Transforming Procurement and Supply Chain Management with Artificial Intelligence

How Organizations Will Use AI to Enhance Efficiency, Reduce Risk, and Improve Supplier Relationships

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Executive Summary

This report examines the transformative impact of artificial intelligence (AI) on procurement and supply chain functions. It highlights how AI is poised to revolutionize these sectors through enhanced decision-making, efficiency improvements, and strategic supplier relationship management.

The data collected from industry leaders show that there is a strong anticipation for AI to drive significant advancements in real-time data analytics, risk management, and compliance adherence. Procurement and supply chain leaders also emphasize the need for procurement teams to adapt by acquiring AI and data analytics skills.

Despite some concerns about job displacement and AI's potential biases, the overall sentiment about this technology's potential impact on procurement is optimistic. The respondents view AI as a catalyst for professional growth and operational excellence. The report concludes with key suggestions for integrating AI into procurement strategies, including skill enhancement, investment in predictive analytics, and the development of a comprehensive AI integration plan, underscoring the importance of continuous learning to maintain a competitive edge.

About the Respondents

The WBR Insights research team surveyed 100 procurement, supply chain, risk management, and IT leaders from across the U.S. and Canada to generate the results featured in this report. In order for respondents to participate, it was required that they represent companies that either **(a) currently use AI in their procurement functions, or (b) plan to do so in the future.**

In each case, 25% of the respondents occupy roles in procurement, supply chain, risk management, and IT.

The respondents are C-level executives (26%), senior vice presidents (4%), vice presidents (14%), department heads (12%), senior directors (2%), and directors (42%).

What best describes your role?

- **25%** Procurement
- **25%** Supply Chain
- **25%** Risk Management
- **25%** IT

What is your seniority or equivalent?

- **26%** C-Level
- **4%** Senior Vice President
- **14%** Vice President
- **12%** Head
- **2%** Senior Director
- **42%** Director

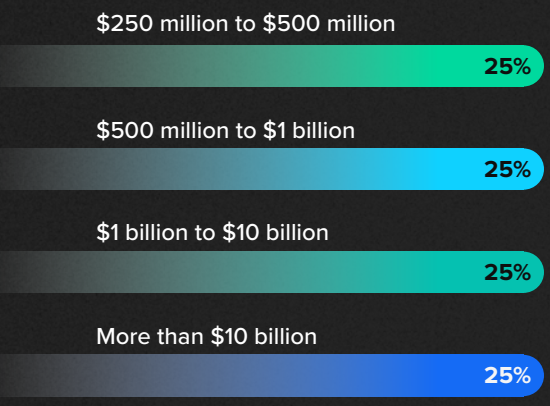
About the Respondents

Continued

The companies represented in the report are evenly distributed in size, as measured by their total amount of spend under management. Half of the respondents are from companies that have $1 billion or more in total spend under management.

In each case, 10% of the respondents operate in the industries analyzed by the study, including aerospace and defense, automotive, consumer products, pharmaceuticals, and manufactured goods, among others.

What is the total amount of spend under management within your organization?



What industry does your company represent?

10%

- Aerospace & defense
- Automotive
- Chemicals, plastics, & polymers
- Consumer products
- Energy, oil, & gas
- Industrial manufacturing
- Manufactured goods
- Medical devices
- Pharmaceutical
- Telecom, electronics, & high-tech

Key Insights

96%

currently use AI in their procurement function, but only 30% are very satisfied with their current solutions.

64%

are only somewhat comfortable with their current knowledge and understanding of how to leverage AI for procurement and supply chain functions.

Most already use AI for the following procurement functions:

- Market intelligence gathering and analysis **(77%)**
- Automated data entry and processing **(74%)**
- Predictive analytics **(57%)**
- Inventory and supply chain logistics optimization **(53%)**
- Supplier risk management **(52%)**

70%

who use AI in procurement have only been using it for 6 to 12 months.

Most plan to use AI for the following procurement functions in the future:

- Automated supplier selection and negotiation **(61%)**
- Contract analysis and management **(56%)**

57%

say difficulty prioritizing use cases for AI has been a very significant challenge during AI implementation.

53%

say a lack of skilled expertise in AI technology has been a somewhat significant challenge during AI implementation.

Key Insights

Continued

Most have observed the following benefits of using AI in procurement:

- Increased transparency into processes **(63%)**
- Improved supplier relationship management **(56%)**
- Cost savings **(52%)**

95%

will increase their investments in AI at least somewhat over the next three years.

56%

believe AI will be crucial for proactive risk management and compliance adherence.

62%

believe AI will be valuable for improving supplier relationships and interaction quality.

58%

believe AI will be the key to unlocking deeper insights and decision-making.

Most are currently using generative AI for the following capabilities:

- Category management market intelligence **(76%)**
- Expense reports **(62%)**
- Supplier performance issue resolutions **(59%)**
- Supplier onboarding and intake **(53%)**

33%

say AI that predicts supplier risk and compliance is the AI solution that would most improve their procurement workflows; **31%** say the same about AI that offers real-time, conversational data insights.

