



# The Business Value of IBM AI-Powered Automation Solutions

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## BUSINESS VALUE HIGHLIGHTS



Click on highlights below to navigate to related content within this PDF.

**\$676,961**  
benefits per 100 employees

**508%**  
five-year ROI

**11.3 months**  
to payback

**34% more**  
efficient IT operations

**30% higher**  
developer productivity

**14% greater**  
efficiency in business  
process management

**30% greater**  
analytics team productivity

**\$8 million**  
higher annual revenue  
per organization

## Executive Summary

The events of the past 12–18 months have accelerated the economy to its digital destiny. Technology (and, more specifically, software) is seen to be an incredible potential source of value. Business leaders are ramping up investments in digital transformation initiatives. As a result, we saw the CEOs of some of the largest organizations announcing major new technology investments for 2021 and beyond. For example, Brian Moynihan (CEO, Bank of America) announced that the bank would be spending \$3.5 billion on net-new technology spend in 2021 (as part of a broader total technology budget of \$10 billion), and artificial intelligence (AI)-focused investments are integral to it. One of the bank's most prominent applications of AI is Erica, which is an AI-based virtual financial assistant. Bank of America reported that just in the first three months of 2021, clients interacted with Erica 100 million times, driving increased client engagement, whereas it took 18 months for Erica to reach the first 100 million interactions.

AI initiatives offer more than just cost savings—they help organizations predict and shape future outcomes; allow people to do higher-value work; automate and optimize decisions, processes, and experiences; and reimagine new business models. Automation transforms work and simplifies how businesses operate, while AI accelerates innovation by making every interaction, experience, and process more intelligent. By unifying the two technologies and using machine learning (ML) and artificial intelligence to collect and analyze operational data and manage processes, organizations can capture great value. Ultimately, this means increased revenue, improved profit margins, and reduced risks. Advancements in AI have provided further fuel for market advances in automation, enabling commercially viable products and services that can automate a growing number of routine business processes. The rate of innovation is set to accelerate further, and with that comes opportunity to improve productivity and more deeply redefine job roles across the business. AI is becoming ubiquitous across all the functional areas of a business.

IDC conducted research that explored the value and benefits for organizations of using IBM AI-Powered Automation Solutions to support their ongoing business process and transformation efforts. This array of solutions relies on an integrated cloud-agnostic platform for business and IT automation that embraces unstructured data using machine intelligence. The project included seven interviews with organizations that were using the IBM solution set and that had in-depth experience with or knowledge about its benefits and costs.

**IDC calculates that based on extensive quantitative and qualitative data derived from these interviews, study participants will realize business value worth an annual average of \$15.7 million per organization (\$676,961 per 100 employees) by:**

- ▶ Providing tools and automated capabilities that help IT management teams be more efficient, thereby allowing them to spend more time on innovation and business-related projects
- ▶ Improving the overall productivity of other IT and business teams including application developers, analytics staff, and business process management staff
- ▶ Strengthening business processes and activities using AI-based automation functionality, resulting in higher gross annual revenue

## Situation Overview

Automation so far has been mostly implemented as a noninvasive integration method to automate routine, repetitive, and predictable tasks. The global pandemic and continued market uncertainty are driving the move from automation at process level to automation at scale. While traditional automation transforms work and simplifies how businesses operate, AI-powered automation accelerates innovation by making every interaction, experience, and process more intelligent. Whether you want to automate complex operations that span your entire organization, such as procure to pay, recruit to retire, or idea to product, or you want to automate repetitive tasks, AI-powered automation provides the flexibility to handle spikes in demand and troughs in capacity and create operational models that can sense, predict, respond, and adapt at speed.

Fluctuating markets and changing workforce behaviors are making it urgent for businesses to make a “big bet” on automation at scale.

# IBM AI-Powered Automation Solutions Overview

IBM views AI-powered automation as a continuous, closed-loop process where data patterns are discovered and analyzed so that decisions on insights from the data can be translated into automated actions — with AI providing proactive optimizations during each stage. IBM uses this approach of actionable intelligence to help businesses manage IT and business operations with greater speed, lower cost, and improved user experience.

IBM provides a single platform for both business and IT automation, helping businesses automate both to be effective.

IBM Cloud Paks for Automation provide a complete and modular set of AI-powered automation capabilities to tackle common and complex operational challenges.

## IBM Cloud Paks have three distinct advantages:

- ▶ Deep domain-specific capabilities to automate business operations, AIOps, integration, and networks
- ▶ A shared set of foundational capabilities that provide intelligent, real-time, and event-driven flows to automate across business and IT
- ▶ Secure and reliable deployment of IBM Cloud Pak containers across any public cloud or hybrid environment utilizing Red Hat OpenShift

## IBM Cloud Paks for Automation feature capabilities and workflows to help organizations quickly and intelligently automate IT and business workflows that run centrally, in networks, or all the way to the edge:

- ▶ **IBM Cloud Pak for Business Automation** is a set of integrated software designed to help organizations quickly solve their toughest operational challenges with the broadest set of business automation capabilities for content, capture, decisions, workflows, and robotic process automation (RPA).
- ▶ **IBM Cloud Pak for Watson AIOps** helps deliver visibility into performance data and dependencies across environments. It alerts IT staff to problems and their root causes and recommended solutions without the need for human intervention.
- ▶ **IBM Cloud Pak for Integration** is a hybrid integration solution that helps deliver an AI-accelerated approach to increase operational agility with capabilities including API management, application and data integration, messaging and events, high-speed transfer, and end-to-end security.
- ▶ **IBM Cloud Pak for Network Automation** is an AI-powered telco cloud platform that enables the automation of network operations and helps automate networks to deliver zero-touch networks and deploy new 5G services faster.

