Modernize purchase-to-pay

Boost performance with automation, analytics, and AI

IBM

How IBM can help

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Key takeaways

Organizations optimizing exponential technologies are gaining efficiencies and cost savings.

■ **Organizations with optimized platforms that automate purchase-to-pay have 33% fewer erroneous payments.**

They also experience 19% lower total process cost to order material and services per purchase order than peers who have not implemented a platform solution.

■ **52% of top performers in purchase-to-pay cost metrics use advanced analytics and predictive algorithms.**

They apply these technologies in procurement decision-making to connect data from suppliers and stakeholders, improving working capital and helping reduce costs and risks.

■ **Organizations that have optimized AI in purchase-to-pay detect 50% more fraudulent invoices.**

They also process 33% more accounts payable invoices and resolve an invoice error 20% faster than those that have not implemented AI, helping streamline processes and enhance decision-making.

Introduction

Positioned at the intersection of business strategy and value, the finance function within organizations is poised to help leaders navigate the difficult current environment of a persistent pandemic, geopolitical conflict, sustainability demands, and high inflation. Finance can spearhead the discovery of insights that facilitate faster, better decision-making and keep enterprises on track toward purposeful agility and rapid innovation.

Yet nearly half of finance's time is still spent on transactional activities. In fact, fewer than 10% of finance department activities are dedicated to analysis and action—areas crucial to supporting improved decisions.[1] By turning to exponential technologies, finance can transform its core processes and upskill the finance function—freeing teams to drive greater value for their organizations.

One excellent candidate is purchase-to-pay, a complicated system of purchasing and paying for the goods/services necessary to deliver a solution to customers.[2] Typically, purchase-to-pay faces several key challenges that restrict its ability to enhance business outcomes:

– Teams operate in silos, with fragmented processes spread across sourcing, procurement operations, and accounts payable.

– Process inefficiency and variability arise with manual touchpoints in vendor payments and multiple duplicate entries in vendor masters.

– Transaction visibility is limited due to disparate enterprise systems coupled with lack of data access.

– High exception volumes coupled with unresolved queries and follow-ups on payments can arise from low process digitization and compliance.

– Vendor master data cleansing when done manually can be expensive and time consuming.

Often, these issues result in high procurement costs, suboptimal user experiences for buyers and suppliers, high costs for invoice processing, and missed sourcing savings. Any increase in efficiency in purchase-to-pay can directly reduce overall process costs because one part of the process alone, accounts payable/expense reimbursement, represents 12% of all finance function FTEs.[3]

To explore the potential benefits of applying technology solutions to the purchase-to-pay process, the IBM Institute for Business Value Performance Data and Benchmarking Program performed a statistical analysis of data collected from over 500 purchase-to-pay managers globally (see study approach and methodology on page 23). The results show a positive correlation between the adoption of exponential technologies and organizations outperforming their peers in a variety of purchase-to-pay performance measures. The advantages of automating data collection, gaining insight intelligence, and eliminating error-prone manual tasks can indeed free time for finance staff to spend on higher-value decision-making and strategic goals.

Any increase in efficiency in purchase-to-pay can directly reduce overall process costs because one part of the process alone, accounts payable/expense reimbursement, represents 12% of all finance function FTEs.[3]

Platform solutions deliver automation benefits

Procurement

A procurement platform is an integrated system that fully or partially automates significant parts of procurement processes, including sourcing governance and category management, selecting suppliers and developing/maintaining contracts, ordering materials and services, and managing suppliers. Automating purchase requisition and purchase order approvals delivers multiple benefits, including reduced manual intervention, decreased delays, and elimination of email processes. Additionally, vendor performance can be tracked, discrepancies can be identified, and historical information can more easily be compiled to improve decision-making.

However, only 33% of respondents report they are implementing, operating, or optimizing a platform solution in procurement. Those organizations that have optimized a platform solution in procurement have realized advantages over those that have not implemented a platform solution, including:

– A lower total process cost to order material and services per purchase order (see Figure 1)

– The ability to procure 22% more of their total purchase value from certified vendors (see Figure 2).

