



# Building future ready governments

*Transformational lessons  
learned from a global shock*

*In collaboration with*



## How IBM can help

IBM is committed to serving governments and citizens around the globe—across segments including social services, government health, tax management, critical infrastructure, education, and national security. We work with stewards in federal as well as state and local agencies, building on decades of experience and trust. On a foundation of security and automation, our AI and hybrid cloud solutions help governments improve the citizen experience, optimize operations, and modernize infrastructure.

Visit us at <https://www.ibm.com/thought-leadership/institute-business-value/en-us/industry/government>

To learn more about the IBM Future Shocks initiative for governments visit <https://www.ibm.com/thought-leadership/institute-business-value/en-us/specialinterests/futureshocks>

# Foreword

*“Never allow a good crisis go to waste. It’s an opportunity to do the things you once thought were impossible.”<sup>1</sup>*

Over the years, the meaning behind this phrase has inspired forward-thinking leaders as they responded to national emergencies and turned lessons learned into future readiness. To inform this leadership mindset, we launched our Future Shocks initiative in 2022, designed to help governments identify specific, practical, and actionable steps critical for developing resilience to global shocks.

Due to its global scope and scale, the COVID-19 pandemic provided a unique opportunity to understand where mission capabilities stood in 2020, to learn what governments did during the pandemic era to transform and boost their capabilities, and to assess how governments ramped up resilience to meet future crises.

In 2023, the IBM Institute for Business Value, in cooperation with Oxford Economics, surveyed 635 government leaders in 44 countries who were in positions of organizational authority during the pandemic. This research reveals that specific behaviors and attitudes adopted during the pandemic not only impacted governmental performance during the crisis, but also influenced levels of preparedness for shock-level events in the future.

As extreme events happen more frequently—and deliver more destabilizing impacts on nations and individual citizens—government officials and employees must be even more agile, resilient, and forward-looking to navigate what lies ahead. We hope this report provides essential insights that can help local, regional, and national government organizations take stock of where they are now and take necessary actions to reinforce resilience.

***Cristina Caballe Fuguet***

Vice President, Global Public Sector  
IBM Consulting

***Casey Werth***

General Manager, Global Public Sector  
IBM Technology

# Introduction

From its origins in late 2019 until May 2023, when the World Health Organization declared the end of its pandemic phase, COVID-19 was an extraordinary stress test for governments around the world. It revealed strengths and weaknesses of organizational response and resilience in ways that will be studied for years to come.



Through the innovation and investment spurred on by the pandemic, governments entered an era of growth in functional capabilities and organizational transformation. In retrospect, the accomplishments made by governments during the crisis were recognized and appreciated by many citizens. In fact, a 2023 survey of 19 countries reported that a median of 68% of citizens thought that their country did a good job in dealing with the coronavirus outbreak.<sup>2</sup>

In the US alone, COVID-19 relief laws enacted in 2020 and 2021 provided about \$4.6 trillion of funding for pandemic response and recovery—a historic governmental commitment to manage and mitigate a shock event without precedent.<sup>3</sup>

In the aftermath of the pandemic, many governments recognize that, despite progress made, they are not as prepared for the next round of future shocks as they should be. To find out what these leaders are doing to improve resilience and readiness, the IBM Institute for Business Value (IBM IBV) conducted a survey of global government leaders. Survey insights focus on the actions and investments made to improve resilience, as well as mindsets and attitudes toward organizational transformation.

The survey captured candid responses to questions about the functional capabilities of governments in the context of a global shock event, as well as organizational culture, strategy, behaviors, attitudes on trust, and technology strategy.

A variety of analytical techniques supported our hypothesis that maturity in a set of core functional capabilities led to better performance during the pandemic and greater preparedness for future shocks. When we isolated different groups of governmental organizations based on performance, the comparison revealed startling differences as well as valuable insights for government leaders as they develop their capacities to respond to a range of potential shock events.

