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BIG PAYOFFS FROM BIG BETS IN AI-POWERED AUTOMATION:

Automation Disruptors Realize 1.5x Higher Revenue Growth

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Navigating this White Paper

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Introduction and Situation Overview

Disruption caused by the pandemic continues to roil enterprises around the globe. Firms are experiencing persistent volatility and massive shifts in different areas of their business, such as rising demand for customer services even while overall product demand may be declining. In addition, quarantines, lockdowns, and ongoing health concerns have made the traditional nature of work obsolete, forcing HR and talent managers to seek more flexible models that are less reliant on a physically present workforce. Fluctuating markets and changing workforce behaviors is making it urgent for businesses to make a "big bet" on automation at scale.

Traditionally, enterprises adopt automation when they need to speed time to value, improve efficiencies, or develop resilient customer and employee experiences. Now, enterprises also need to create ways to work remotely at scale, address operational gaps to ensure business continuity and resiliency, and think divergently to meet evolving customer and employee behaviors and preferences.

Automation so far has been mostly implemented as a noninvasive integration method to automate routine, repetitive, and predictable tasks. The continued turmoil is 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 where you want to automate repetitive tasks, AI-powered automation gives the flexibility to handle spikes in demand and troughs in capacity and create operational models that can sense, predict, respond, and adapt at speed.

IDC defines **AI-powered automation** as a continuous closed-loop automation where data patterns, natural language speech and text, and text from images are discovered and analyzed, such that decisions on insights gained from them can be translated into automated actions with AI, natural language processing (NLP), and OCR providing proactive optimization and enrichment during each stage of the process.

AI-powered automation uses actionable intelligence to deliver IT and business operations with speed, lower cost, and improved user experience. It leverages structured and unstructured processes and data—including the orchestrated use of multiple technologies and deep learning enhancements, which are increasingly used in NLU and unstructured data processing.

IDC forecasts that the worldwide economic impact of converged AI-powered automation across all lines of business and IT functions by the end of 2022 will be close to $3 trillion.

Organizations that embrace AI-powered automation are empowering human workforce, attracting new customers, and developing new revenue streams faster than competitors. IDC refers to these companies as "automation disruptors."

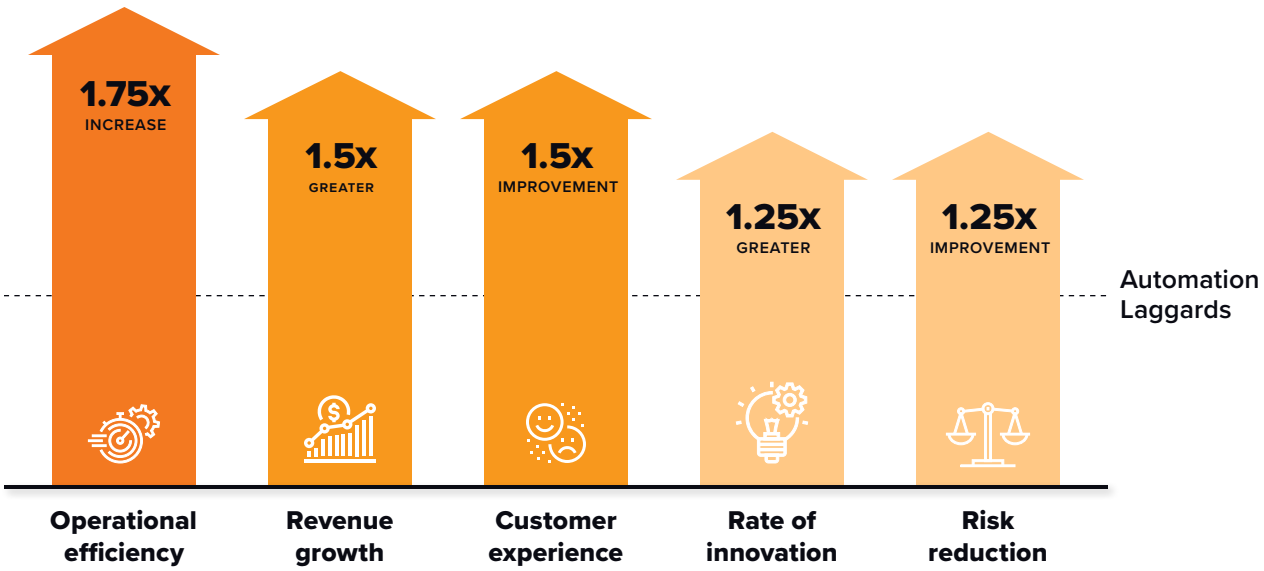
ABOUT THIS STUDY

This study is based on a global web-based survey of 1,005 director, vice president (VP), and CXO-level leaders who are familiar with AI-powered automation initiatives and have automation decision-making responsibilities at their businesses. These organizations are headquartered around the world—in the United States, Canada, the United Kingdom, India, Singapore/Hong Kong, and Australia/New Zealand—and span a range of industries, including business professional services, financial services, manufacturing, healthcare, and telecommunications. Of the enterprises surveyed, U.S. and Canada enterprises have at least 1,000 employees, while Europe and Asia/Pacific enterprises have at least 500 employees.