FIGURE 1

Automation helps produce procurement efficiencies.

Cost per purchase order

19% lower

$88.57

$110.00

FIGURE 2

Automation helps increase procurement effectiveness.

Purchases from certified vendors

22% more

67%

55%

Note: Certified vendors are suppliers of goods and services with whom the business unit has prearranged purchasing agreements that include the supplier being responsible for quality of incoming goods or services.

■ Optimized a platform solution in procurement
■ No platform solution in procurement implemented
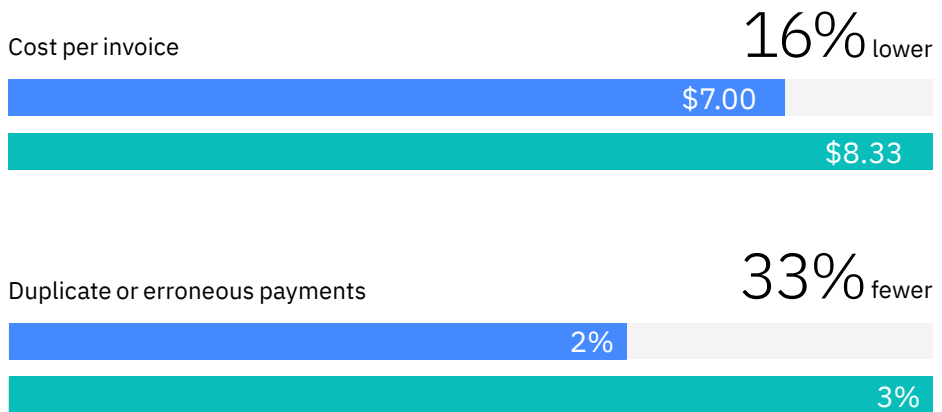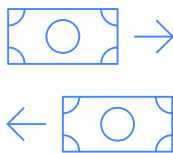
Accounts payable

An accounts payable (AP) platform is an integrated system that fully or partially automates significant parts of the AP process from invoice reception to payment. Invoice matching is automated, simplifying the arduous tasks of extracting invoices from emails and matching them with relevant purchase orders. AP staff can also take advantage of favorable payment terms and maximize cash flow.

However, only 35% of respondents report they are implementing, operating, or optimizing a platform solution in accounts payable. Those organizations that have optimized an AP platform solution have experienced process improvements when compared to those that have not implemented one, including (see Figure 3):

– A lower total process cost for accounts payable per invoice processed

– 33% fewer duplicate or erroneous payments.

FIGURE 3

Accounts payable platforms yield process improvements.

Cost per invoice

16% lower

$7.00

$8.33

Duplicate or erroneous payments

33% fewer

2%

3%

Note: Total cost includes fully loaded personnel cost, system cost, overhead cost, outsourced cost, and any other costs.

■ Optimized a platform solution in accounts payable
■ No platform solution in accounts payable implemented

*Only 35% of respondents report they are implementing,
operating, or optimizing a platform solution in
accounts payable.*

ABB: Undertaking the procurement digital transformation journey[4]

As part of its digitization journey, global technology company ABB is launching SmartBuy, an end-to-end employee purchasing program that matches the ease of online shopping with the intuitiveness and speed of a search engine. The solution also automates the process of finding, procuring, and managing ABB's supplier network with services such as self-registration and contract processes.

SmartBuy is designed to provide ABB employees with a self-service method to purchase indirect materials and services, guiding users to preferred suppliers, processes, and policies. The solution provides around-the-clock support with an intuitive, single, self-service interface for ABB's employees and suppliers across the globe, creating a virtually seamless experience that also aligns with ABB corporate policies.

Advanced analytics and predictive algorithms improve procurement decisions

Procurement decisions fueled by poor data and analytics result in a significant amount of missing or misclassified spend data (up to 50%), and a lack of insights results in an annual average of $10 million in lost savings.[5] Fragmented data sets and varying definitions make it difficult to synchronize information around spend. Rules-based classification of data leads to static and inaccurate results. And spend insights are hard to generate and are usually based on sole-sourced data from static data sets.