# Playbook for preparation

## How pandemic response points the way to future readiness

After going through a global pandemic, what are government leaders doing to get ready for the next shock to the global system—which may be another pandemic, a natural disaster, a supply chain disruption, a cyberattack, or a geopolitical event?

Leaders we surveyed identified specific actions and attitudes required of government leaders to not only develop a playbook for preparation, but to also make progress along the way. Core research objectives were to understand how organizations responded to the shock waves generated by the COVID-19 pandemic, and to identify gaps that need to be closed to improve readiness and boost resilience.

This is based on foundational research on resilience that contends “competence at one period is thought to make an individual, unit, or organization more broadly adapted to the environment and prepared for competence in the next period. An entity not only survives and thrives by positively adjusting to current adversity, but also, in the process of responding, strengthens its capabilities to make future adjustments.”<sup>4</sup>

In addition, the survey sought to understand a critical differentiator: why did some governments perform better than others during the pandemic? And what outcomes were achieved by increasing investments in transformative technologies?

Despite the day-to-day pressures of operating during a pandemic, how were some governments able to accelerate transformation efforts and increase their maturity? Our data reveals that the answer is not simply to increase spending or secure a larger budget. Increasing the maturity of organizational capabilities requires an integrated strategy that accounts for people, technology, security, and ecosystems working together to impact the bottom line, which, in the context of government, is achieving meaningful results.

*“An entity not only survives and thrives by positively adjusting to current adversity, but also, in the process of responding, strengthens its capabilities to make future adjustments.”<sup>4</sup>*



# Black swans, gray rhinos, and the elephant in the room

“Black swan” events—the term first came into use in 2007—are unpredictable, high impact, and highly improbable outlier events.<sup>5</sup> In contrast, “gray rhino” events—the term was coined in 2013—are highly probable threats known to exist, such as pandemics, cyberattacks, and impacts related to climate change.<sup>6</sup> However, gray rhinos are often ignored and occur after warning signals and visible evidence.

Whether future shocks assume the form of black swans or gray rhinos, almost 60% of government leaders believe shock-level events are likely to increase in frequency in the future. Going further, 70% of these leaders believe that shocks are likely to increase in intensity and impact.

In addition to shocks characterized as black swans and gray rhinos, a third threat looms large—the uncomfortable “elephant in the room” representing the erosion of public trust in government. In a 2023 survey conducted by the Pew Research Center, only 22% of the US public said they trusted the government in Washington always or most of the time, which stands among the lowest levels dating back to the Eisenhower administration.<sup>7</sup>

A 2023 survey conducted by the IBV indicated an increase in the number of constituents expressing low or extremely low levels of trust in US federal and state government organizations, with 39% indicating that their level of trust in their country’s government organizations is very low or extremely low, compared to 29% prior to the pandemic.<sup>8</sup>

The 2023 IBV survey revealed a large disparity in the level of trust that government executives believe their organizations have earned and the level of trust that citizens say they have in governments. Until this trend is reversed, and citizens express more trust in government, trust deficits will impact the ability of governments to mobilize citizen support and fulfill their mission requirements, especially during times of crisis.

*70% of government leaders believe shocks are likely to increase in their intensity and impact in the future.*



# The pandemic

## A proving ground for crisis response and resilience

As the pandemic spread in 2020, and its associated health and economic costs reached crisis proportions, governments around the world mobilized resources. In 2020 alone, huge increases in government spending on health reached a new high of \$9 trillion, representing approximately 11% of global GDP.<sup>9</sup>