IDC and IBM Joint Study Insights Summary

IBM recently partnered with IDC to analyze how enterprises are adapting to the changing business landscape and how they are using AI to facilitate effective automation transformations. The study highlighted that no industry is exempt from these disruptions, and Automation Disruptors can be found in every vertical. AI-powered automation is a journey and an enterprise's level of intelligent automation maturity correlates with successful business outcomes. The higher enterprises move on the AI-powered automation maturity index, the better their business outcomes across a range of metrics. IDC analyzed the survey responses to develop an intelligent automation maturity index, grouping businesses into one of five categories: Automation Laggards (the lowest level of maturity), Automation Apprentices, Automation Practitioners, Automation Transformers, and Automation Disruptors.

Compared with Automation Laggards, Automation Disruptors experience superior business benefits. Over the past three years, Automation Disruptors have experienced:



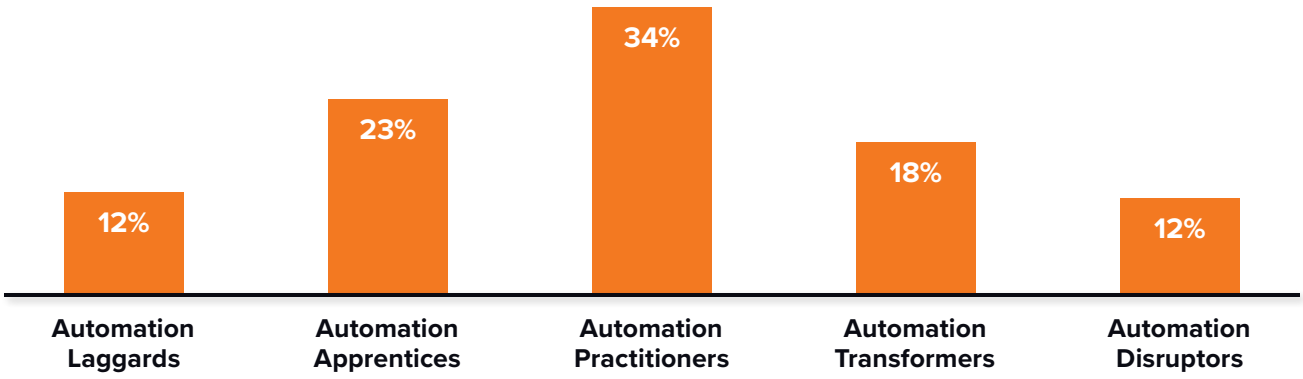
Key Findings from the Study

Organizations' AI-Powered Automation Maturity Is Still Emerging

Globally, the distribution of intelligent automation roughly follows a bell curve, with 12% of enterprises operating at both the lowest (Laggard) and highest (Disruptor) levels of AI-powered automation, and the remainder operating in Apprentice (23%), Practitioner (35%), and Transformer (18%) environments (**Figure 1**).

FIGURE 1

Organizations' Assessment of AI-Powered Automation Maturity



Source: IBM AI-Powered Automation Survey, IDC, March 2021

This study identified five stages of AI-powered automation maturity:

STAGE 1

Automation Laggards

Laggards are reluctant to embrace change and new technologies. They still use just data analytics for automation insights and miss on real-time, dynamic, and agile requirements across disparate formats of information. Business and IT automation is disconnected. There are no real owners of automation strategy and there are no governance frameworks in place. They are mainly keen on retaining old business processes and models.

STAGE 2

Automation Apprentices

Apprentices are focused on enriching and cross-analyzing data across multiple sources to modify operating models. They leverage Big Data for decision making and are conservative — will follow tried and tested paths. IT and business automation is integrated at the enterprise level; however, they are unable to deliver across all units. They are focused on automating processes for efficiency. Governance frameworks are limited to definition of roles and responsibilities.

STAGE 3

Automation Practitioners

Practitioners are focused on developing domain-specific use cases and have built excellence in different departments. They leverage a mix of Big Data and machine learning and are most likely to wait to learn from market success of peers. Business and IT automation is integrated. They are focused on productivity gains and efficiency. Governance frameworks include elements of training, project selection, and knowledge management. AI impacts function-specific jobs and coordinators (warehouse managers, fleet managers).

STAGE 4

Automation Transformers

Transformers can ideate on use cases across the enterprise and validate with a consistent methodology. They leverage a mix of Big Data machine learning, NLP, virtual agents, and chatbots and are fast followers — likely to adapt on first sign of others' success. Business and IT automation is integrated. They are focused on building synergistic integrated disciplines and nurturing excellence and innovation. Governance frameworks include elements of data standards, technology selection, standardization, and architecture. AI impacts single-domain jobs (actuaries, auditors, radiologists).