Applying advanced analytics and predictive algorithms makes a difference by connecting data from suppliers and stakeholders to improve working capital while helping reduce costs and risks. For example, with working capital, payment analytics look at the compliance of payment terms and discount opportunities to the agreed terms with suppliers. These analytics can use internal and external data to recommend to what extent vendor payment terms can be extended. Analytics associated with early payments look for invoices that have been paid ahead of contractual due dates.

Analytics can also identify opportunities where contractual discounts have not been taken and where they could be introduced to suppliers that do not currently have them. In addition, organizations can leverage dynamic discounting analytics. This is a form of supplier financing that puts an enterprise's surplus cash to better use. Suppliers can take early payment in return for a discount by choosing which invoices to accelerate, according to its cash flow needs. They can take payment any time between invoice approval and maturity—but the earlier the payment, the greater the discount.[6]

52% of top performers in purchase-to-pay cost metrics use advanced analytics and predictive algorithms in procurement decision-making.

Top performers use advanced analytics to help reduce purchase-to-pay costs.

$12.07

52%
lower cost

$4.81

60%
lower cost

$5.81

$1.90

Total cost to order
materials and services

Total cost to process
accounts payable

Cost per $1,000 purchases

■ Top performers   ■ Other respondents

Finally, advanced analytics intended to identify potential fraud and abuse activities also help reduce other risks. This can include looking for duplicate vendors and analyzing spend below clip levels, for example, to see if suppliers are regularly sending invoices just below the clip.

Procurement analytics can yield 1% in incremental savings to sourced categories from improved go-to-market intelligence and 5 to 20 times return on investment from the value of analytics and insights delivered versus the price of the solution.[7]

More top performers in purchase-to-pay cost metrics (52%) have a procurement decision-making culture that includes advanced analytics and predictive algorithms compared to their peers (39%).

Top performers in purchase-to-pay cost metrics have much lower costs to order materials and services and to process accounts payable compared to other respondents (see Figure 4).

Not surprisingly, most organizations with a procurement decision-making culture that includes advanced analytics and predictive algorithms make relevant procurement data accessible in real time throughout the enterprise.

Multinational chemical corporation: Transforming purchase-to-pay[8]

Following a series of mergers and divestitures, this company sought a transformation partner to take over its purchase-to-pay operations and drive innovation. The situation required the partner to focus on standardizing functional processes and increasing productivity globally, operating more visibly as a global organization, delivering value through integrated services and analytics, generating better business outcomes, and elevating the stakeholder experience.

The company and the partner embarked on an organizational and operational transition in which they executed several innovation initiatives to improve the purchase-to-pay process:

– Automation to boost efficiencies and streamline existing operations

– Analytics platforms for invoice prioritization and forecasting/ identifying roadblocks

– Executive digital dashboards for real-time insights.

The company achieved 0.7 days of overdue inventory against a target of one day, 69% invoice automation against an industry benchmark of 67%, and 95% of invoices paid on time.

# AI streamlines the process and enhances decision-making

An AI-powered workflow, underpinned by data models, can optimize touchless processing and provide a unified interface for buyers, suppliers, procurement, and finance staff. The resulting spend and pricing intelligence enables insights during sourcing. AI can also help with procurement operations and manage inquiries from buyers and suppliers.[9]

Yet, only 28% of respondents report they are implementing, operating, or optimizing AI in procurement, and only a few more, 32%, say they have adopted AI in accounts payable.

Within procurement, organizations that have optimized AI identify more fraudulent invoices compared to organizations that have not adopted AI (see Figure 5).

FIGURE 5

AI helps increase identification of fraud.