**A set of common AI and automation components power each intelligent IBM Cloud Pak and provide security-rich integrations between them, so organizations can build once and then reuse across their business and IT operations. Key components include:**

- ▶ **Work orchestration:** Gives workers their own interactive AI to help them perform routine and mission-critical tasks faster.
- ▶ **Process mining:** Applies data science to discover, validate, and improve workflows.
- ▶ **Task mining:** Helps find low-hanging RPA opportunities to improve workforce productivity.
- ▶ **Robotic process automation:** Automates repetitive tasks by mimicking the actions of humans interacting with software applications.
- ▶ **Foundation assets:** Allows users to store, manage, and share integration assets across capabilities.
- ▶ **Single event hub:** Processes the business and IT event data from the IBM Cloud Paks for Automation—in real time—to feed AI and machine learning.

The automation foundation and IBM Cloud Paks are containerized software that run on Red Hat OpenShift, an enterprise-ready Kubernetes platform. Containers are ready to deploy anywhere: hybrid cloud, multicloud, and edge. Red Hat OpenShift offers one point of control to simplify orchestration across all those environments. IBM certifies and manages the container templates to automate the software life cycle from configuration to monitoring, scaling, compliance, and patching. Security hardening techniques reduce the chance of common vulnerabilities.

# The Business Value of IBM AI-Powered Automation Solutions

## Study Firmographics

IDC conducted research that explored the value and benefits of using IBM AI-Powered Automation Solutions to improve organizations' IT environments and business results. The project included seven interviews with organizations that were using this solution set and that had experience with or knowledge about its benefits and costs. During the interviews, companies were asked a variety of quantitative and qualitative questions about its impact on their IT operations, core businesses, and costs.

**Table 1** (next page) presents the aggregated firmographics of the interviewed organizations. The organizations that IDC interviewed had a base of 6,743 employees with annual revenue of \$48 billion, indicating the involvement of several large companies. This workforce was supported by an IT staff of 1,359 managing 288 business applications. All interviewed companies are based in the United States and represent the following vertical markets: financial services, medical device, insurance, nonprofit, technology services, and consumer goods sectors. (Note: All numbers cited represent averages.)

**TABLE 1**  
**Firmographics of Interviewed Organizations**

Firmographics	Average	Median	Range
Number of employees	6,743	1,500	500 to 25,000
Number of IT staff	1,359	250	25 to 3,000
Number of business applications	288	170	20 to 1,200
Revenue per year	\$48B	\$1B	\$50M to \$291B
Countries	United States (7)		
Industries	Financial services (2), medical device (1), insurance provider (1), nonprofit (1), technology services (1), and consumer goods (1)		

n = 7, Source: IDC In-depth Interviews, June 2021

## Choice and Use of IBM AI-Powered Automation Solutions

Organizations interviewed by IDC described several reasons for selecting IBM AI-Powered Automation Solutions to serve as a foundation for their business automation and transformation goals. Participants largely cited that IBM gave their organization the ability to have a single platform supported by strong customer service and expertise. IBM gave organizations access to the skill sets needed to support robust business transformation goals powered by AI, which allowed these organizations to focus more on their core business initiatives and customer satisfaction. In addition, organizations appreciated multilanguage capabilities, strong analytics functionality, and the ability to customize cloud services.

### Participants spoke of the criteria upon which they made the decision to use IBM AI-Powered Automation Solutions:

▶ **Robust cloud services, analytics, and AI products:**

*“We first looked at an IBM competitor and decided it wasn’t robust enough, so we turned to IBM for cloud services, streaming analytics, and AI products. We are using AI/ML to forecast customer demand but also to predict downtime at manufacturing plants, maintenance on our equipment, and supply chain issues like inventory churn and demand.”*

▶ **Ability to segregate audiences and accurately allocate funds in one AI solution:**

*“Our organization uses AI to segregate our different audiences and provide accurate analysis for executives to determine how to allocate funds. We found that there wasn’t a vendor who could cover all of the ground needed to serve our different audiences. IBM could do this.”*

▶ **Global language solutions:**

*“We replaced the homegrown solution and some cloud solutions. We have offices in Europe, so we had some local language requirements. This is another reason why we liked IBM as a global multi-language solution.”*

