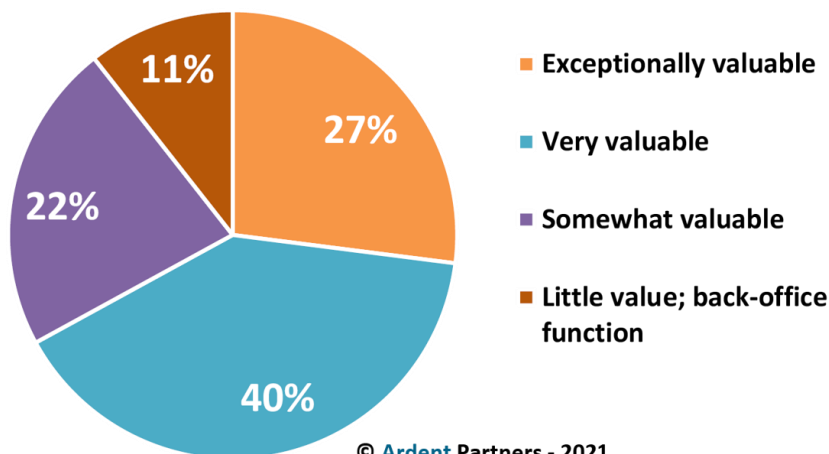
AP Rising in 2021

The impact of the worldwide COVID-19 crisis on accounts payable ("AP") and all other business functions remains ever-present in today's market. While there is optimism that the pandemic is closer to its end than the beginning, deep uncertainty remains. The past 18 months for most AP teams included a physical disruption that pushed entire departments home to work, only to bring many staffers back to the office as "essential workers" who were tasked with managing and processing their suppliers' paper and emailed invoices. And, as the invoices began to pile up, AP teams were quickly seen as a vital means to ensure business continuity for their enterprises as well as many of their suppliers. These AP professionals worked urgently to keep their businesses going, bolster financial resilience, and help to prepare their enterprises for the next economic phase. In 2020, AP had never been more important to business operations and business results. A few months later, AP's importance remains at an apex.

That is because COVID-19 also created a financial disruption for many businesses, driven by the massive downswing in many regions and industries. Businesses participating in Ardent Partners' 2021 accounts payable research stated that the most crucial outlets and links to enterprise liquidity, including sales, revenue, and cash, have been the biggest areas of impact throughout the entirety of the COVID-19 pandemic (35%). This means that cash management challenges have been superlative to others during the pandemic. Thus, in 2021, cash remains king; and when the king is under siege, all forces must rally in defense. This represents a major opportunity for the AP group to capitalize on its unique position to impact cash management and assist the greater organization to support its areas under greatest stress, while also maintaining some semblance of normalcy and continuity.

If the pandemic made it evidently clear that manual processes impede efficiency and visibility and can actually threaten business continuity and organizational resilience, it also highlighted the increasingly important role the AP function plays within a company's financial operations. AP's activities can impact cash and working capital, the efficiency and cost of the department, and the overall procure-to-pay process, as well as the business relationships with all suppliers.

Figure 1: The Perception of AP's Value in 2021

- **Exceptionally valuable** — 27%
- **Very valuable** — 40%
- **Somewhat valuable** — 22%
- **Little value; back-office function** — 11%

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The AP industry's momentum in recent years accelerated during the pandemic and well into 2021, with two-thirds of all business leaders viewing their AP operations as either "very" or "exceptionally" valuable to their enterprise over the past 12 months (see Figure 1, page 3). But AP automation and broad-based AP transformations are not yet omnipresent in the market. In fact, transforming AP presents a large opportunity for a vast number of enterprises looking to improve not only the AP function, but also the finance department and larger value chain. With the "wind at their backs," now is the time for AP and finance leaders to pursue a transformation project.