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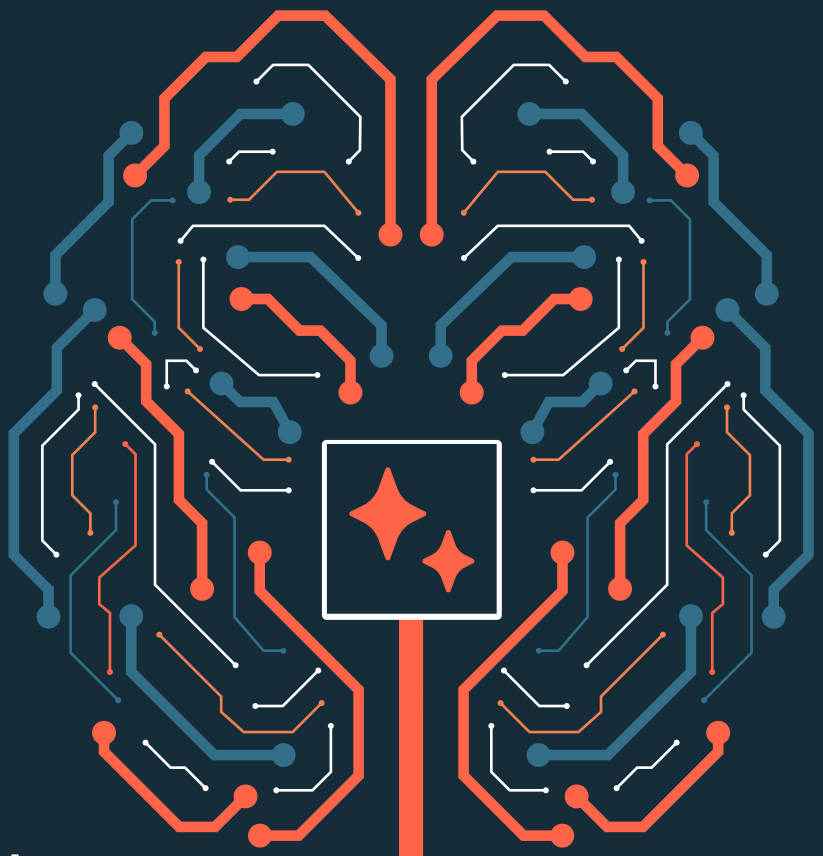

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AI Adoption is Widespread in Procurement but Still in Its Infancy

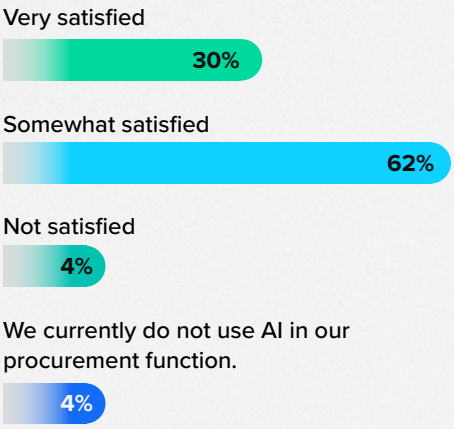
The integration of artificial intelligence (AI) within the procurement function signifies a pivotal shift in how organizations manage and optimize their supply chain operations.

The adoption of AI technologies presents a unique set of opportunities and challenges that necessitate a comprehensive understanding of its impact and potential.

The study reveals that a significant majority of organizations employ artificial intelligence (AI) in their procurement operations. Nevertheless, the satisfaction rate regarding the utilization of AI for these purposes is moderate, with 62% of users only somewhat satisfied and 4% not satisfied.

While AI has become a norm in the procurement sector, most implementations do not meet user expectations or achieve optimal outcomes. Procurement and supply chain leaders should interpret this as an opportunity for improvement, focusing on enhancing AI functionalities to bridge the satisfaction gap.

How satisfied are you with the current use of artificial intelligence in your organization's procurement function?



For how long have you been using AI in your organization's procurement function?

1 - 6 months

13%

6 - 12 months

70%

More than 12 months

18%

Furthermore, the duration of AI usage in procurement among the respondents indicates a relatively recent adoption, with a majority (70%) implementing it within the last 6 to 12 months and 13% implementing it within the past 6 months. This underscores the rapid adoption rate of AI technologies in procurement but also hints at potential early-stage challenges contributing to the low satisfaction levels. Most procurement teams utilizing AI are in a period of adjustment and should seek feedback for continuous AI improvement and integration.

Since you do not use AI in your organization's procurement function, what is your timeframe for adopting AI in your organization's procurement function?

All members of this group said:

6 - 12 months

Despite the broad application of AI in procurement, a small group (4%) of respondents remains outside this technological shift. However, **all members of this group** intend to adopt the technology within 6 to 12 months.

Are you considering implementing a new software solution for the sole purpose of incorporating AI into your organization's procurement function?

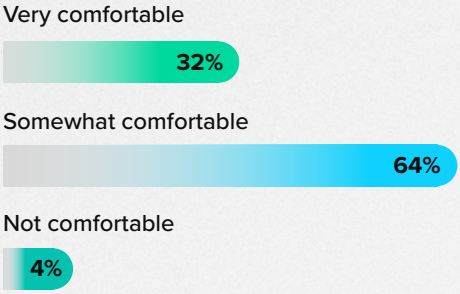
- **25%** Yes, we are actively considering a solution like this.
- **75%** No, but we are interested in a solution like this.

Furthermore, 75% of respondents who haven't yet adopted AI are interested in adopting new software for the sole purpose of incorporating AI into their procurement function. One-quarter of these respondents are actively considering such a solution.