STAGE 5

Automation Disruptors

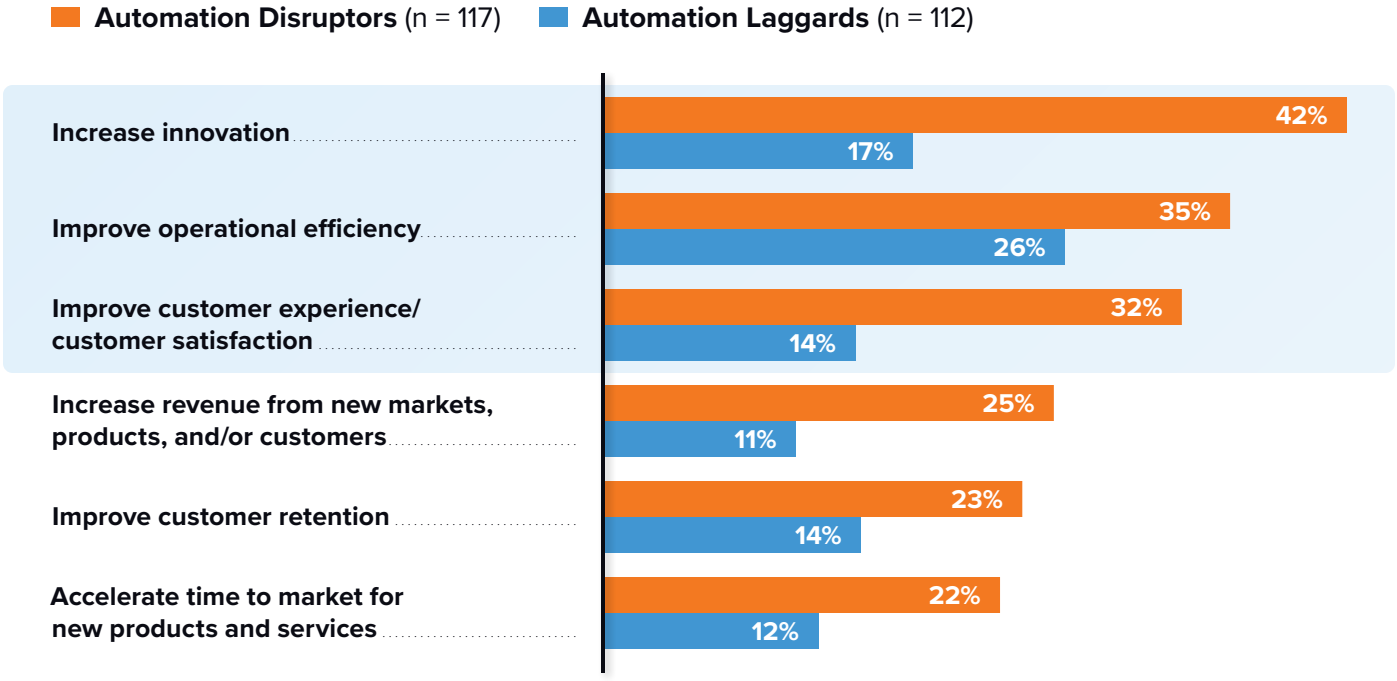
Disruptors constantly monitor for new solutions. They use a blended approach with the best of multiple technologies and are first movers — able to anticipate and change for the future. Enterprises are aggressively disruptive in use of automation to enhance top line, bottom line, innovation, and customer experience. They focus on building converged business and IT automation disciplines. Governance frameworks include project performance management standards and regulatory requirements. Owner is Chief Strategy or Chief Transformation Officer. Automation empowers employees to innovate, with impacts to cross-domain knowledge jobs.

Automation Disruptors Track Business Outcomes Across Multiple Dimensions

When it comes to measuring the effectiveness of AI-powered automation initiatives, Automation Disruptors are much more likely than Automation Laggards to track business outcomes such as innovation (42% versus 17%), efficiency (35% versus 26%), and customer experience (32% versus 14%) (**Figure 2**).

FIGURE 2

Business Outcomes Measured for AI-Powered Automation Initiatives



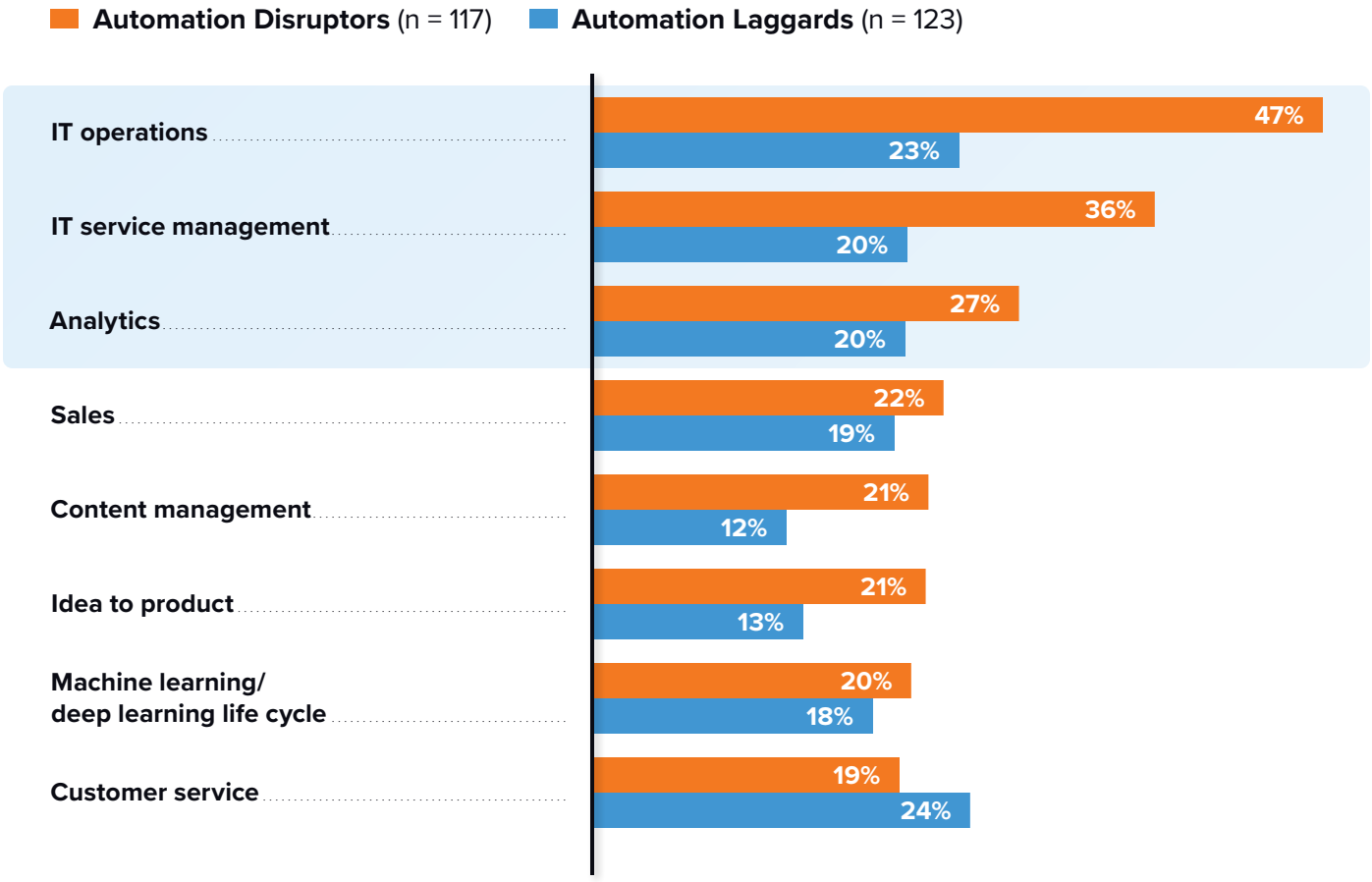
Source: IBM AI-Powered Automation Survey, IDC, March 2021