Digital Transformation Begins with Automation (& Removing Paper from the Process)

In the not-too-distant past, AP groups were, by and large, a model of inefficiency, managing processes using poor methodologies with little and/or outdated technologies. Combining large amounts of paper with little-to-no automation is (and continues to be) a recipe for disaster. Accordingly, AP organizations traditionally underperformed against their functional peers. Their performance drag was caused by many first-order challenges that resulted in high invoice-processing costs, excessive errors, high exception rates, missed early payment discounts, some late payment fees, and a perpetual backlog of overdue invoices that irritated many suppliers.

When manual, paper-based methods are the norm, an AP staff is trapped at the transaction level, leaving a wealth of information that has never been captured nor leveraged to its greatest value. The average AP department spends nearly a quarter (22%) of its time on the tactical activity of managing supplier inquiries. Automating manual invoice processes, which are paper-laden, staff-intensive, and error-prone, can be game-changing.

AP departments that automate their processes are able to spend less of their time on the traditional back-room work, like entering data into systems manually, routing paper/emailed invoices for approval, and attempting to manage exceptions without full context and visibility. The benefits that automation can deliver to an AP group can lead to wholesale gains in efficiency and effectiveness within the organization, including a large reductions in average invoice processing time and costs, large drops in the number of exceptions, and increased visibility. And when organizations are able to minimize the time that staff spends on manual/tactical work, their teams are able to focus on more strategic, value-added activities.

Digital Transformation Continues with Broad Adoption

While a digital transformation is obviously built upon technology, the deployment of technology alone does not accomplish a true transformation. At one time, automating time-consuming manual tasks was the end-goal for AP departments. However, it is necessary to go beyond these "low-hanging fruit" advantages and think long-term — and think bigger — in order to be able to manage complete, end-to-end processes. The digital transformation of an AP department is an opportunity to use technology as a means to reimagine the organization's entire scope of operations and how it performs. Unlike the process automation initiatives that preceded it, a digital transformation does not view technology as a process enabler, but rather, as the fundamental process going forward – it is the alpha and omega and everything between. A successful digital transformation requires many things, including sponsorship, effort, collaboration, vision, expertise, and a supporting technology infrastructure; superior program design also remains a critical element in the speed and impact of the initiative.

In 2021, the "digital enterprise" is one that leverages the power of both traditional and innovative systems while providing functional stakeholders with a real, digital experience in regard to process orientation, flow of data and intelligence, and access to resources and information. In order to achieve this state, businesses must execute a well-developed digital transformation plan that accounts for its technology, culture, and scope of specialized skillsets to adopt and implement new systems.

The opportunity for a digital transformation of AP has never been more appealing or necessary; it has also never been easier. Broad improvements in functionality, usability, cloud technology, integration, cost, and general accessibility, over the past decade in the ePayables market have combined to provide AP groups with a clear roadmap for improvement. More AP departments (and businesses) now recognize these advantages, not to mention the necessity of this technology, and have started digital transformation projects to push their operations to the next level of performance.
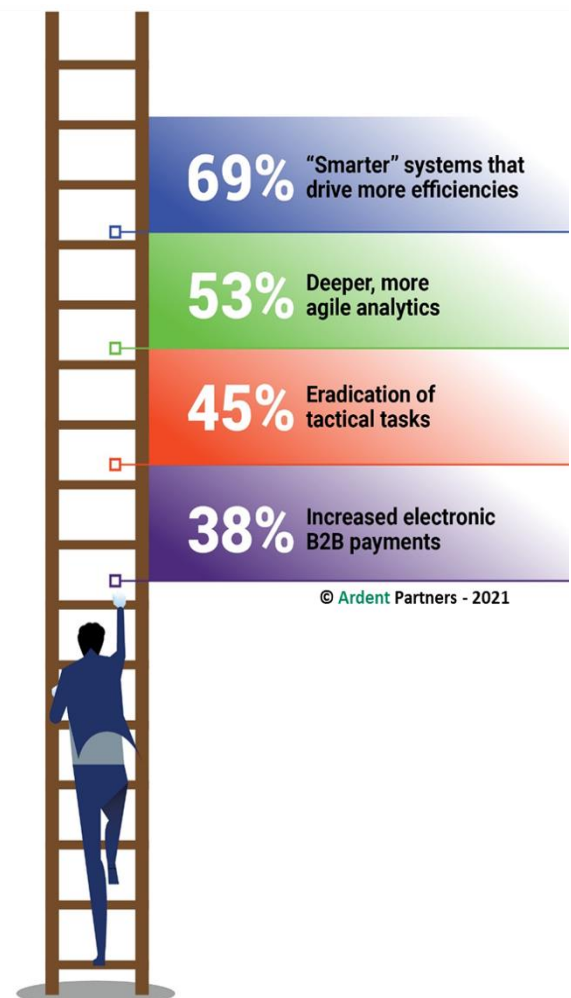
Driving AP to the Next Level with Intelligence