This unanimous inclination towards exploring AI solutions among non-users highlights a consensus on the technology's value. For industry leaders, this trend should signal not only the imminent universal adoption of AI in procurement but also the need to address the efficacy of existing implementations.

Moving forward, AI will be a critical component of the procurement function, and perhaps even a competitive element for most companies.

How comfortable are you with your current knowledge and understanding of how AI technologies can be leveraged to bring real value to procurement and supply chain functions?



Still, the use of AI in the procurement function is in its infancy. Most respondents (64%) are only somewhat comfortable with their current knowledge and understanding of how AI technologies can be leveraged to bring real value to the procurement and supply chain functions.

This finding highlights a significant opportunity for organizations to deepen their understanding and applications of AI within procurement, pointing to a gap between the potential of this technology and its current utilization. Procurement professionals may require further education and resources to fully leverage AI's capabilities, thereby unlocking its value in enhancing efficiency, reducing costs, and optimizing supply chain operations.

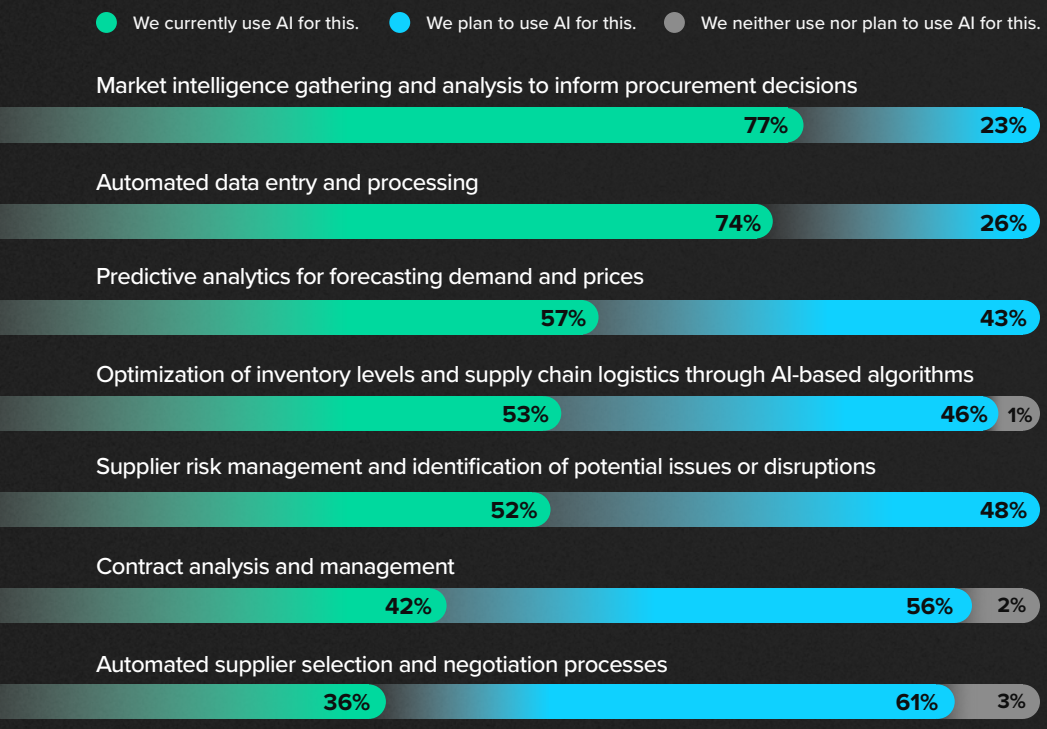
Next, we will explore how procurement teams are currently harnessing AI technologies and identify potential avenues for its more strategic use in transforming procurement functions.

AI Yields Significant Procurement and Supply Chain Benefits Despite Challenges

AI adoption may be critical for the future of procurement, but leaders must implement the technology with specific use cases in mind. They must also address common challenges with AI adoption to avoid extra costs and missed opportunities.

This section explores the challenges and opportunities associated with implementing AI, highlighting the potential it holds for transforming procurement processes.

Which of the following procurement capabilities do you currently use or plan to use with AI?



The utilization of AI across various procurement capabilities underscores its strategic importance in enhancing operational efficiencies and providing competitive advantages for businesses. Market intelligence gathering and analysis, as utilized by 77% of respondents, enables companies to make informed decisions by understanding market trends, competitive landscapes, and procurement opportunities. This means they can maximize cost savings and improve sourcing strategies.

Automated data entry and processing, adopted by 74%, significantly reduce manual labor and errors, streamlining procurement processes and allowing teams to focus on strategic aspects rather than routine tasks.

Predictive analytics, used by 57% for forecasting demand and prices, empower businesses with foresight into market dynamics, aiding in better inventory management and pricing strategies. This foresight helps in optimizing stock levels, preventing overstock or stockouts, and capitalizing on price advantages.