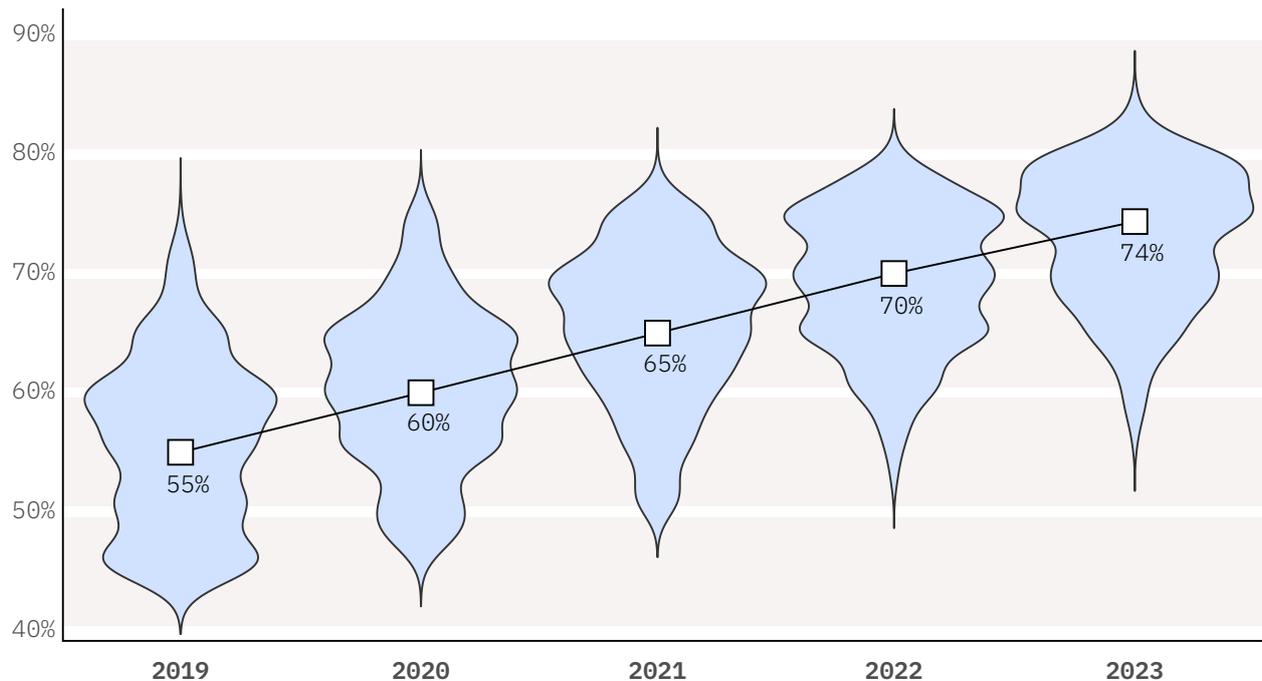
FIGURE 1

### Despite weathering a global pandemic, governments report significant increases in mission capability

Distribution of mission capability rate for all survey participants

□ Median value

Mission capability and readiness rate



Q: Estimate your organization's mission capability/readiness rate for the following time periods.

NOTE: The width of each density curve displays the approximate frequency of responses in each region of the curve.

*Transformation is possible for government organizations, even during a global shock as massive as the pandemic.*

The rise in government spending was just one expression of a much broader government response to the pandemic, leading to a period of unprecedented growth in mission capabilities and transformation of operations. (see Figure 1)

Growth in these areas reflected more than increased levels of spending. It was a direct and robust response to surging public demand. For example, our survey showed that, at the height of the pandemic, each agency reported, on average, a more than 240% increase in citizen demand for services.

Along with providing increased levels of services, governments stepped up on the innovation front. Examples of government innovation during the pandemic, enabled by transformational technology, included expanded telehealth services to enable remote access to medical care, distance learning initiatives during school shutdowns, and technology that enabled government workers to work remotely.

The need for leaders to accelerate transformation efforts is reflected in a recent IBM IBV study that indicated CEOs must strike the right balance between caution and courage—while moving faster to transform talent development, promote innovation, extend ecosystem partnerships, and boost collaboration. 43% say they'll increase the tempo of their organization's transformational change in 2024, compared to just 19% that expect it to slow down.<sup>10</sup>

*This spike in government spending led to a period of unprecedented growth in mission capabilities and transformation of operations.*

# Based on capability development during the pandemic, two groups emerged: The Transformation group and the Slow-and-Steady group

Based on results from the survey, the data showed that, when it came to transforming capabilities in the face of the pandemic, two different kinds of government organizations emerged, with each group representing approximately 10% of organizations surveyed.