Operational efficiencies have long been a key objective for AP departments. However, it is the achievement of "intelligence" that has become more important for AP in recent years, particularly because finance and other business leaders must do all they can to keep the enterprise moving forward in a safe and financially healthy manner. For the AP industry, the "age of intelligence" means that global businesses will be able to draw actionable knowledge from the invoice, payment, and supplier data that resides within their AP systems and make smarter decisions. Interestingly, it is these two, somewhat disparate concepts that a majority of AP professionals believe are potential

"game changers." As shown in Figure 2, efficiency and knowledge are what AP leaders say they need to get them to the next level of performance.

When smartly-deployed and well-adopted, AP automation can drive performance gains by digitizing the tactical, manually-intensive and error-prone activities that can hold an AP function back. The "smart" aspects of these solutions and autonomous processing platforms provide more nuanced technology, particularly Artificial Intelligence, to provide next-level value beyond the eradication of paper.

Figure 2: What Gets AP to the Next Level?

69% "Smarter" systems that drive more efficiencies

53% Deeper, more agile analytics

45% Eradication of tactical tasks

38% Increased electronic B2B payments

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Becoming a Best-in-Class AP Operation with AI and Autonomy

Top-performing enterprises have taken their AP operations to the next level by leveraging technology to streamline the AP process, make it more efficient, and enable more strategic activities to be carried out. Best-in-Class enterprises (*see Figure 3*) have demonstrated their ability to drive superior performance across both traditional and contemporary accounts payable metrics. Leading organizations have significant performance advantages when compared with their peers.

Best-in-Class AP teams achieve average invoice processing costs that are 80% lower and invoice processing times that are 74% faster than all other groups. Their invoice exception rates are 61% lower, and they are 2 times as likely to use solutions that automatically match invoices to contracts than their peers. Best-in-Class organizations utilize technology across the full AP process to a significantly higher degree and are over 3 times more likely to leverage Artificial Intelligence for invoice processing. This leads to the Best-in-Class processing 3.2 times more of their invoices in a straight-through manner, a factor which likely contributes to their competitive advantage.

The evidence shows that the organizations that leverage AI to automate the AP process perform better and deliver greater value. What is also obvious is that automating the core processes can open up new doors of opportunity for the AP

function to move on from the tactical endeavors of the past and present. The AP teams that achieve automation can then turn their focus to higher-level activities, such as capturing and sharing intelligence and data that can enhance AP, stakeholder, and enterprise performance. Best-in-Class organizations have shown what can be achieved when AP performs to its full potential.