▶ **Customizable solution with strong analytics and operational intelligence:**

*“IBM AI has very good coordination between software and hardware and good user management. Customization is also excellent with the IBM platform. They also share customization capabilities from different clients which can help speed along our solution development. They provide very good data analytics and operational intelligence in AI/ML, a key area for us going forward.”*

▶ **Advancing IT solutions with outsourced expertise:**

*“A major motivator of using IBM is better customer service, cost savings, and the ability to advance our IT solutions without having to onboard all of the necessary expertise ourselves. By outsourcing IT to IBM, we are able to focus on our core business.”*

▶ **Strong customer service:**

*“It’s really customer service, documented analysis, and some natural language processing based around the recognition of customer status.”*

Table 2 describes organizational usage associated with the interviewed companies’ deployment of the IBM solution set. Across all companies, there was a substantial IBM AI-Powered Automation Solutions footprint involving 67 business applications that 946 internal and 458 external users relied on for their daily activities. Foundationally, the IBM solution set played a strong role in the business operations of these companies by supporting 23% of all business applications and 33% of total revenue.

**TABLE 2**  
**Organizational Usage of IBM AI-Powered Automation Solutions**

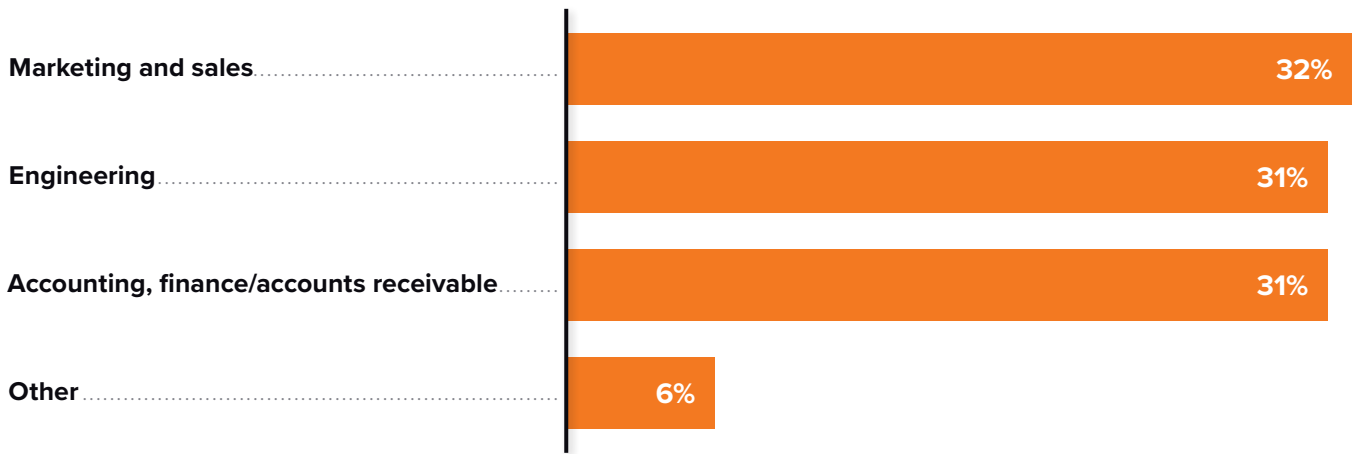
	Average	Median
Number of physical servers	20	20
Number of virtual machines	116	39
Number of business applications	67	30
Number of internal users of applications	946	1,000
Number of external users supported by applications	458	350
Percentage of revenue attributed to IBM AI-Powered Automation Solutions	33	30

n = 7, Source: IDC In-depth Interviews, June 2021



A value proposition offered by IBM AI-Powered Automation Solutions is that it is a single platform that combines capabilities and functionality equally applicable for both business and IT automation. IDC’s study focused on both of these aspects. **Figure 1** showcases the functionality specifically designed for business processes as interviewed organizations emphasized there were three teams most supported by IBM AI-Powered Automation Solutions: marketing and sales, engineering, and accounting.