Looking at the different characteristics and performance of these two groups helps illustrate the drivers of organizational change and how a government entity improves mission capability, both short-term and long-term. (see Figure 2)

“Mission capability” refers to how well a government organization is resourced to carry out its mission requirements and fulfill its purpose. In terms of measurement, if an organization is fully resourced to meet mission requirements and has full operational capability, then its mission capability is 100%. In our survey, the highest reported level of mission capability was 85%.

We explicitly wanted to isolate organizations that demonstrated the capacity to transform their operations during the survey period, and the Transformation group made the most strides. At the start of the survey period, this group was below the median in mission capability. However, they finished above the median at the end of the survey period due to the efforts they made during the pandemic.

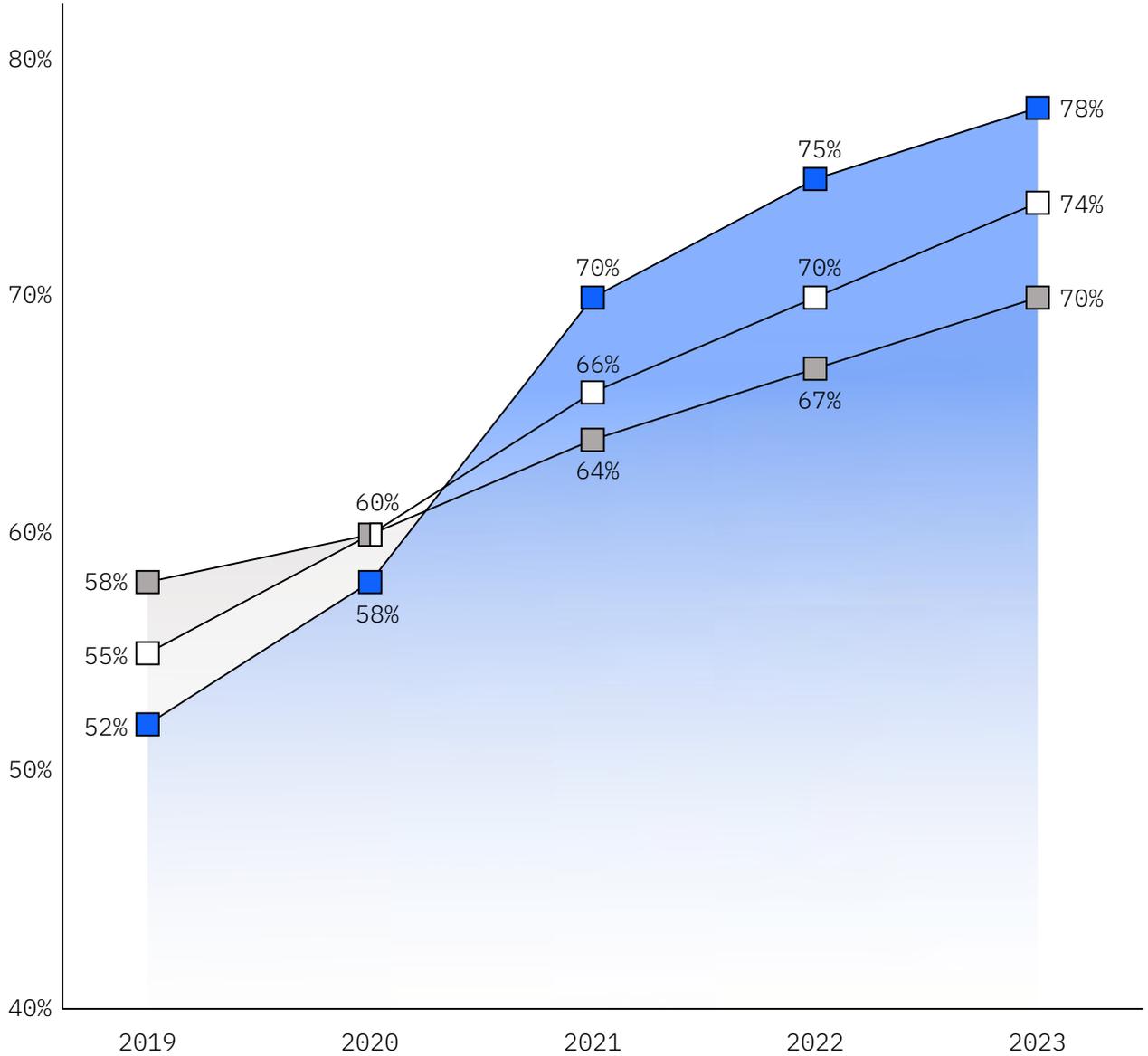
FIGURE 2

**Some government organizations experienced dramatic transformation**

*Median mission capability rate for performance groups*

■ Transformation   ■ Slow-and-steady   □ All others

Mission capability and readiness rate



Q: Estimate your organization's mission capability/readiness rate for the following time periods.

*Government organizations that flourished during the pandemic expressed very different characteristics when compared to those that reflected a slower pace of transformational progress.*

At the other end of the spectrum was the Slow-and-Steady group. Interestingly, organizations in this group were above the median at the start of the survey period. However, by the conclusion of the survey period, they finished below the median, reflecting a slower pace of transformational progress or a belief that goals for mission capability had been achieved and further changes were not required.

Transformation and Slow-and-Steady groups are composed of representatives from each governmental mission. The only exception was that the Slow-and-Steady group did not include an organization focused on education. It was surprising that demographics did not demonstrate a statistically significant impact on performance and did not factor into how differently the groups performed, regardless of whether the mission was defense, health, education, or any other department-level activity.