Figure 3: Best-in-Class AP Advantage

Key AP Metric	Best-in-Class Improvement
Cost to process a single invoice (all-inclusive cost)	80% Lower
Time to process a single invoice	74% Faster
Invoices processed "straight-through"	3.2x Higher

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Best-in-Class Adoption of AI is
3.1x higher

Artificial Intelligence – Defined

Artificial Intelligence is the data-driven automation, analysis and reporting, and task execution that is performed in a seemingly automated manner but with a decidedly humanistic flair. At its heart are deterministic or search-based algorithms that crunch and decipher enormous amounts of structured and unstructured data in seconds (often, terabytes of data that humans could not possibly process alone). Data outputs, like user patterns and probabilistic determinations, are used to drive process automation and task execution. It is in the machine learning algorithms that study user data that adapt to user workflows, that look for hidden insights, and that reveal hidden opportunities or payment risks that the human eye could not see. It is in the deep learning codes that enable machines to replicate human-level cognition, to peel back layers of the problem, like a supplier quality issue, and dig deeper for a solution. Technologies with functional AI capability do not require human input beyond the initial programing phase. Instead, the algorithms and internal rules independently make decisions.

Autonomous AP – Defined

Autonomous systems are solutions that are designed to perform specific functions without human touch or intervention. An autonomous AP operation is one that leverages solutions with deep learning capabilities, like artificial intelligence, to become increasingly more efficient, more effective, and "smarter."

Through usage, autonomous AP systems learn key patterns across the full AP process (invoice receipt, processing, and payments), develop/enable smarter processes that require less (or no) human intervention, and can dramatically improve efficiencies and overall performance. By combining formal policies and workflows with actual invoice transactions, the systems can begin to anticipate and predict the steps needed to approve an invoice and schedule payment. As the system becomes smarter, it manages more tasks independently, taking a larger share of the AP workload. With autonomous AP, the goal is to reduce the amount of staff time spent managing AP processes while maximizing touchless processing for invoices received in any format.

How AI Drives Autonomous AP

Semantics aside, AI is making AP practitioners smarter, more agile, and more valuable to their teams and organizations. AI has broad applicability when it comes to AP, as it can provide value in terms of invoice receipt, processing, and payment approval/scheduling.

For example, solutions with embedded AI capabilities can leverage prior invoice receipt activities to recognize relevant invoice data fields on scanned and PDF invoices from new suppliers at a higher rate of accuracy. These AI-based solutions can also use supplier, category, and invoice data to determine the best way to route an invoice through the approval process, including locating matching documentation like purchase orders, contracts, and goods receipts, and assigning the correct cost center(s). AI solutions can also match supplier payment preferences with the enterprise's cash management needs to facilitate faster payments and/or capture a higher percentage of potential discounts.

AI can help AP teams avoid some exception issues by predicting, and then addressing, the most problematic invoices and the suppliers who submit them. From an analytics perspective, AI can be used to automatically collect, cleanse, and present important financial and line-item intelligence that can help treasury and procurement make smarter decisions that impact the bottom line.

At a higher level, utilizing AI can help transform the AP department into a more agile and strategic hub of efficiency and intelligence. Artificial Intelligence leverages algorithms and tools that not only drive AP processes without human interface, it enables these processes to continually improve. In essence, AI can be used to free AP from more tactical tasks and allow the function to focus on its more strategic work.

Autonomous AP is a state where an AP solution uses AI to read, understand, and make independent decisions automatically by using embedded AP/finance expertise and established business policies/workflows, while continuing to improve upon them. In an autonomous AP environment, AI-driven technology can operate independently, with AP staff providing limited or no tactical intervention, and management oversight only as needed or preferred.

Fig. 4: From Automated to Autonomous AP

Automated AP	Autonomous AP
Invoice Receipt: • Alter supplier invoicing practices by enabling them to transact on ePayables platforms and begin eInvoicing. • Systems focus on capturing structured data and utilizing rules-based processing.	**Invoice Receipt:** • Suppliers continue submitting invoices in the format of their choosing; no change management is required. • Systems capture and use structured AND unstructured data to make decisions.
Invoice Processing • Staffers make invoice processing decisions with software support. • Staffers leverage personal knowledge of and experience with AP policies, suppliers, and invoice history to process invoices. • Can yield high rates of straight-through processing for electronic invoices.	**Invoice Processing** • AI models predict and make invoice processing decisions, without little or no human review • Pre-built AI models can leverage the intelligence gained from systems usage at other companies. • Can yield high rates of straight-through processing for invoices received in the "AP" email inbox or scanned from paper.