Identification of fraudulent supplier invoices

50% more

3%

2%

■ Optimized AI in procurement
■ Have not implemented AI in procurement
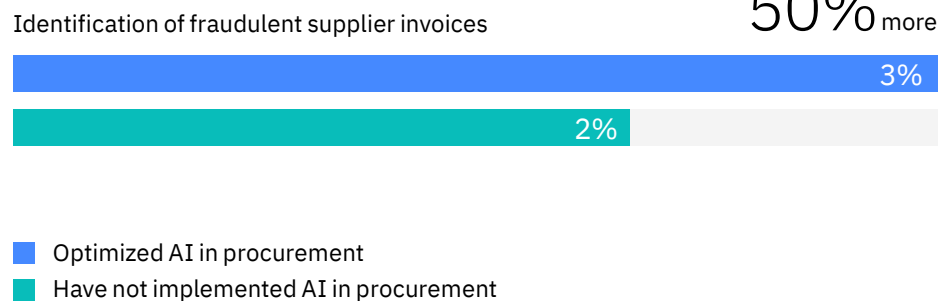
Within accounts payable, organizations that have optimized AI are experiencing several advantages compared to their peers who have not adopted AI. They:

– Process 33% more invoices per FTE (see Figure 6)

– Resolve an invoice error faster and are better able to manage invoice exception handling (see Figure 7)

– Decrease the percentage of purchase orders created after receipt of the associated supplier invoice by 40% (see Figure 8).
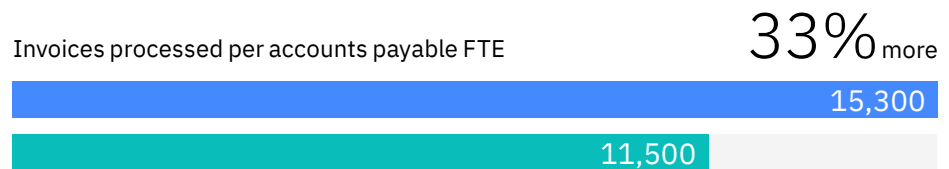
Leveraging AI in accounts payable helps increase output.

Invoices processed per accounts payable FTE $\quad$ 33% more
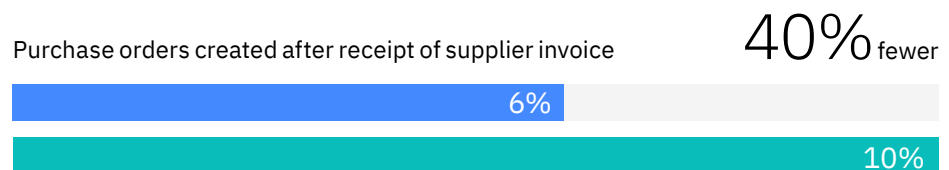
15,300

11,500

AI helps reduce cycle time to resolve invoice errors.

Cycle time to resolve an invoice error $\quad$ 20% faster

4 days

5 days
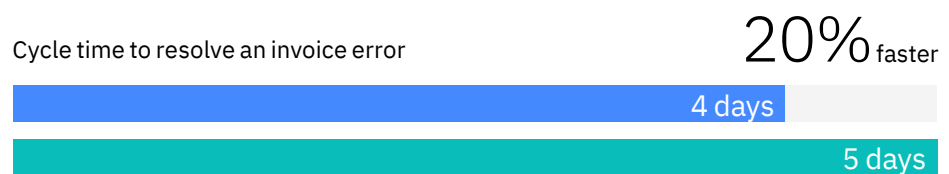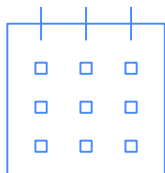
Using AI in accounts payable helps improve quality.

Purchase orders created after receipt of supplier invoice $\quad$ 40% fewer

6%

10%

■ Optimized AI in accounts payable
■ Have not implemented AI in accounts payable

Large electronics distributor: Driving intelligent workflows in purchase-to-pay[10]

The company had multiple ERPs, and the process was manual and broken for non-electronic data exchange (EDI) suppliers. The as-is process experienced missing invoices, delayed processing, and long turnaround. As a result, the time to process an invoice on average was more than four days.

To transform its purchase-to-pay process, the company implemented a scalable platform that included:

– An input module to automate receipt of paper and email invoices

– Intelligent extraction modules to extract invoice data

– Touchless transaction processing for business rules and matching services

– An interface to the ERP for posting of straight pass and exception invoices.