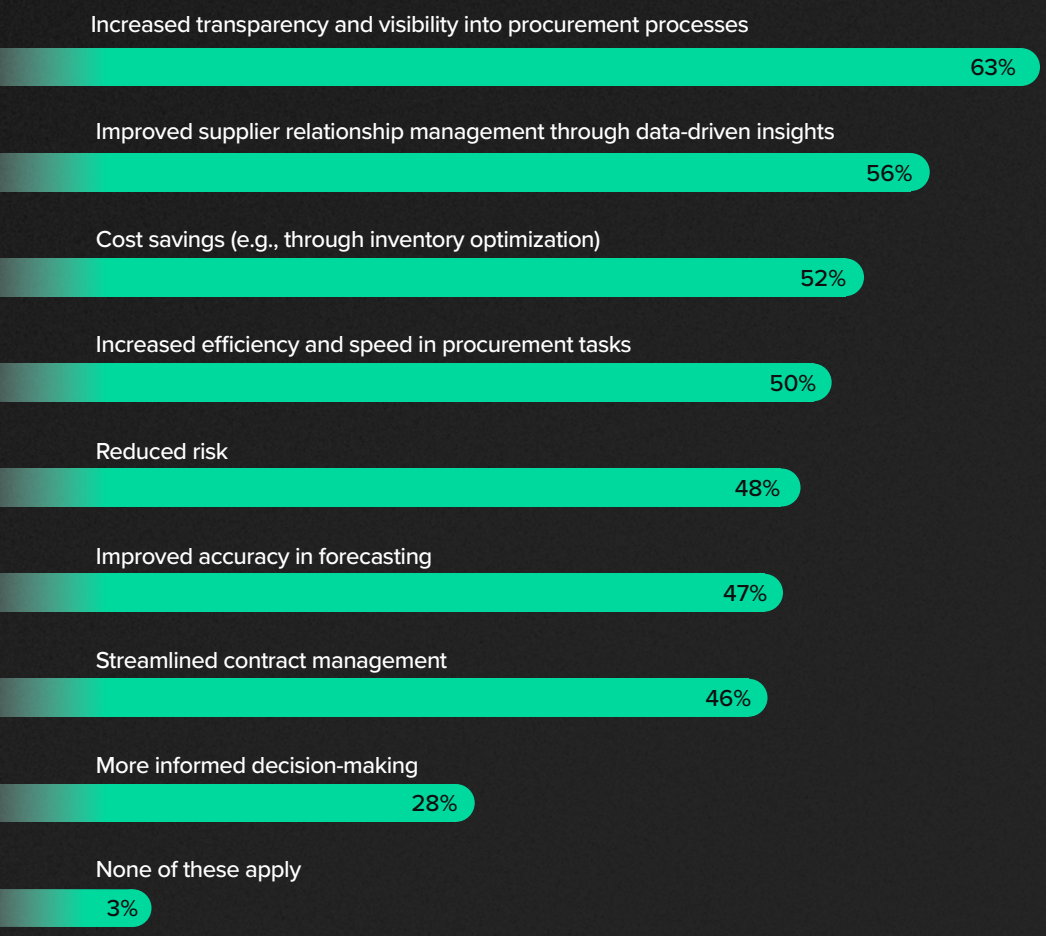
Optimization of inventory levels and supply chain logistics, accomplished through AI algorithms by 53%, enhances efficiency and reduces costs by predicting the optimal stock levels and routing of goods. This improves overall supply chain responsiveness and reduces lead times.

Supplier risk management, which 52% use AI for, helps in the proactive identification and mitigation of potential issues or disruptions. This application safeguards the supply chain against unforeseen challenges. It can also ensure business continuity, build resilience, and foster stronger supplier relationships by collaboratively addressing risks.

Collectively, these AI-driven procurement capabilities offer businesses substantial benefits, including but not limited to cost reduction, operational efficiency, risk mitigation, and strategic decision-making support, underscoring AI's pivotal role in modern procurement practices.

Moving forward, most of the respondents plan to use AI for contract analysis and management (56%) and automated supplier selection and negotiation (61%). These applications will enable procurement teams to identify opportunities for cost savings, improve contract compliance, and secure favorable terms with suppliers.

What results or benefits have you observed from using AI in your procurement processes?