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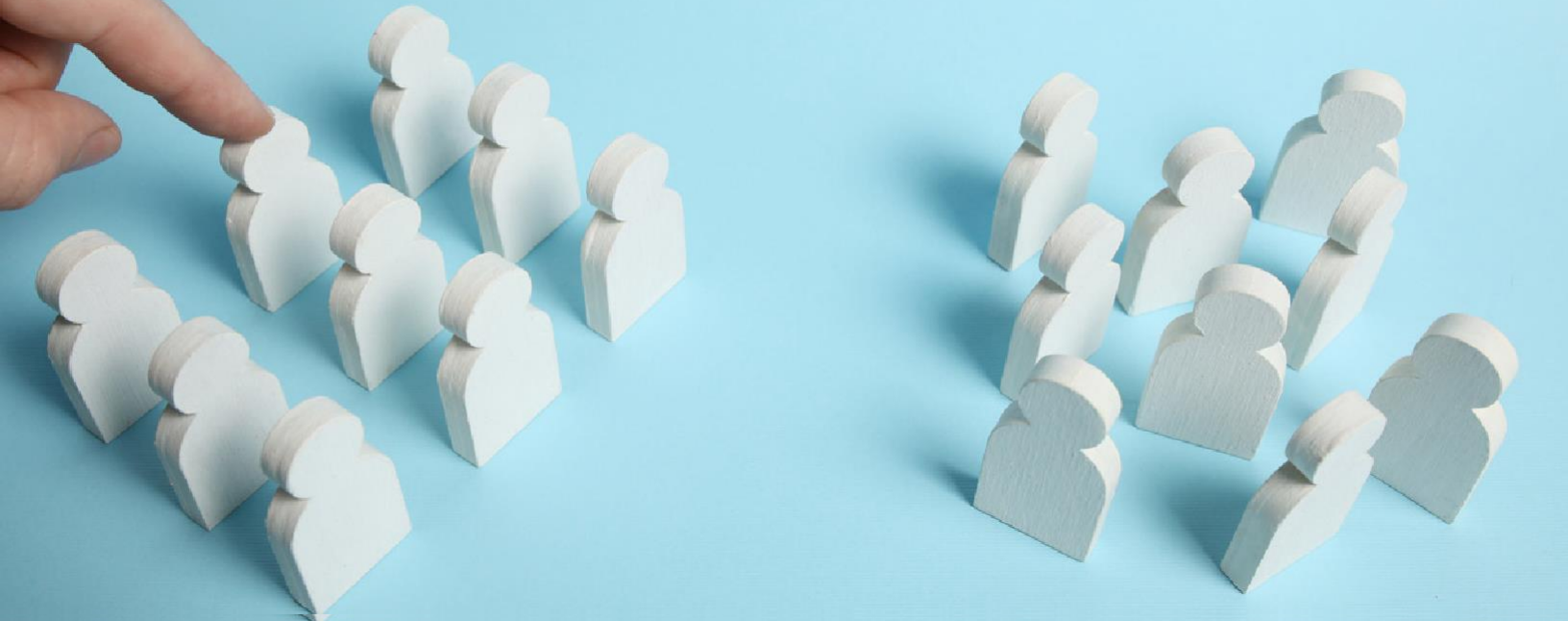
Conclusion

An automated AP department has an extraordinary opportunity to impact the greater enterprise through intelligence, insights, and financial efficiency. The path of digital transformation starts with automation and continues with the goal of becoming a true hub of intelligence and effectiveness.

In 2021, AI is enabling more and more AP departments to accelerate their digital transformations from basic automated processes to autonomous operations. The direct impact of this shift is enabling many AP departments to achieve Best-in-Class performance levels and a competitive advantage.