The solution reduced the end-to-end cycle time for invoice processing by 90%, enabled 70% of invoices to be processed with zero touch, and prevented $2 million in duplicate payments.
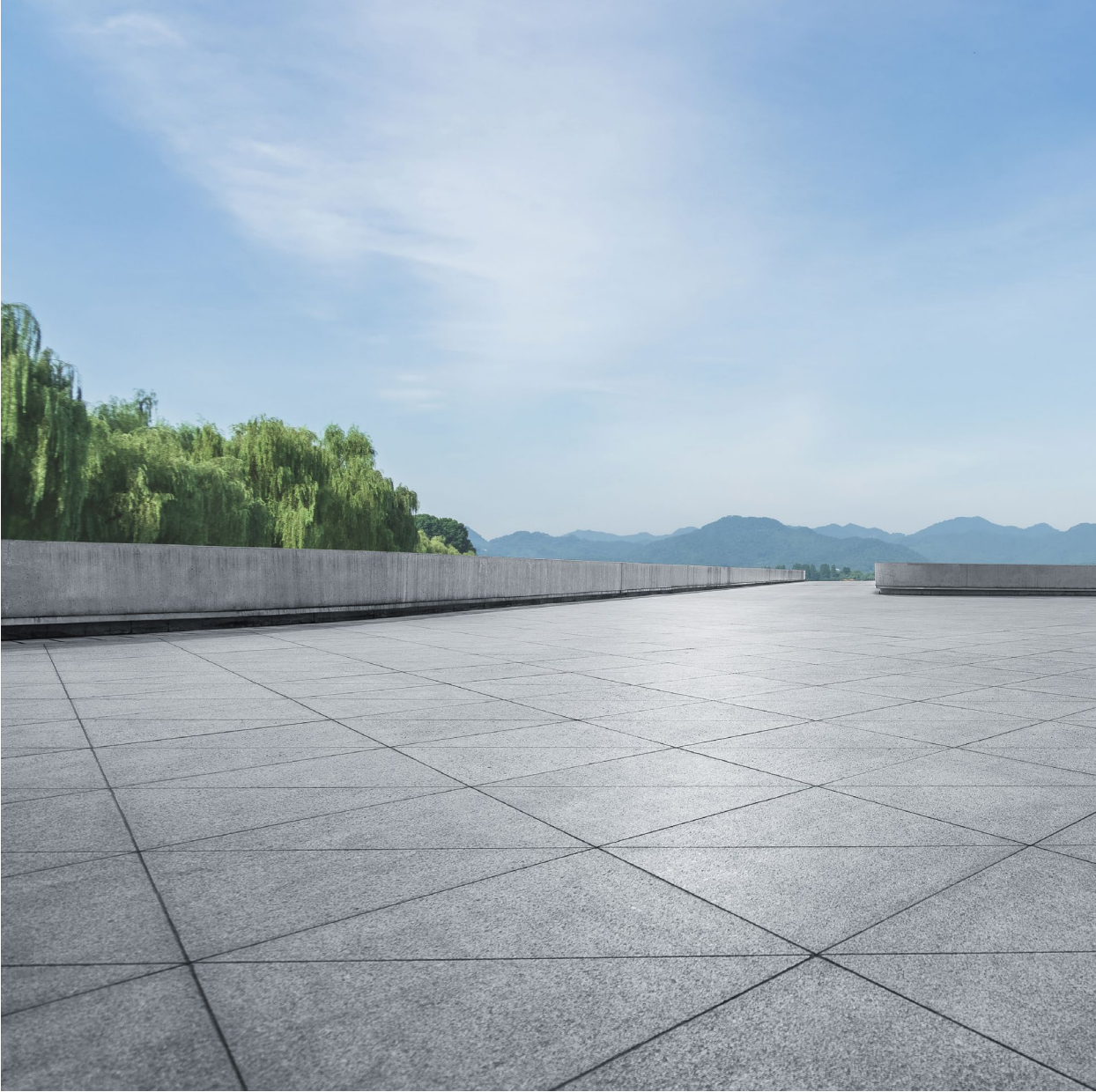
Do you need exponential technologies in your purchase-to-pay process?