**FIGURE 1**  
**Teams Supported by IBM AI-Powered Automation Solutions**  
 (% of interviewed participants)



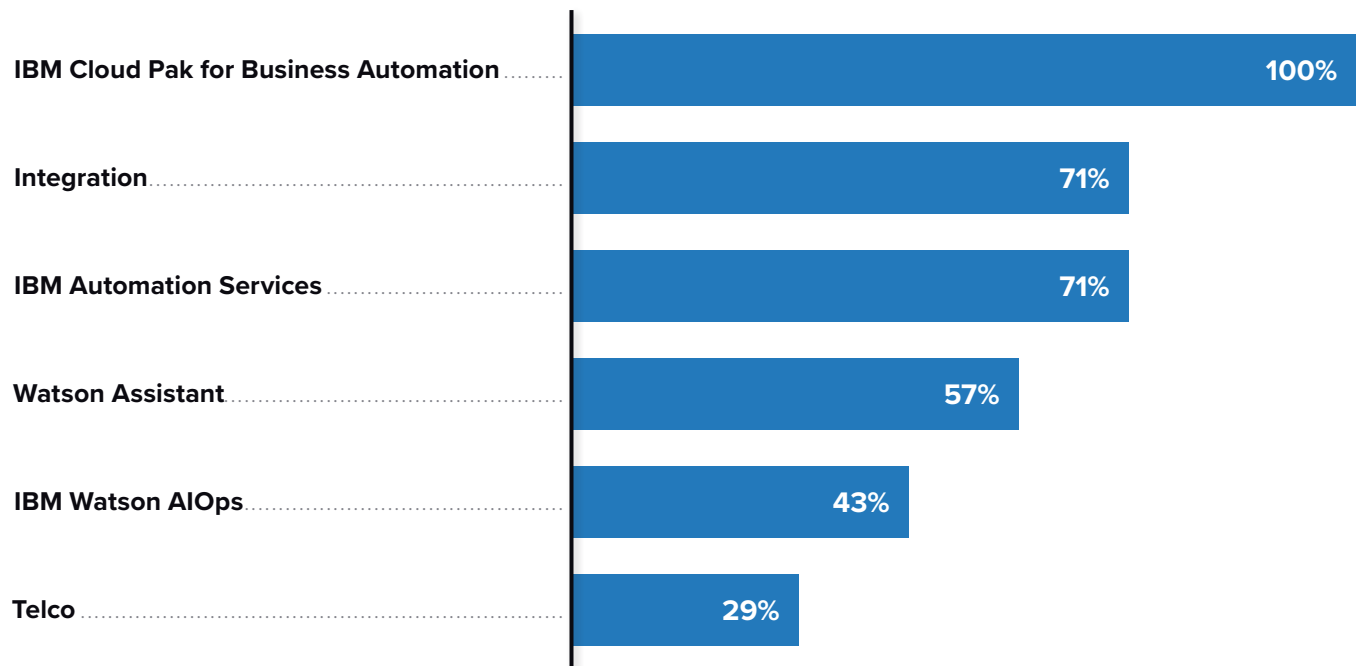
n = 7, Source: IDC In-depth Interviews, June 2021

The specific AI/automated solutions evaluated by IDC in this study are shown in **Figure 2** (next page), along with a breakdown of their average use across all interviewed companies. As shown, all study participants had deployed and were using IBM Cloud Pak for Business Automation along with the majority using Integration (71%), IBM Automation Services (71%), and Watson Assistant (57%) offerings.

FIGURE 2

## IBM AI-Powered Automation Solutions Used by Interviewed Organizations

(% of interviewed participants)



n = 7, Source: IDC In-depth Interviews, June 2021

## Business Value and Quantified Benefits

IDC's Business Value model derives the benefits for organizations in using IBM AI-Powered Automation Solutions to support their IT and business operations. Interviewed organizations reported that the use of IBM AI-Powered Automation Solutions created new efficiencies for their IT staff and boosted both application developer and business process management productivity. In addition, the performance of line-of-business teams as well as analytics teams was similarly enhanced by increased automation that powered data sets. These combined technology benefits served to increase overall IT and business productivity, leading to better business results and higher annual revenue.

### Study participants described these benefits in detail:

#### ► Easier management for IT:

*"The biggest benefit is operational efficiencies. It's easier to deploy and manage from an IT standpoint. Any time we need to make changes to the infrastructure, for whatever reason, we can do it more simply and quicker. And the raw IT budget has been reduced."*

▶ **Cost savings from a business standpoint and an IT standpoint:**

*“We’re absolutely saving money with the network and with the virtualization. There is no question about it. It’s a massive benefit and not just from a bottom-line perspective. There are also soft-dollar savings on training time spent. We have standardized, and now we don’t have different technologies in the mix.”*

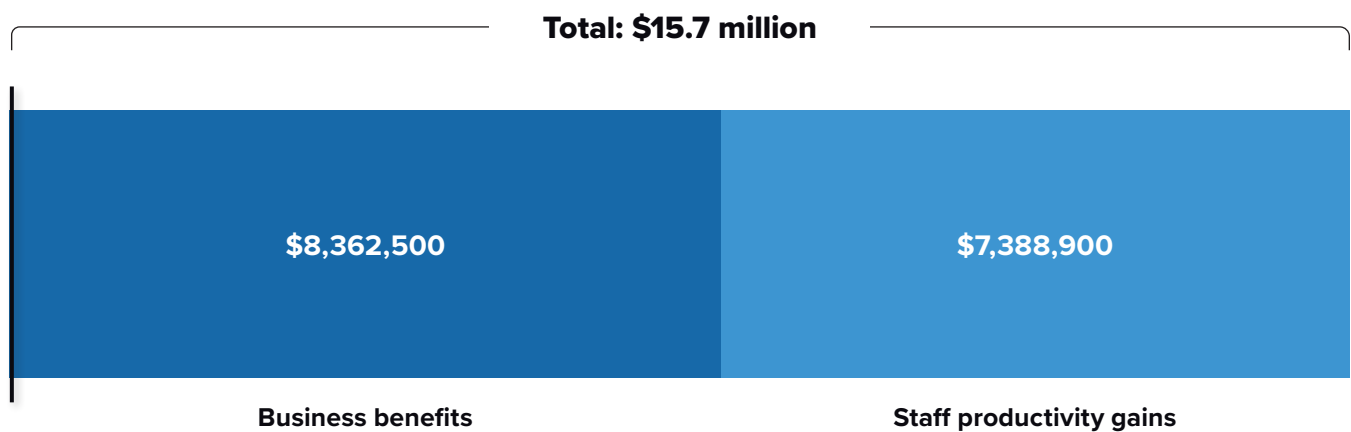
▶ **Global scalability and improved virtualization:**