Automation Disruptors Use Intelligent Automation Across a Range of Business and IT Processes

Automation Disruptors are the most likely to use AI-powered automation across broad areas of the business. Compared with Automation Laggards, Automation Disruptors have invested more in processes such as IT operations (47% versus 23%), IT service management (36% versus 20%), analytics (27% versus 20%), content management (21% versus 12%), and idea to product (21% versus 13%). This shows that Automation Disruptors are using AI-powered automation not just in IT and operations but also in a wide range of other processes, including customer engagement and product development (**Figure 3**).

FIGURE 3

AI-Powered Automation Investments in the Past Three Years



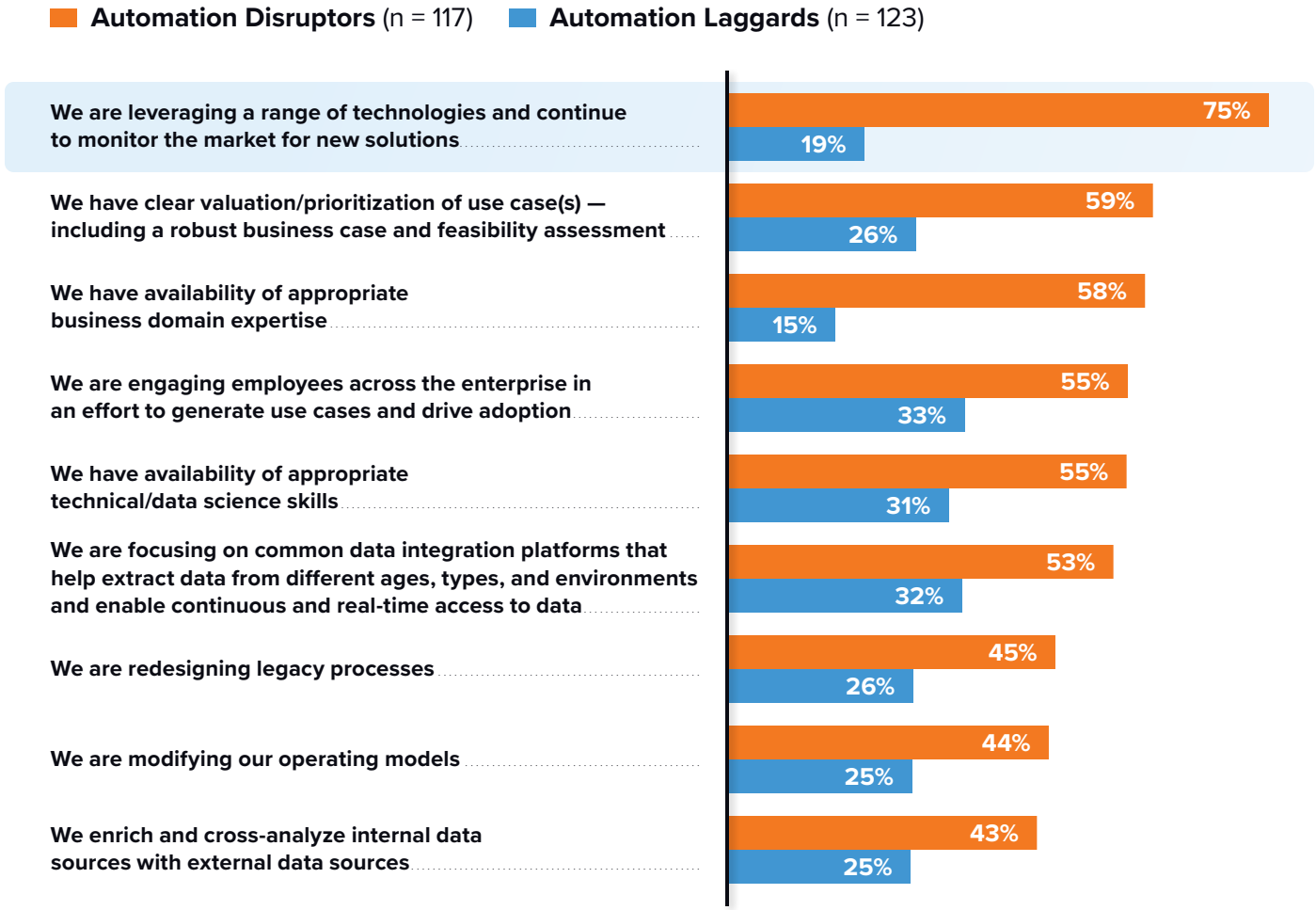
Source: IBM AI-Powered Automation Survey, IDC, March 2021