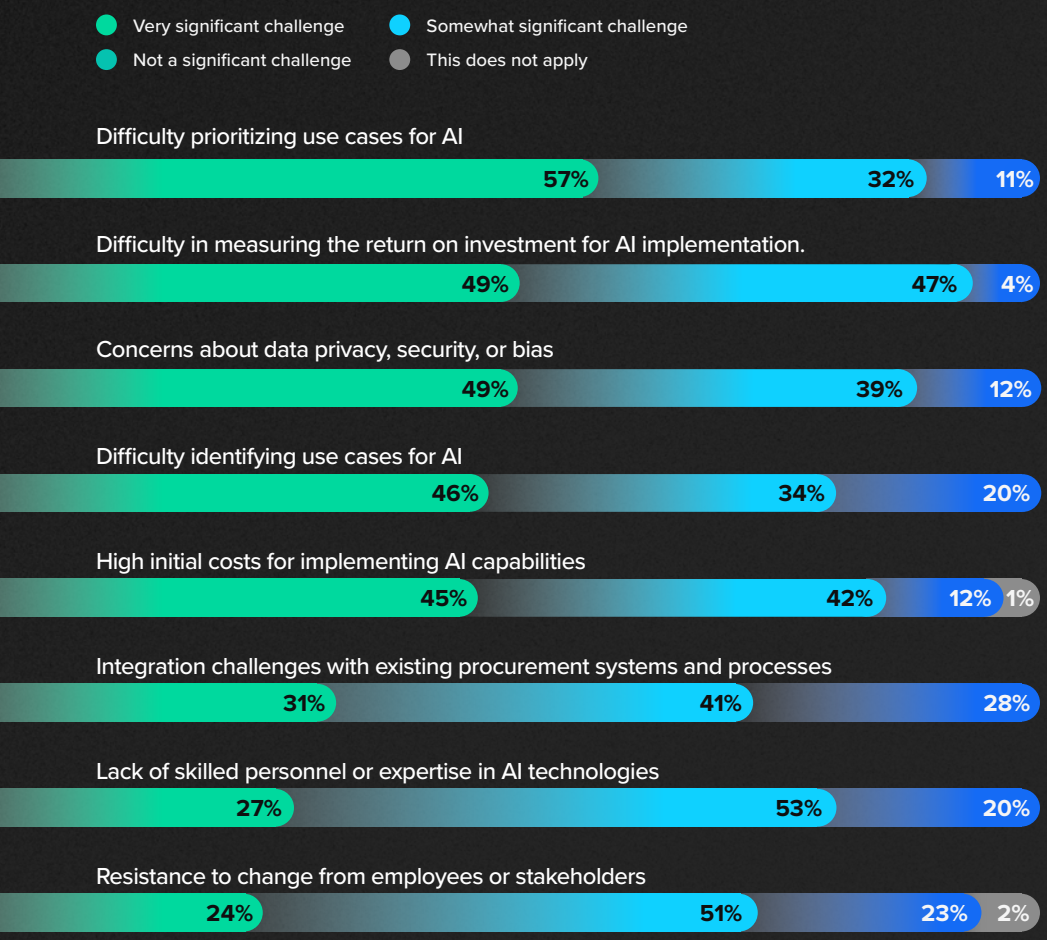
These applications of AI in procurement have already yielded significant results.

For example, 63% of participants have seen an increase in the transparency and visibility of their procurement operations thanks to the use of AI. Furthermore, 56% report enhanced management of supplier relationships powered by data-driven insights, while 52% have achieved cost reductions, notably in inventory optimization.

AI has a transformative effect on procurement processes. The high percentage of leaders reporting increased transparency and visibility suggests that AI's analytical capabilities are crucial for making informed decisions and enhancing operational efficiency. Additionally, the improvement in supplier relationship management highlights AI's role in fostering more strategic and mutually beneficial partnerships.

Lastly, the realization of cost savings through inventory optimization reflects AI's potential to significantly reduce operational costs. Procurement and supply chain leaders must continue to implement AI technologies to optimize their operations and posit procurement as a strategic part of the business, rather than a cost center.

How significant have the following challenges been in your implementation of AI in your organization's procurement function?



When asked how significant several challenges have been in their implementation of AI in their organization's procurement function, most respondents indicated difficulty prioritizing use cases for AI (57%) has been a very significant challenge. In each case, about half of the respondents (49%) say difficulty in measuring return on investment and concerns about data privacy, security, or bias are significant challenges.

Most of the respondents agree that lack of skilled personnel or AI expertise (53%) and resistance to change from employees or stakeholders (51%) are somewhat significant challenges, even if they aren't as pressing as the others listed above.

Based on these results, we can surmise that there is still significant difficulty among organizations to effectively leverage AI in their procurement functions, with prioritizing use cases as the most significant obstacle. Many of these challenges likely stem from the relative novelty of AI.

However, they could suggest difficulties in strategic planning, where organizations are unable to identify which procurement processes can benefit most from AI. Many organizations are intent on adopting AI technology, but identifying use cases can be a challenge, and they can't simply implement AI without a plan for how it will be used.

The difficulty in measuring ROI and concerns about data privacy, security, or bias highlights a need for clearer metrics of success and more robust data governance frameworks. Addressing the lack of skilled personnel or AI expertise calls for targeted training and possibly recruiting efforts to build a workforce capable of managing AI tools.

Resistance to change is a common issue in technological adoption. This requires a change management strategy that emphasizes communication, benefits, and support for affected employees.

To overcome these challenges, procurement teams should invest in comprehensive AI literacy and training programs, ensuring that their workforce is equipped to harness AI's full potential. Additionally, fostering a culture of innovation and continuous improvement can help alleviate resistance to change by demonstrating the tangible benefits of AI in streamlining procurement processes and enhancing decision-making.

How will your investments in AI change within your organization's procurement function over the next three years?

- **8%** Increase significantly
- **87%** Increase somewhat
- **5%** Stay about the same

Despite these challenges, most respondents claim their investments in AI within their organization's procurement function will increase somewhat (87%) or significantly (8%) over the next three years. Procurement leaders recognize that this technology will be critical to optimizing the function, as well as the rest of the business, over the next several years. They are also racing against competitors to adopt and use this technology effectively, which is likely spurring investment.

To gain a better understanding of how these AI investments will be implemented, researchers asked the respondents to describe their goals in the next one to three years for further integrating AI into the procurement process.

A key objective identified involves enhancing procurement efficiency by reducing manual tasks, emphasizing automation, and improving decision-making capabilities. This could significantly speed up procurement processes and allow team members to focus on more strategic objectives, such as supplier negotiations and supply chain diversification.