Key questions to ask

Procurement

– Do you have category-level spend visibility across the enterprise?

– Is your sourcing strategy fragmented across business units/geographies?

– Do you have significant quality issues with your spend data?

– Are you concerned about the savings leakage due to buyers not leveraging preferred suppliers?

– Are you getting a significant number of complaints and/or escalations from buyers?

– Have you optimized your discount strategy?

Accounts payable

– Are your suppliers unhappy due to payments not being paid on time?

– Are you spending too much time and money dealing with exceptions and paper invoices?

– Is your accounts payable workflow cumbersome?

– Is your cost per invoice processed higher than your peers?

Getting started

The combination of automation and advanced analytics/AI is powerful for finance. These exponential technologies can provide tangible business outcomes. For sourcing, 100% real-time visibility of enterprise spend can be achieved along with 10% in sourcing savings. Procurement operations can provide more than 95% sourcing compliance, 20%-30% savings in tactical buying, and 60%-70% process efficiency. And 95% on-time supplier payments can be generated in accounts payable.[11]

However, it would be impractical to assert that a finance organization should jump directly into such technology investments. There are prerequisites with an emphasis on fundamentals. Before implementation, organizations need to invest in the required people skills, processes, and culture to take full advantage of these technologies. They also should establish process and systems commonality and standardize financial data.

Once this foundation is in place, automation and AI can accelerate the purchase-to-pay process. Adoption of these exponential technologies should also be done in conjunction with a more holistic review of other contributing factors that enable top performers. For example, an effective service delivery model that enables common technology and sound data management practices can make a crucial difference in the transformation. Finance organizations also need to consider the current skill set of their staff and the underlying enterprise architecture required to support the technologies.

Action guide

Lay the groundwork for leveraging exponential technologies in purchase-to-pay using these steps to steer your efforts.

01

Use design thinking

Use design thinking to define and align around the current experience and pain points in purchase-to-pay. Determine the time and cost involved to perform each task within the lifecycle. In procurement, look at vendor onboarding, requisition generation and approvals, purchase order creation and distribution, and spend tracking. In accounts payable, analyze invoice receipt, payment approvals, payment exceptions, and accounts payable inquiries.

02

Prioritize potential solutions

Prioritize potential solutions with an emphasis on buyer and supplier user experience. Solutions should include process changes, service delivery model, technology implementation, talent/skill capabilities, and data management/governance.

03

Develop a business case

Develop a business case for the solutions, including spend assumptions, maturity assessment of the current purchase-to-pay process, and value that can be generated. Potential benefits should include process efficiencies, cost reduction, improved buyer/supplier relationships, reduced risks, and increased visibility.

04

Create an implementation plan

Create an implementation plan for the purchase-to-pay transformation, including roadmap, business objectives, milestones, and costs. Include pilots to rapidly achieve success and demonstrate the value of the solutions.

05

Communicate with suppliers

Communicate with suppliers about the purchase-to-pay transformation and gather and clean supplier data as input into new systems.

06

Ramp up execution

Ramp up execution and conduct formal weekly/ monthly reviews with business stakeholders to understand roadblocks, critical path, and value realization. Adjust the implementation plan iteratively.

About
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↗

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Siva is Vice President, Global Procurement Services Delivery in IBM Finance and Operations. His prior role was Partner and Global Offering Leader for Source to Pay in IBM Consulting. He has more than 23 years of experience in driving large-scale transformations in the finance and procurement functions. Siva has led a global cross-functional team in the development of an intelligent workflow platform using exponential technologies—including artificial intelligence, machine learning, and blockchain—to enhance profit and loss, cash flow, efficiency, user experience, and controls.