*“The biggest benefits are network distribution, faster speeds, and lower power ... for example, we are getting the ability to distribute our network from Tel Aviv to London in a seamless fashion. Virtualization is also a big one, and it allows us to consolidate apps and operating systems.”*

**Based on interviews with seven organizations using IBM AI-Powered Automation Solutions, IDC quantified the value study participants will receive over five years at an annual average of \$15.7 million per organization in the following areas (see Figure 3):**

- ▶ **Staff productivity benefits:** Various IT and business teams benefit from increased efficiencies in their routine operations with adoption and use of IBM AI-Powered Automation Solutions. IDC puts the value of these benefits at an annual average of \$7,388,900 per organization.
- ▶ **Business benefits:** The improved functionality and efficiencies offered by IBM AI-Powered Automation Solutions enable interviewed organizations to enhance the performance of a variety of core business teams and run better business-critical applications, thereby contributing to better business results. IDC quantifies these benefits at an average of \$8,362,500 per organization per year.

**FIGURE 3**  
**Average Annual Benefits per Organization**  
 (annual average (\$))



n = 7, Source: IDC In-depth Interviews, June 2021

## Improvements in IT and Business Management Using Automation

Automation helps companies deal with the massive proliferation of structured and unstructured data that characterizes today's enterprise environments. IBM provides an integrated cloud-agnostic platform for business and IT automation that embraces unstructured data and uses machine intelligence to help enterprises better deal with these challenges. In support of this statement, an insurance provider noted, *"The automated data provided through the AI is also being mined by the data analysts to detect patterns that can better help our machine learning algorithms."*

Interviewed organizations reported that IBM AI-Powered Automation Solutions enhanced IT and business staff performance, thereby shifting the focus to key areas of business and away from spending excessive cycles on technology changes. Further, these organizations used AI to help increase customer satisfaction and reduce response times by better operationalizing data in terms of both efficiency and quality. A consumer goods company noted, *"It's significantly faster to collect data, operationalize it, and report on it because of the embedded AI. The ability to find and classify data by numerical values like social security numbers, phone numbers, and zip codes and add descriptors like gender, age, race is at least 40–50% faster."*

Study participants described how the specific IBM AI-Powered Automation Solutions they adopted provided them with robust cloud-based disaster recovery capability and offered enhancements to their existing supply chains. They also appreciated the benefits of stronger machine learning algorithms and being able to operationalize data faster while reducing fixed costs. Importantly, study participants discussed how their choice of solutions helped their IT teams spend less time on routine tasks and more time on projects and activities that directly supported their lines of business.

### Study participants commented on these and other benefits:

▶ **Robust disaster recovery through cloud usage:**

*"It has allowed us to take things to the cloud, giving us a major improvement in costs and responsiveness of our IT function. We don't have to maintain in-house datacenters or deal with downtime. Disaster recovery processes are much more robust."*

▶ **Supply chain enhancements:**

*"We were able to realize a number of supply chain process enhancements, allowing us to improve inventory receipts, link our supplier network and vendor-managed inventory, and improve inventory churn and asset utilization as well as processing time and fulfillment."*

▶ **Reduction in manpower needed for processes:**

*"We are using the AI to speed up our processes and reduce the amount of manpower required on a project. Also improving network utilization as we move data between databases ... allowing us to deliver results without having the intermediate step of manual data analysis."*

▶ **Reduced fixed costs:**

*"Benefits include reduction in personnel required to support our infrastructure, reduced hardware costs, and reduced real estate fixed costs. We were able to improve data backups and recovery. We've improved our security resilience and improved our ability to scale on demand. We've reduced costs associated with onboarding our required server needs."*

IDC evaluated how the IBM solution set made it easier for IT teams to more efficiently manage their existing IT infrastructure. **Table 3** quantifies these improvements. As shown, IBM AI-Powered Automation Solutions increased productivity for ongoing IT operations substantially (34%), giving staff the ability to drive new opportunities. This resulted in an average annual productivity gain of \$3,500,000.