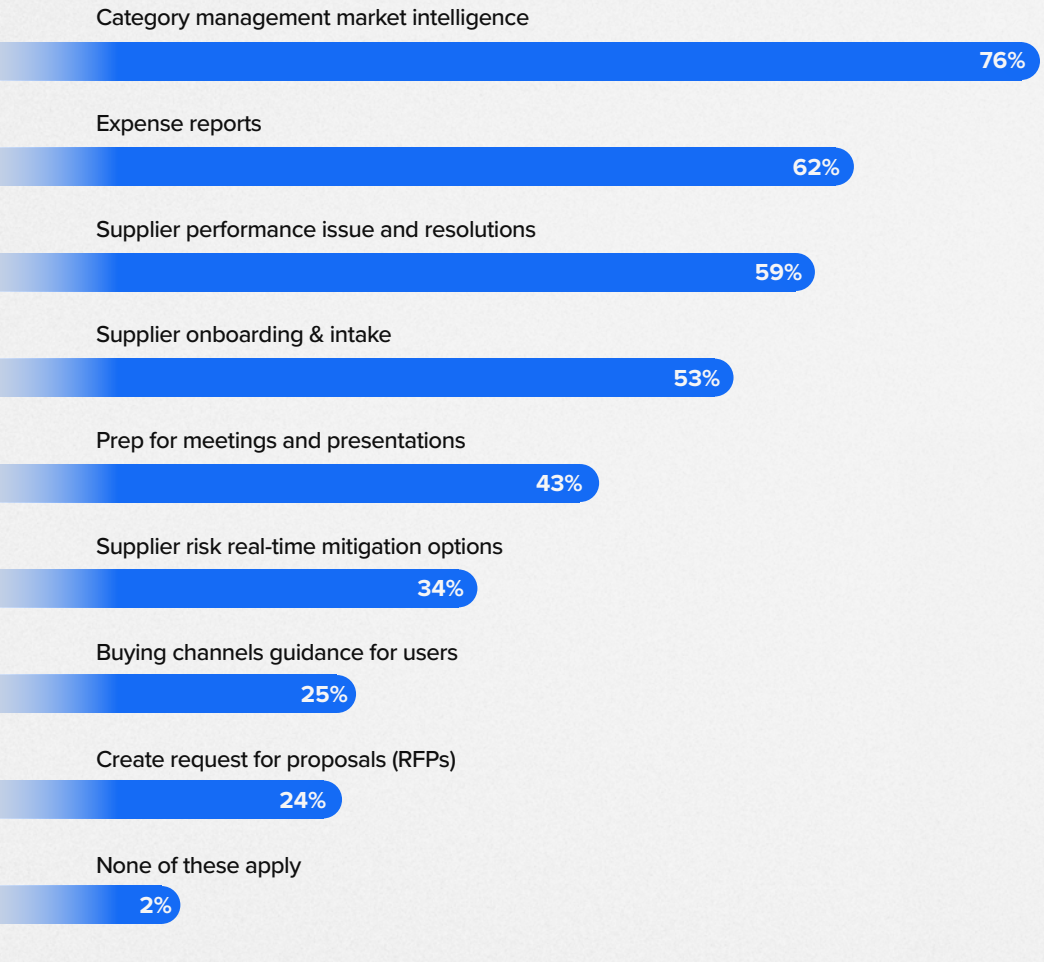
Indeed, the respondents frequently mentioned goals focused on using AI for better risk assessment of suppliers. They also believe AI could streamline contract management, allowing procurement teams to more easily enforce rules associated with contracts and better identify potential issues before they become major problems.

Additionally, leaders will use AI to make more informed decisions when it comes to managing costs. By leveraging AI-powered analytics tools, teams can quickly and accurately compare supplier costs and performance, enabling them to choose the best suppliers for their specific needs while also reducing overall procurement expenses. Moreover, integrating AI in procurement processes will enable them to optimize stock levels through accurate demand forecasting, and identify cost-saving opportunities by analyzing data from multiple sources.

In summary, procurement organizations have specific plans for artificial intelligence. Even if their existing AI programs are young, they see great potential in the technology for enhancing everything from day-to-day tasks to supplier negotiations.

AI Will Play a Bigger Role in Supplier Relationship Management and Insights Generation

In what ways is your organization currently using generative AI, if at all? Generative AI is a type of AI that can generate writing, images, ideas, and concepts based on training data and basic inputs.



Artificial intelligence will play a larger role in procurement operations as organizations increase their investments and discover new use cases.

AI will also take various forms in the procurement function, from standard chatbots and automations to more creative solutions, including generative AI.

Artificial intelligence will play a larger role in procurement operations as organizations increase their investments and discover new use cases. AI will also take various forms in the procurement function, from standard chatbots and automations to more creative solutions, including generative AI.

Generative AI stands out from traditional AI implementations by its ability to create new, unique content or data based on the training it has received, rather than merely analyzing or acting upon existing information. This capability enables more innovative and adaptive applications, such as generating market intelligence insights or automating complex document processing tasks, pushing the boundaries of automation and intelligence in business processes.

A large proportion of the respondents are utilizing generative AI in their operations. The highest level of adoption is in category management market intelligence (76%), followed by expense reports management at 62%, addressing supplier performance issues and resolutions at 59%, and supplier onboarding and intake processes at 53%.

The high adoption rate in category management market intelligence underscores the importance of leveraging generative AI to generate insights into market trends and make informed procurement decisions. Furthermore, the application of generative AI in managing expense reports and resolving supplier performance issues reflects the potential of AI to optimize routine tasks and more rapidly identify operational risks.