Automation Disruptors Are Undertaking Significantly More Initiatives to Maximize the ROI for AI-Powered Automation

Three-fourths of Automation Disruptors (75%) said they are leveraging a range of technologies and continuing to monitor the market for new solutions. Only 19% of Automation Laggards said the same. There were similar contrasts across the other eight dimensions we measured, indicating that Automation Disruptors have the talent and focus to help ensure that they can maximize — and prove — the ROI for AI-powered automation (**Figure 4**).

FIGURE 4

Ensuring Maximization of Business Value/ROI for an AI-Powered Automation Initiative



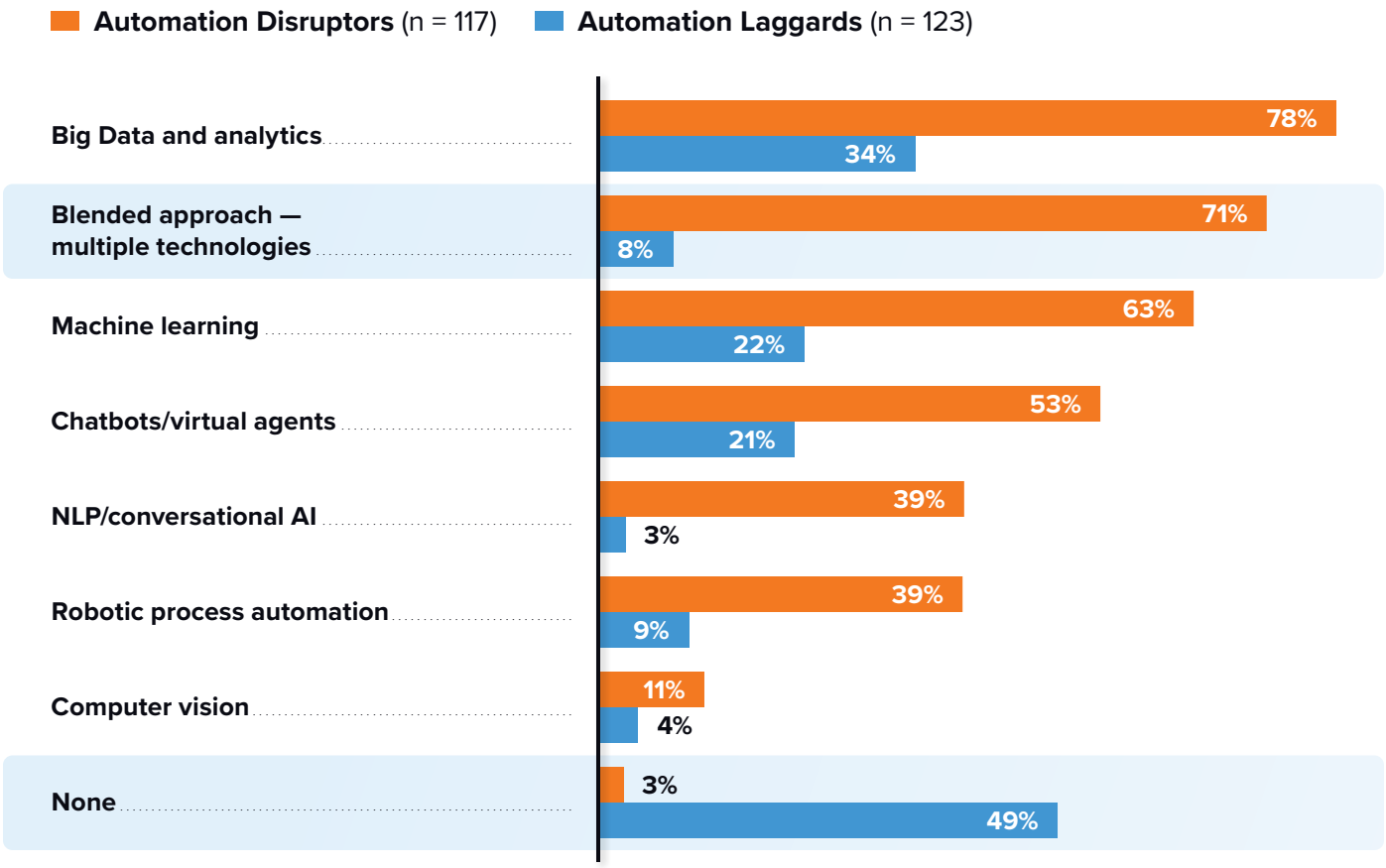
Source: IBM AI-Powered Automation Survey, IDC, March 2021

Automation Disruptors Use an Array of Automation Technologies

Compared with Automation Laggards, Automation Disruptors use more automation technologies, such as Big Data and analytics, machine learning, and chatbots, to support AI-powered automation. They are also significantly more likely to use a blended approach of multiple technologies (71% versus 8%). Interestingly, almost half of Automation Laggards (49%) said they are using no technologies at all to support AI-powered automation (**Figure 5**).