**TABLE 3**  
**IT Infrastructure Management Productivity Gains**

	Before/Without IBM AI-Powered Automation Solutions	With IBM AI-Powered Automation Solutions	Difference	Benefit
Total full-time equivalent (FTE) count	105	140	35	34%
Value of staff time per year	\$10,500,000	\$14,000,000	\$3,500,000	34%

n = 7, Source: IDC In-depth Interviews, June 2021

The IT staff improvements that IDC identified also extended to application development teams that were able to leverage quality data to drive more value for their organizations. These teams are tasked with delivering highly functional applications on which their line-of-business units depends. IBM AI-Powered Automation Solutions gave application developers the ability to have a positive impact on business activities as well as customer satisfaction. As one study participant in the technology services sector noted: *“Getting new projects into the IBM area has improved innovation and flexibility for how we can support our clients. It allows us to simplify how various solutions present themselves to the users by automating complex workflows into simpler ones.”* As shown in **Table 4**, IBM AI-Powered Automation Solutions gave application development teams the automated data needed to be 30% more productive. This translated into an average annual productivity-based business value of \$225,000 per organization.

**TABLE 4**  
**Development Team Productivity Gains**

	Before/Without IBM AI-Powered Automation Solutions	With IBM AI-Powered Automation Solutions	Difference	Benefit
Total FTE count	8	10	2	30%
Value of staff time per year	\$750,000	\$975,000	\$225,000	30%

n = 7, Source: IDC In-depth Interviews, June 2021

In addition to productivity enhancements for both application development and IT infrastructure teams, interviewed organizations were also able to leverage AI- and automation-based efficiencies to increase data-driven outputs without needing to increase the size of their business process management teams. **Table 5** quantifies these gains showing that business process management teams were 14% more productive with IBM AI-Powered Automation Solutions. IDC calculated that these improvements provided an average annual productivity-based value of \$1,800,000 per organization.

**TABLE 5**  
**Business Process Management Team Productivity Gains**

	Before/Without IBM AI-Powered Automation Solutions	With IBM AI-Powered Automation Solutions	Difference	Benefit
Total FTE count	190	216	26	14%
Value of staff time per year	\$13,300,000	\$15,100,000	\$1,800,000	14%

n = 7, Source: IDC In-depth Interviews, June 2021

IDC then looked at how the IBM AI solution set impacted the analytics teams of interviewed companies. Study participants reported that, after deployment, these teams were able to work more productively, resulting in more robust and actionable data-driven insights in support of business operations and timely decision making. **Table 6** (next page) quantifies these gains for four major categories of analytics teams. The greatest improvement was seen for data scientist teams (38%) with a 30% overall gain in productivity for all four categories. These aggregate improvements translated into an average annual value of \$1,824,409 per organization.

**TABLE 6**  
**Overall Analytics Team Productivity Gains**

	Before/Without IBM AI-Powered Automation Solutions	With IBM AI-Powered Automation Solutions	Difference	Benefit
Business analytics (FTE count)	14	18	4	27%
Data scientists (FTE count)	13	18	5	38%
Analytics engineers (FTE count)	53	69	16	31%
Other business intelligence teams (FTE count)	6	8	1	22%
<b>Total analytics team (FTE count)</b>	<b>86</b>	<b>112</b>	<b>26</b>	<b>30%</b>
<b>Total value of analytics team's time per year</b>	<b>\$6,018,566</b>	<b>\$7,842,975</b>	<b>\$1,824,409</b>	<b>30%</b>

n = 7, Source: IDC In-depth Interviews, June 2021

## Improved Business Operations, Processes, and Results

Interviewed companies reported that adopting the IBM solution set enabled more efficient business operations, leading to measurable impacts on their business results. Study participants identified a number of benefits that could be directly tied to business improvements, including that application developers were more productive and better customer response was enabled. Interviewed organizations also noted that with IBM AI-Powered Automation Solutions, they were able to make better pricing decisions and more easily quantify business process improvements.

### Study participants commented on these benefits:

- ▶ **Quick customer and regulatory response through available data — medical device:**  
*"Most significant is improved access to disparate and large data sets that we were unable to access on a timely basis. We can now access them and respond to our customers quicker with improved regulatory response and reduced cycle time."*
- ▶ **Informed data-driven pricing — financial services:**  
*"It helps our company access the data and make decisions on pricing. It helps us understand our customer base through data analytics and which markets we want to target based on which ones are growing."*

▶ **Proactive customer service—consumer goods:**

*“If someone calls in and asks for information about a product, they get routed to the section of the company that has expertise in that product. The next phase is data sheets, videos, or anything in our knowledge base on those products that the AI engines are going to get trained to be smart enough to dispatch without human intervention. Eventually, the goal is for the sales department to become more proactive because the call center is a reactive department in the organization.”*