For procurement and supply chain leaders, this trend highlights not only the critical role of AI in modernizing procurement practices but also the increasingly important role of generative AI. Generative AI cannot only automate manual processes like report generation but also provide innovative analyses of market and supply chain data.

Although most of the respondents currently use generative AI to create expense reports, most (82%) are only somewhat satisfied with their current generative AI solution. This result could stem from the fact that there aren't enough generative AI tools specifically designed for the procurement function.

Since you said you currently use generative AI to generate expense reports, how satisfied are you with your current generative AI solution in doing so?

- **16%** Very satisfied
- **82%** Somewhat satisfied
- **2%** Not very satisfied

However, it could also reveal that procurement teams are still in the learning process of using generative AI. Leveraging generative AI can be intuitive, but creating complex documents like reports requires a specific set of skills. Companies that master how to prompt their AI tools will also be able to generate reports faster and more effectively.

Generative AI is one of the most recognizable forms of the technology, but it is not the only form that will drive meaningful change in the procurement function. Researchers asked the respondents to identify which AI solution would most improve their procurement workflows.

Which AI-driven solution would most improve your procurement workflows?

- **33%** AI that predicts supplier risk and compliance status
- **31%** AI that offers real-time, conversational data insights
- **25%** AI that facilitates rapid, secure supplier questionnaires
- **10%** AI that auto-generates and manages supplier contracts
- **1%** AI that translates plain English into automated workflows

About one-third of the respondents (33%) say an AI technology capable of forecasting supplier risk and compliance status would most improve their procurement workflows. This is closely followed by 31% who favor AI for accessing conversational, real-time data insights, out of five options presented.

Which of the following describes your view on the role of AI in enhancing procurement and compliance processes?

These findings suggest that procurement and supply chain leaders are primarily focused on risk management and operational efficiency when it comes to integrating AI into their workflows. The high interest in predictive analytics for supplier risk underscores the growing need for proactive measures in supply chain management, indicating that leaders are keen on minimizing disruptions and ensuring compliance.

Furthermore, the demand for real-time data insights highlights a shift towards a more dynamic and responsive approach in procurement processes, where decision-makers are looking for technologies that offer immediate, actionable intelligence.

Altogether, the findings of the study show that procurement and supply chain leaders believe their AI investments will significantly enhance their procurement operations. However, they believe AI can offer value in specific areas of the function.

For example, 62% believe AI will be valuable for improving supplier relationships and enhancing supplier interactions. This application of AI will enable procurement teams to better understand and predict supplier behavior, resulting in more effective negotiations and stronger partnerships.

Additionally, 58% believe AI will be key to unlocking deeper insights and better decision-making. AI can accomplish this by analyzing large amounts of data, identifying patterns and trends, and providing actionable insights to procurement teams. This will allow them to make more informed decisions based on real-time information and data-driven analysis.

Finally, 56% believe AI will be crucial for proactive risk management and compliance adherence, while 52% believe it will be essential for driving efficiency. AI can deliver proactive risk management by continuously monitoring supplier data and identifying potential risks, such as supplier defaults or compliance violations. This will allow procurement teams to take proactive measures to mitigate these risks and maintain compliance with regulations.

Regarding efficiency, AI can improve process automation and eliminate manual tasks, allowing procurement teams to focus on more strategic activities. This will ultimately lead to cost savings, faster decision-making, and increased productivity within the function.

The results of the study suggest that the anticipation surrounding AI in procurement is overwhelmingly positive, with leaders expecting significant strides in efficiency, decision-making, and supplier relationship management. These advancements promise a future where procurement is not only more strategic and data-driven but also more integrated and responsive to the fast-paced global market.

Conclusion:

How AI Will Change Procurement and Supply Chain Roles

This report explored how AI is changing procurement workflows, as well as what leaders expect from the technology in the future as it relates to procurement and supply chain functions. However, AI will also have a direct impact on the way procurement teams work. Indeed, it could change the very nature of the procurement career.

Researchers sought to understand how procurement and supply chain leaders foresee AI impacting their jobs, so they asked the respondents for their thoughts. The sentiments expressed by respondents highlight a complex and multifaceted view of the impact of Artificial Intelligence (AI) on careers in procurement, supply chain, risk management, and compliance.

A significant portion of the feedback underscores the potential of AI to redefine job roles and enhance efficiency. There's a consensus on AI's ability to optimize operational functions, streamline processes, and augment decision-making capabilities. Overall, respondents believe the technology will make their day-to-day work more efficient.

However, the respondents also anticipate a significant transformation in their job roles, necessitating the adoption of AI-based technological skills. This transformation is poised to revolutionize traditional practices and make tasks more productive, but it will also require leaders to educate themselves on the use of this technology and obtain new job skills.

Some of the respondents expressed skepticism regarding AI's influence on career paths within the procurement and supply chain sectors. These leaders have concerns about AI leading to job displacement and the potential biases in AI-driven decisions were mentioned.

Despite these apprehensions, many see AI as an avenue for professional growth, anticipating that it will enable them to tackle higher-level challenges and responsibilities. This dual view reflects a realistic admission of AI's disruptive potential alongside an acknowledgment of its capacity to elevate professional capabilities and contribute to personal and organizational success. The responses collectively underline the importance of upskilling and adapting to seamlessly integrate AI into their professional repertoire, suggesting a future where AI could be both a tool for advancement and an arena for cautious navigation.