FIGURE 5

Automation Technologies Used to Support AI-Powered Automation



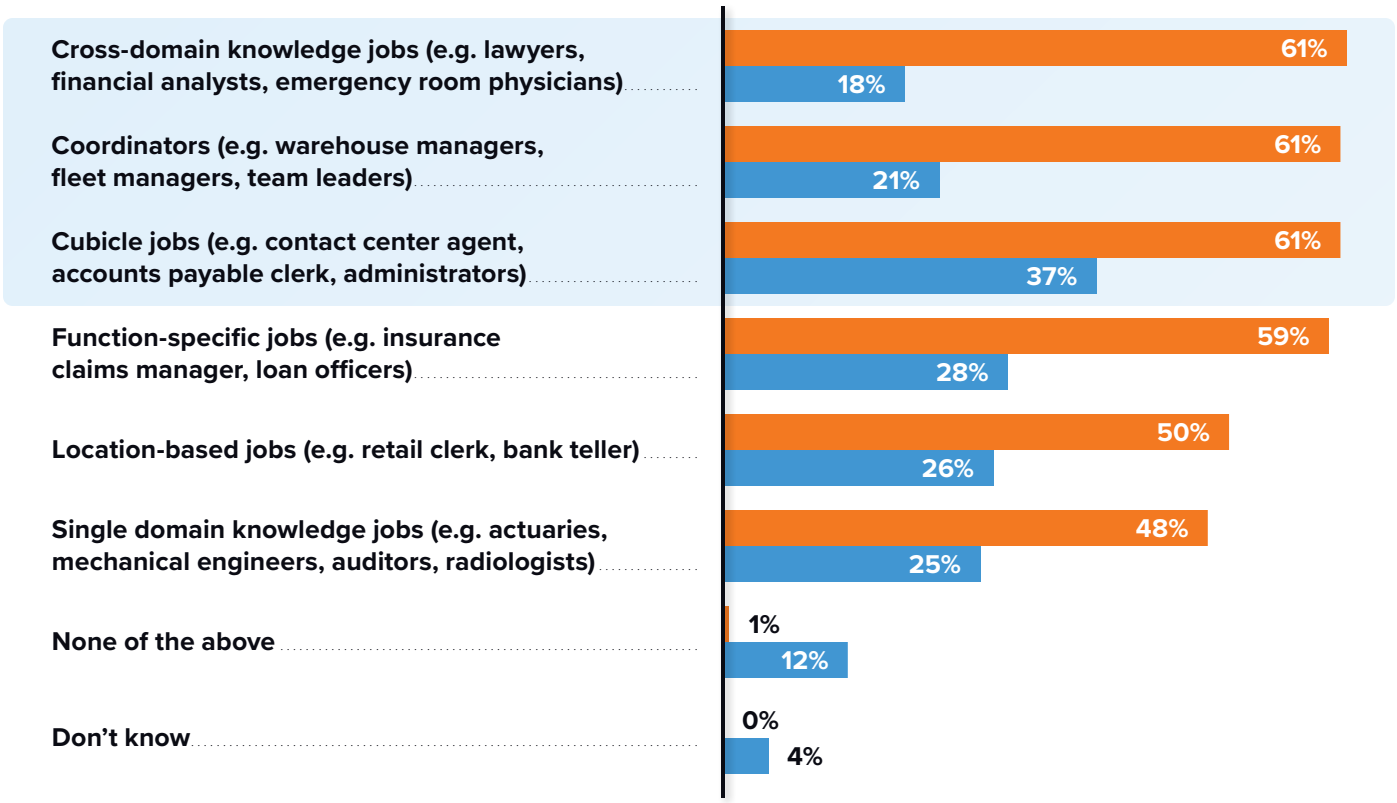
Source: IBM AI-Powered Automation Survey, IDC, March 2021

For Automation Disruptors, Automation Augments Multiple Job Categories and Empowers Everyday Employee Activities

Automation Disruptors reported that AI and automation are influencing employee activities throughout the workforce. For instance, when we asked which jobs were impacted by AI and automation, the majority of Automation Disruptors reported impacts across multiple categories, including cross-domain knowledge jobs (61%), coordinators (61%), cubicle jobs (61%), and function-specific jobs (59%). By contrast, Automation Laggards indicated less impact and where they did see impact it was in different categories, mostly in cubicle jobs (37%), function-specific jobs (28%), location-based jobs (26%), and single-domain knowledge jobs (25%) (**Figure 6**).