▶ **Better customer service based on employee skill sets—technology services:**

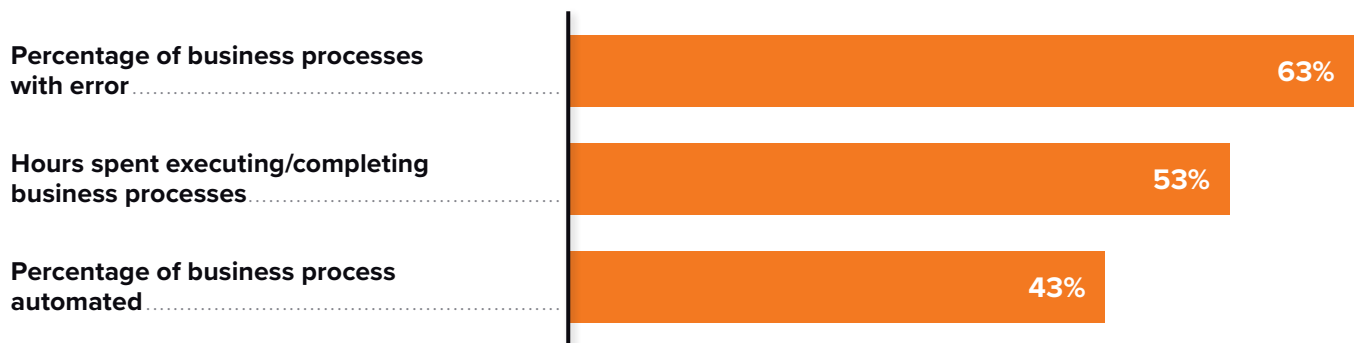
*“Our organization is using it to track which people are assigned to which projects based on different skill sets and the requirements of the project. If we can optimize this matching, we can deliver better services to our clients at reduced costs.”*

▶ **Ability to quantify improvements to drive action—medical device:**

*“We were able to quantify several business process improvements. This gave us the ability to move away from administering the processes and focus on making decisions that could drive action.”*

With the extensive use of automation to drive their digital transformation efforts, interviewed organizations were able to spend less time executing quality business processes. Further, automation facilitated dealing with large amounts of structured and unstructured data, thereby giving teams more time to engage in nonroutine tasks and enhance productivity. As one study participant working in the financial services sector noted, *“We’re trying to drive a data-driven culture where decisions are made, based on historical trends and easy access to data.”* As shown in **Figure 4**, IDC identified three KPIs that most effectively measure these kinds of business transformation benefits. After adoption of IBM AI-Powered Automation Solutions, study participants saw a 63% reduction in business process errors and a 53% improvement in the number of hours spent executing and completing their business processes.

**FIGURE 4**  
**Business Transformation KPIs**  
 (% of improvement over prior solution)



n = 7, Source: IDC In-depth Interviews, June 2021



To determine overall financial impacts, IDC quantified business result improvements by looking at changes in total revenue. Interviewed organizations reported that they were able to add additional revenue after adopting the IBM AI-Powered Automation Solutions through business enablement. **Table 7** shows that the average total additional gross annual revenue that accrued after deployment of IBM AI-Powered Automation Solutions was \$8,362,500.

**TABLE 7**  
**Business Enablement Impact**

	Per Organization	Per 100 Employees
Total additional gross revenue per year	\$55,750,000	\$826,801
Assumed operating margin	15%	15%
Total additional revenue per year — IDC model*	\$8,362,500	\$124,020

\*The IDC model assumes a 15% operating margin for all additional revenue. n = 7, Source: IDC In-depth Interviews, June 2021

## ROI Summary

IDC's analysis of the financial and investment benefits related to study participants' use of the IBM AI-Powered Automation Solutions is presented in **Table 8**. IDC calculates that on a per-organization basis, interviewed organizations will achieve total discounted five-year benefits of \$45.6 million (\$9.86 million per 100 employees) based on improved IT and business staff efficiencies and business results. These benefits compare with projected total discounted investment costs over five years of \$7.5 million (\$111,309 per 100 employees) on a per-organization basis. IDC calculates that at these levels of benefits and investment costs, these organizations will achieve a five-year ROI of 508% and break even on their investment in approximately 11 months.

**TABLE 8**  
**Five-Year ROI Analysis**

	Per Organization	Per 100 Employees
Benefit (discounted)	\$45,646,500	\$676,961
Investment (discounted)	\$7,505,400	\$111,309
Net present value (NPV)	\$38,141,100	\$565,652
ROI (NPV/investment)	508%	508%
Payback period	11.3 months	11.3 months
Discount factor	12%	12%

n = 7, Source: IDC In-depth Interviews, June 2021

## Challenges/Opportunities

AI is becoming ubiquitous across all business and IT processes. An ever-increasing number of organizations count on AI-powered automation to tap into the full power of their data to drive finance, marketing, operations, technology, sales, and compliance decisions. While AI is everywhere, businesses are still awaiting the realization of AI-powered automation at scale, which is an essential aspect of agile businesses to stay relevant.

According to IDC's 2021 *AI StrategiesView Study* (n = 2,000, global AI-powered solution decision makers and influencers), cost of the solution, lack of adequate volumes and quality of data, lack of operations, lack of trustworthy AI, and lack of skilled personnel (i.e., talent) are some of the leading challenges for implementing AI-powered automation solutions.

The transformative power of artificial intelligence starts with a solid data architecture that can address the complexity of today's diverse data landscapes. Key benefits of an intelligent data fabric include automated data governance and protection, self-service data consumption, and automated data integration.