AI helps make business users smarter, nimbler, and more efficient. In an AP context, AI provides AP with an expanded opportunity to transform the function into an intelligent operation that delivers more strategic value.

The AP and finance leaders who utilize smart strategies that include AI technology to address both near-term enterprise needs and long-term business initiatives will position themselves (and their organizations) to play a more strategic role today and into the future. They will also create a self-sustaining engine of intelligence and operational prowess, ready to support strategic enterprise endeavors while serving as a source of financial knowledge that can impact heavy, mission-critical corporate decision-making.

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With 22 years in the industry and 12 years leading the charge at Ardent Partners, Andrew Bartolini is a globally-recognized expert in sourcing, procurement, supply management, and accounts payable. As the Chief Research Officer at Ardent Partners, Andrew oversees all research and client programs including the annual State of the Market and Metrics that Matter eBook Series', Technology Advisor Reports, Ardent's monthly webinar series, as well as its in-person and virtual CPO Rising Summits. Andrew is also the publisher of CPO Rising, the news and research site for Chief Procurement Officers and other procurement leaders (www.cporising.com).

Advisor to corporate executives and leading solution providers alike, Andrew is a sought-after presenter, having lectured and presented more than 500 times in nine different countries. Over the past decade, Andrew has benchmarked thousands of enterprises across all facets of their sourcing, procurement, supply management, and accounts payable operations and his research is currently part of the Supply Chain/Management curriculum at several US universities.

He actively covers the technology marketplace as well as trends in sourcing, procurement, supply management, and accounts payable and has been published or quoted in leading business publications including The Wall Street Journal, Business Week, Investor's Business Daily, Forbes, and Fortune, as well as the major trade publications focused on accounts payable and supply management.

Prior to becoming an industry analyst, Andrew developed, packaged, deployed, and used supply management solutions on behalf of enterprises in the Global 2000 while working for several prominent spend management solution providers. Additionally, his experience in strategic sourcing (where he managed sourcing projects totaling more than $500 million in aggregate client spend), business process transformation, and software implementation provides a "real-world" context for his research and writing.)

Andrew's post-MBA work started in management consulting and investment banking where he structured, managed, and advised on large capital market transactions. Andrew began his professional career running a homeless family shelter in Los Angeles. He welcomes your comments at abartolini@ardentpartners.com or 617.752.1620. Connect with him on LinkedIn.

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BOB COHEN, VICE PRESIDENT OF RESEARCH, ARDENT PARTNERS

Bob is a globally recognized expert in accounts payable, B2B payments, business networks, Procure-to-Pay, supply chain finance, and strategic marketing. For more than 20 years, Bob has focused on helping enterprises develop and execute strategies to achieve operational excellence in their finance, procurement, and marketing organizations.

As an analyst, he benchmarks thousands of enterprises across all facets of their accounts payable, business networks, supply chain finance, and B2B payments operations and leverages these insights in his roles as Vice President of Research. His real-world buy side experience in ePayables and P2P transformations, solution adoption, and customer use cases provide him with a unique context for his research, writing and advisory services. He is also the editor of PayablesPlace (www.payablesplace.com), the global source for ePayables news, research and analysis the news and research for Accounts Payable, Shared Services, P2P, Finance, and Treasury leaders.

Prior to becoming an analyst, Bob helped hundreds of AP and P2P teams achieve Best-in-Class performance via their use of ePayables, P2P, and Business Network solutions. He spent 12 years working as the Vice President of Marketing at Basware where he helped establish the firm's U.S. presence as a major player in the AP and P2P automation spaces. Bob also worked at American Express where he helped the commercial card giant better align its products and services with a continually evolving market.

Bob is a sought-after presenter, having presented more than 100 times over the past decade. Bob holds a B.A. in Marketing from Bryant University and an M.B.A. from the University of Connecticut in Finance. He welcomes your comments at rcohen@ardentpartners.com or 203.403.7109. You can also connect with Bob on LinkedIn.