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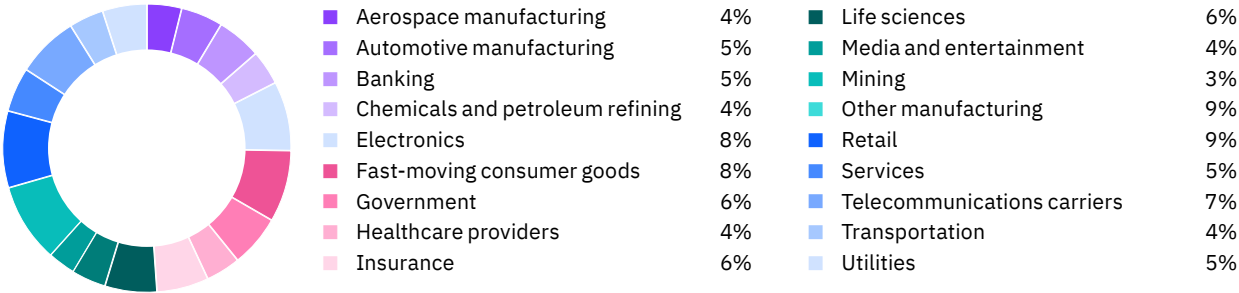
Study approach and methodology

In partnership with American Productivity and Quality Center (APQC), the IBM Institute for Business Value surveyed 529 purchase-to-pay managers in 2021. The study focused on current purchase-to-pay culture and organization, AI and analytics, along with other exponential technologies.

The global survey included 25 countries across the Americas, Europe, India, China, Asia/Pacific, the Middle East, and Africa. The surveyed enterprises represented 18 industries and included a range of enterprise sizes (see Figure 9). Data cited in this study is self-reported by study respondents.

Survey demographics

Industry distribution

Aerospace manufacturing	4%
Automotive manufacturing	5%
Banking	5%
Chemicals and petroleum refining	4%
Electronics	8%
Fast-moving consumer goods	8%
Government	6%
Healthcare providers	4%
Insurance	6%
Life sciences	6%
Media and entertainment	4%
Mining	3%
Other manufacturing	9%
Retail	9%
Services	5%
Telecommunications carriers	7%
Transportation	4%
Utilities	5%

Regional distribution

Africa and Middle East	5%
Asia Pacific	26%
Central and South America	11%
Europe	32%
US and Canada	26%

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Related reports

AI's quantified impact on the finance function

"AI's quantified impact on the finance function: Improving process quality, cost, and efficiency." IBM Institute for Business Value Benchmarking Insight. November 2022. https://ibm.co/artificial-intelligence-finance

Smart procurement made smarter

"Smart procurement made smarter: 5 ways digital intelligence drives value." IBM Institute for Business Value. September 2022. https://ibm.co/smart-procurement

The CFO Global C-suite Study: Strategic Intelligence

"Strategic Intelligence: CFOs as architects of action and champions of change." IBM Institute for Business Value. January 2022. https://ibm.co/c-suite-study-cfo

Endnotes

1   "The CFO Study: Strategic Intelligence—CFOs as architects of action and champions of change." IBM Institute for Business Value. January 2022. https://ibm.co/c-suite-study-cfo

2   "Process is Key to Improving Procure-to-Pay." APQC. December 14, 2021. https://www.apqc.org/resource-library/resource-listing/process-key-improving-procure-pay

3   IBM Institute for Business Value Performance Data and Benchmarking, 2022.

4   "IBM Helps Support ABB's Procurement Digitization with The Launch of SmartBuy: A New Program Using SAP® Ariba® Solutions." IBM. December 3, 2020. https://newsroom.ibm.com/2020-12-03-IBM-Helps-Support-ABBs-Procurement-Digitization-with-The-Launch-of-SmartBuy-A-New-Program-Using-SAP-R-Ariba-R-Solutions

5   Based on internal IBM client information.

6   "Pay early, pay less with Dynamic Discounting." Taulia. Accessed July 18, 2022. https://taulia.com/solutions/buyer-solutions/dynamic-discounting/

7   Based on internal IBM client information.

8   Based on internal IBM client information.

9   Halferty, Caitlin, Monica Proothi, Annette LaPrade, and Spencer Lin. "AI's quantified impact on the finance function: Improving process quality, cost, and efficiency." IBM Institute for Business Value Benchmark Insight. November 2022. https://ibm.co/artificial-intelligence-finance

10   Based on internal IBM client information.

11   Based on internal IBM client information.