IBM can continue to enrich its intelligent data fabric that helps end users simplify data governance and protection, self-service data consumption, and automated data integration for AI/ML initiatives. IBM can also help end users accelerate business time to value with prebuilt, pretrained, and business domain-optimized applications natively or with third-party ISVs to help automate and optimize business processes. Last, IBM can continue to help end users power their digital reinventions with convergence of business and IT AI-powered automation and professional services support.

## Conclusion

IDC advises every business to embrace AI-powered automation by working with a trusted advisor and technology partner for large-scale, end-to-end converged business and IT transformation powered by extreme automation. You should look for an AI-powered automation platform that enables process optimization across all lines of business and IT. The combination of this sort of cutting-edge AI-powered automation software platforms along with professional services will allow your business and IT teams to easily discover how processes run, decide what to automate based on insights from structured and unstructured data, and automate and continuously improve operations. You will be able to include processes that leverage the corporate network, from the central hub all the way to the network edge, with the goal of augmenting the human workforce, not replacing it. In fact, AI-powered automation will give you the flexibility to handle spikes in demand and troughs in capacity, helping ensure business continuity and resiliency and better meet the needs of both customers and employees.

# Appendix

## Methodology

IDC's standard ROI methodology was utilized for this project. This methodology is based on gathering data from current users of the IBM AI-Powered Automation Solutions.

**Based on interviews with these organizations, IDC performed a three-step process to calculate the ROI and payback period:**

- ▶ **Gathered quantitative benefit information during the interviews using a before-and-after assessment of the impact of IBM AI-Powered Automation Solutions.** In this study, the benefits included IT cost reductions and avoidances, staff time savings and productivity benefits, and revenue gains.
- ▶ **Created a complete investment (five-year total cost analysis) profile based on the interviews.** Investments go beyond the initial and annual costs of using IBM AI-Powered Automation Solutions and can include additional costs related to migrations, planning, consulting, and staff or user training.
- ▶ **Calculated the ROI and payback period.** IDC conducted a depreciated cash flow analysis of the benefits and investments for the organizations' use of IBM AI-Powered Automation Solutions over a five-year period. ROI is the ratio of the net present value (NPV) and the discounted investment. The payback period is the point at which cumulative benefits equal the initial investment.

**IDC bases the payback period and ROI calculations on a number of assumptions, which are summarized as follows:**

- ▶ Time values are multiplied by burdened salary (salary + 28% for benefits and overhead) to quantify efficiency and productivity savings. For purposes of this analysis, IDC has used assumptions of an average fully loaded salary of \$100,000 per year for IT staff members and an average fully loaded salary of \$70,000 per year for non-IT staff members. IDC assumes that employees work 1,880 hours per year (47 weeks x 40 hours).
- ▶ The net present value of the five-year savings is calculated by subtracting the amount that would have been realized by investing the original sum in an instrument yielding a 12% return to allow for the missed opportunity cost. This accounts for both the assumed cost of money and the assumed rate of return.
- ▶ Further, because IBM AI-Powered Automation Solutions requires a deployment period, the full benefits of the solution are not available during deployment. To capture this reality, IDC prorates the benefits on a monthly basis and then subtracts the deployment time from the first-year savings.

*Note: All numbers in this document may not be exact due to rounding.*

## About the Analysts



**Ritu Jyoti**  
Group Vice President, Artificial Intelligence Research,  
Global AI Research Lead, IDC

Ritu Jyoti is responsible for leading the development of IDC's thought leadership for AI Research and management of the Worldwide AI Software research team. Her research focuses on the state of enterprise AI efforts and global market trends for the rapidly evolving AI and machine learning (ML) innovations and ecosystem. Ritu also leads insightful research that addresses the needs of the AI technology vendors and provide actionable guidance to them on how to crisply articulate their value proposition, differentiate and thrive in the digital era.

[More about Ritu Jyoti](#)



**Megan Szurley**  
Consulting Manager, IDC

Megan Szurley is a Consulting Manager within IDC's Custom Solutions Division delivering consultative support across every stage of the business lifecycle: business planning and budgeting, sales and marketing, and performance measurement. In her position, Megan partners with IDC analyst teams to support deliverables that focus on thought leadership, business value, custom analytics, buyer behavior and content marketing. These customized deliverables are often derived from primary research and yield content marketing, market models, and customer insights.

[More about Megan Szurley](#)

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**AI-powered automation will improve business performance by making all information-centric jobs more productive, operations more efficient, and client and employee experiences more effective.** Whether you want to automate complex operations, such as procure to pay, that span your entire organization, or automate repetitive tasks, such as IT incident management, IBM AI-powered Automation can help you reduce your manual processes by 80%. Built on an open, hybrid platform, embedded with Watson, the new IBM Automation Cloud Paks are the industry's first integrated suite of domain-specific business and IT software. They include a single, expert system and library of purpose-built automations — pre-trained by experts and drawing on extensive IBM domain knowledge and depth of industry expertise. AI-powered automation software allows business and IT teams to easily discover how processes run, decide what to automate based on insights from structured and unstructured data, and automate and continuously improve workflows that run centrally, in networks and all the way to the edge.

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