FIGURE 6

Jobs Empowered by AI-Powered Automation — Today



Source: IBM AI-Powered Automation Survey, IDC, March 2021

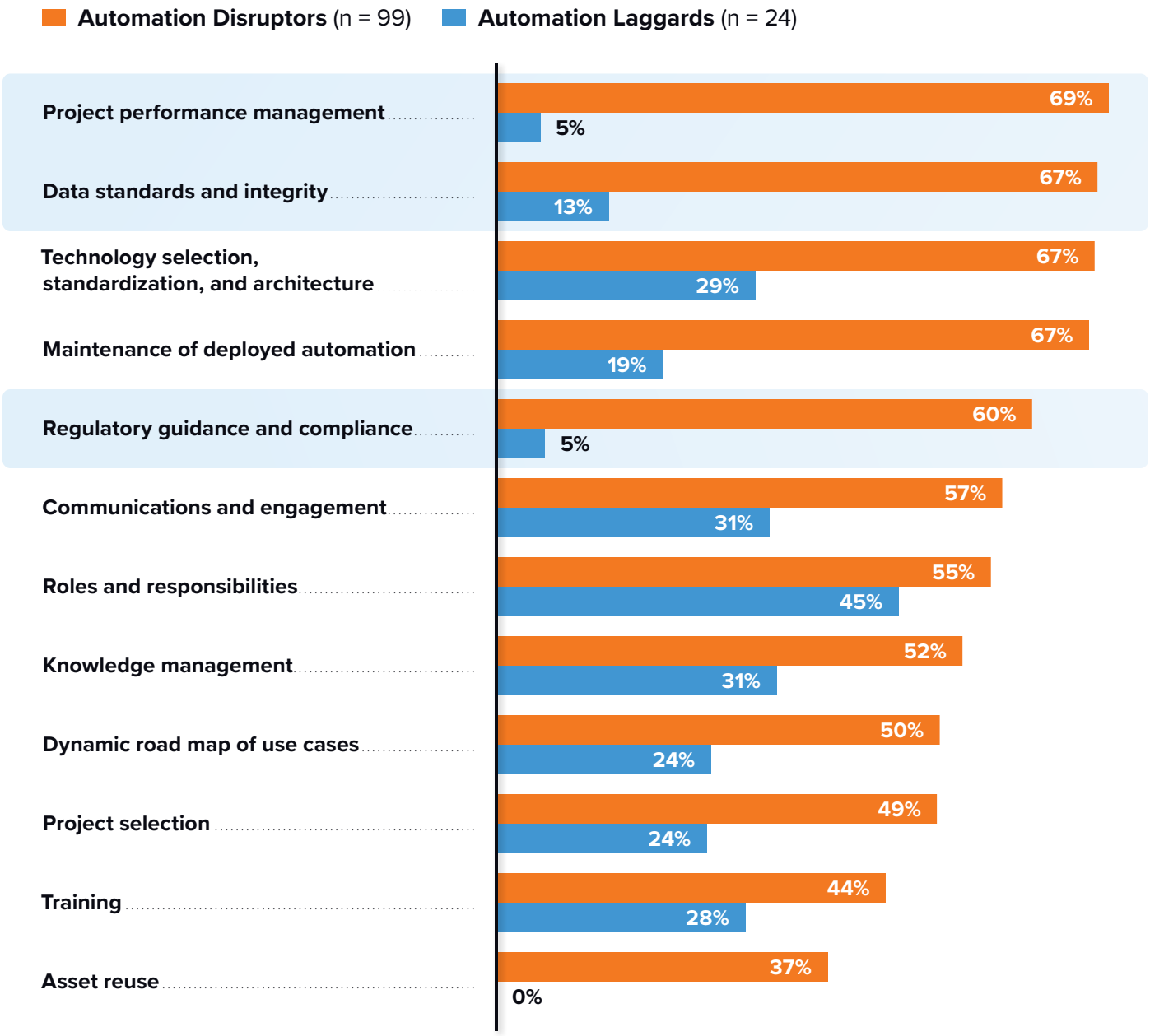
Most Automation Disruptors (53%) also said automation is empowering everyday employee activities "very much," and nearly as many (48%) consider employee engagement integral to the organization's automation strategy. Among Automation Laggards, these percentages were only 12% and 33%, respectively. In addition, we found that almost all Automation Disruptors (97%) have C-suites that create transparency around workforce impact of AI and automation. Just 39% of Automation Laggards reported the same.

Automation Disruptors Rely on Automation Governance Frameworks

We found that Automation Disruptors are four times more likely than Automation Laggards to have an automation governance framework in place to sustain initiatives (84% versus 21%). There are also significant differences between how Automation Disruptors and Automation Laggards have structured these frameworks. For example, the governance frameworks of Automation Disruptors center around project performance management (69%); data standards and integrity (67%); technology selection, standardization, and architecture (67%); maintenance of deployed automation (67%); and regulatory guidance and compliance (60%). By contrast, the governance frameworks of Automation Laggards mostly focus on roles and responsibilities (45%), communications and engagement (31%), and knowledge management (31%) (**Figure 7,** next page).

FIGURE 7

Components of AI-Powered Automation Governance Framework



Source: IBM AI-Powered Automation Survey, IDC, March 2021

For further insights into how enterprises are structuring the governance of their automation deployments, we asked survey respondents about the ways their AI-powered automation initiatives are managed. Almost half (49%) use a centralized center of excellence or program office. Others use individual business units (32%) or a system where each business unit owns automations, on a centralized platform (19%).