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Philip Bartolini is a Research Analyst at Ardent Partners and currently contributes research to the firm's "ePayables" and "P2P" research, including accounts payable automation, procure-to-pay, financial management, cash management, and supply chain finance. Phil's work includes the intersection of people, processes, strategies, and technologies within financial operations, as well the converging, collaborative value that can be generated by procurement and finance. Since joining Ardent in early 2014, Phil has led or contributed his expertise to research studies on eInvoicing, ePayments/payment management, business networks, and extended financial value chain platforms (such as supply chain finance and dynamic discounting). He earned a B.A. in Political Science from Hobart College, and can be reached at pbartolini@ardentpartners.com.

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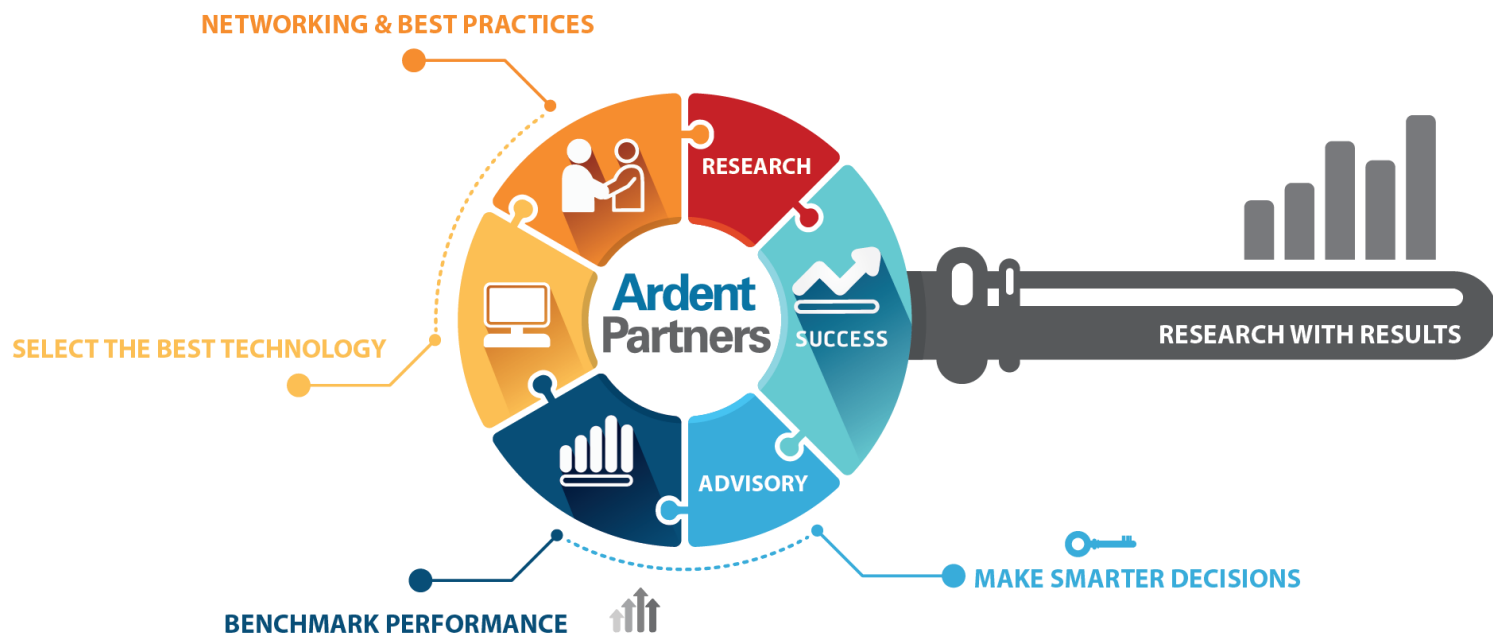
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