Key Suggestions

01.

Prioritize the acquisition of AI and data analytics skills among your team members to enhance decision-making and operational efficiency.

This is vital because, as AI becomes integral to procurement strategies, teams with advanced analytical skills will be better positioned to leverage AI-driven insights for competitive advantage.

02.

Invest in AI technologies that offer real-time data analytics and predictive capabilities to improve supplier relationship management and risk assessment.

Real-time insights and predictive analytics are crucial for anticipating market changes and managing supplier risks more proactively, ensuring continuous operational flow.

03.

Develop a comprehensive AI integration plan that includes milestones for automation, efficiency improvements, and skill enhancement initiatives.

A structured plan will ensure a seamless transition to AI-enhanced operations, minimizing disruptions and maximizing the return on investment in AI technologies.

04.

Encourage continuous learning and adaptation to AI advancements within your organization to sustain a competitive edge in procurement and supply chain management.

Continuous learning is essential in keeping pace with AI advancements, enabling your organization to adapt quickly to new opportunities for improving efficiency and making more informed decisions.

About the Authors

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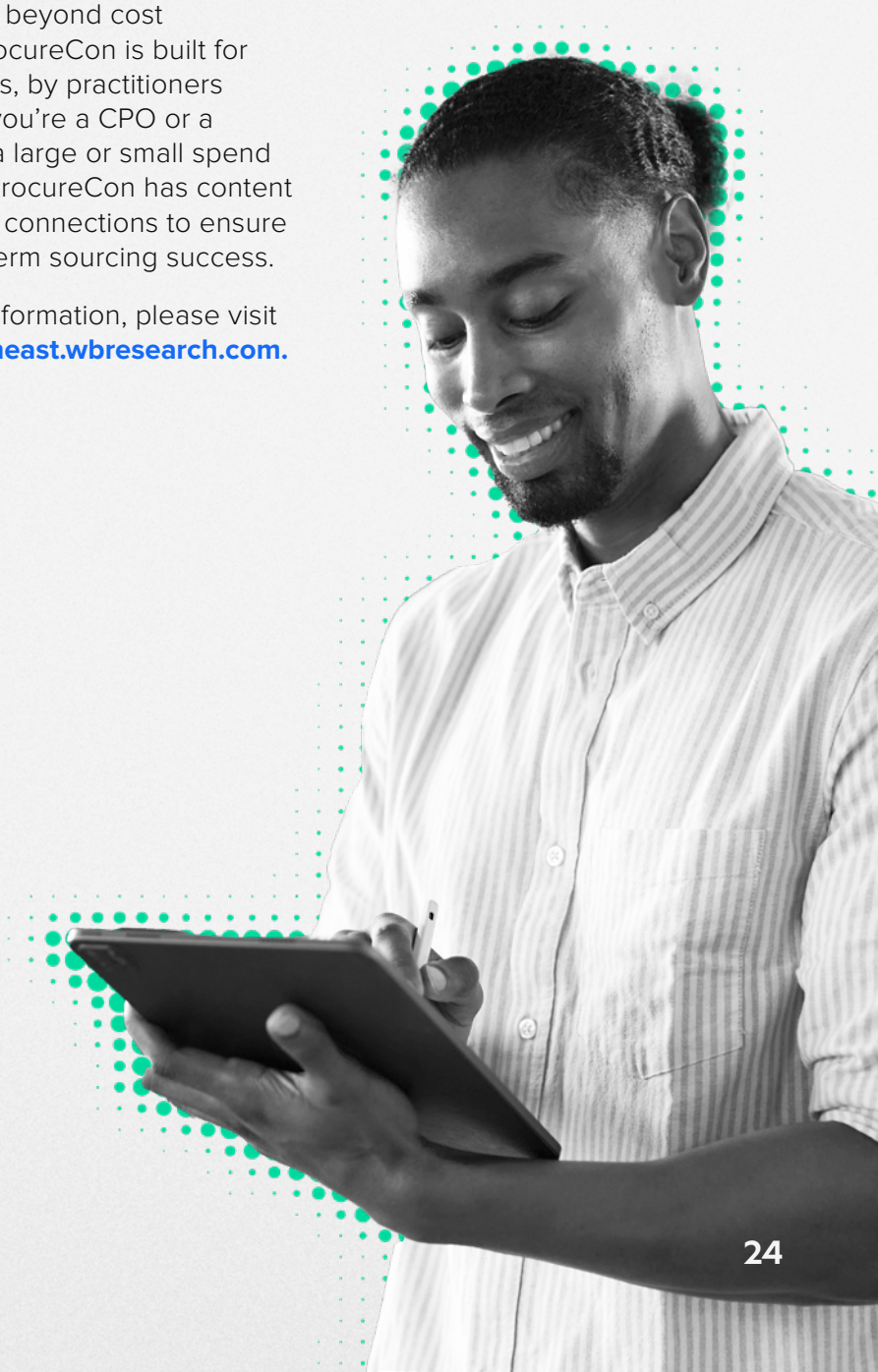

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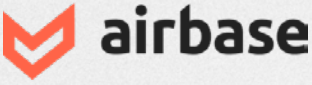

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