In addition, Automation Disruptors have spread responsibility for AI-powered automation strategy more broadly throughout their leadership team. For instance, at Automation Disruptors, AI-powered automation strategy is owned by the chief information officer (CIO) (39%), vice president of IT (35%), chief transformation officer (15%), or chief strategy officer (6%), while at Automation Laggards, the responsibilities for AI-powered automation strategy sit mostly with the CIO (57%) or VP of IT (22%).

Enterprises will achieve business returns by looking at measures beyond cost reduction or other financial metrics, such as employee job satisfaction, ability to scale the business without additional people, or enhanced customer service.

IDC GUIDANCE FOR ENTERPRISES:

AI-Powered Automation Framework

The goal of AI-powered automation is to optimize the synergies of a hybrid workforce, with machines facilitating people's work by taking on repeatable, mundane, and programmable tasks. When done well, AI-powered automation is not about humans working with machines, it is about machines giving humans more time to be together and work with one another. What talent can do with that freed time is extraordinary, and unlocking the potential of a workforce can mean the difference between the status quo and moments of brilliance for an enterprise's clients and business.

IDC recommends five pillars of automation success: business outcomes, processes, technologies, workforce, and governance (see Figure 8). The payoff from each of these pillars of automation success requires four executional steps: discover, decide, act, and optimize. Discover involves collecting, organizing, and classifying the vast amounts of structured and unstructured data that flow through the organization, as well as

combining the operational data into a single model that represents all the events and decision patterns in the business. Decide involves process intelligence, which is the analysis of data in the context of business processes and workflows. Act involves automating operations across the entire enterprise, and optimize involves streamlining both deployed automata and the performance of automated processes for continuous improvement.

FIGURE 8

AI-Powered Automation Framework

Source: IDC, 2021

Enterprises that resist progressing along the AI-powered automation maturity scale are putting their businesses at risk. To innovate and remain competitive in today's volatile business climate, IDC advises businesses to rethink and focus on the five pillars of automation success discussed in the sections that follow.

Business Outcomes/ROI

Taking out costs is only a starting point. As the performance of Automation Disruptors would suggest, automation can be a driver of growth. Assess whether you are measuring business returns beyond just financial ROI. Employee experience, customer experience, or other business outcomes are different ways to justify and measure automation investments. If you think about customer experience as a part of every process, then operating models that were hard to imagine before automation may now become possible. And business units can become more agile when operations staff members are empowered to automate manual tasks and apply their brainpower to critical thinking.

Processes

While it is easy to jump to technology, that is often the last piece of the puzzle. Once you have identified problem areas, determine the approach: Do you want small automation sprints to attack discrete areas? Or do you want to reimagine the process with optimal orchestration between human and digital labor? The endgame is always the same: playing to the strengths of both people and machines.

Technologies

The technologies toolbox keeps expanding—from data tools and RPA to machine learning, deep learning, natural language processing, and computer vision. While a new class of software lets you automate tasks relatively quickly, that is just the starting point. Assess how the evolving tech ecosystem meets your goals. Select the right combination of additional technologies to add intelligence to automation at a use case level, and continually optimize business processes.

For example, in use cases such as reading a document (invoice processing) or customer support for voice call or through automated virtual agents, using NLP along with RPA can help read unstructured text, find required information as well as convert insights into a structured format. In use cases like automated banking, using deep learning on top of RPA can help dive into multiple layers of data, detect any suspicious transactions, and identify possible fraud before it occurs, thereby saving millions of dollars for the organization. Likewise, in the case of automation of claims processing, machine learning on top of RPA can support experiential learning, helping analyze exceptions and accepting and rejecting cases for swift automation. Last, in the case of automation of processes where data is available in the form of images to the application, computer vision along with RPA can analyze images and extract information for further processing.

Workforce

Assess whether people and culture are at the heart of your strategy. Whether you are pursuing smaller automation or redesigning end-to-end business processes, automation brings big organizational change. The business is constantly evolving, and roles and career paths will need to be redefined. Leaders can lean on corporate culture, tying the automation agenda to the reasons why people are at the organization in the first place—to provide great customer and employee experiences, have the most efficient operations, or be the most innovative in the sector.

Governance

Assess whether your efforts will be sustainable through robust governance. Just because new tools enable business users to automate tasks, that does not mean the automation is a simple endeavor. Defining and implementing an automation governance framework is pivotal to achieving returns over the long term. From technology and data standards to security and controls to roles and responsibilities and benefits realization, businesses must address the tough questions.

Conclusion

Disruption is unsettling, but it can also serve as a catalyst for innovation and transformation. New drivers for automation are emerging, accelerating the demand for enterprises to adopt AI-powered automation in response to the volatile business climate and changing workforce needs. Your intelligent automation maturity will define your success against your competition—your ability to outperform them on revenue growth. Build your automation road map aligned with your corporate strategy.

The results of our study inform a way forward, showing that enterprises can achieve enterprisewide automation success by focusing on five distinct pillars: business outcomes, processes, technologies, workforce, and governance. Automation Disruptors focus on business outcomes beyond just financial ROI, align on converged business and IT process automation, employ blended set of automation technologies, strive for employee brilliance, and embrace automation governance that ensures adherence to corporate and industry-specific requirements. We believe by leveraging

the insights outlined in this paper and prioritizing the role of AI-powered automation in your organization, you can transform your business to become an Automation Disruptor.

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 is to augment the human workforce, not replace 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.

About the Analyst

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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

Message from the Sponsor

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.

Learn about IBM AI-Powered Automation

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