Findings indicate that the Transformation group flourished during the pandemic and expressed very different characteristics when compared to the Slow-and-Steady group. Performance categories included metrics for resilience, innovation and agility, technology maturity, cybersecurity maturity, maturity in modern workplace behaviors and strategies, and attitudes on the importance of trust, both within an organization and with public constituencies.

The Transformation group demonstrated that transformation is possible for government organizations, even during a global shock as massive as the pandemic.

The Transformation group also expressed a range of defining attributes, all related to empowerment of individuals and ecosystem partners. This group believes that employee trust is key to building organizational resilience. Organizations in this group also empower individuals and teams and embrace new technologies.

Transformation group organizations invested in technology more strategically during the pandemic and these investments have led to more maturity in key technologies today.

They also compliment other key attributes of the Transformation group including deeper engagement with ecosystem partners, more mature cybersecurity capabilities, greater agility, and more innovative behavior.



# Governmental organizations committed to transformation outperformed peers

By the end of the survey period in 2023, the Transformation group maintained a performance lead in key capabilities including data management and citizen services, significantly outperforming the Slow-and-Steady group. (see Figure 3) What defining characteristics helped this group outperform their peers?

For the purposes of this study, the Transformation group is the survey cohort that made the most progress during the survey period. However, the characteristics of this group are not necessarily the only factors that define what organizational transformation looks like.

One of the most notable differences to highlight between the Transformation group and the Slow-and-Steady group is the maturity level of their data management strategies. The Transformation group has more mature capabilities in this area, which is a key factor underpinning the overall maturity of their functional capabilities.

Other attributes of organizational transformation in this government context also include deep engagement with employees, citizens, and constituents, and a commitment to sustainability.

The Slow-and-Steady group closed some of the maturity gaps related to performance measurements. But because they still lagged on other key indicators, they did not achieve the overall improvement in mission capability reached by the Transformation group. This gap illustrates the need for organizations to make progress on all the elements of resilience to improve overall mission capabilities.

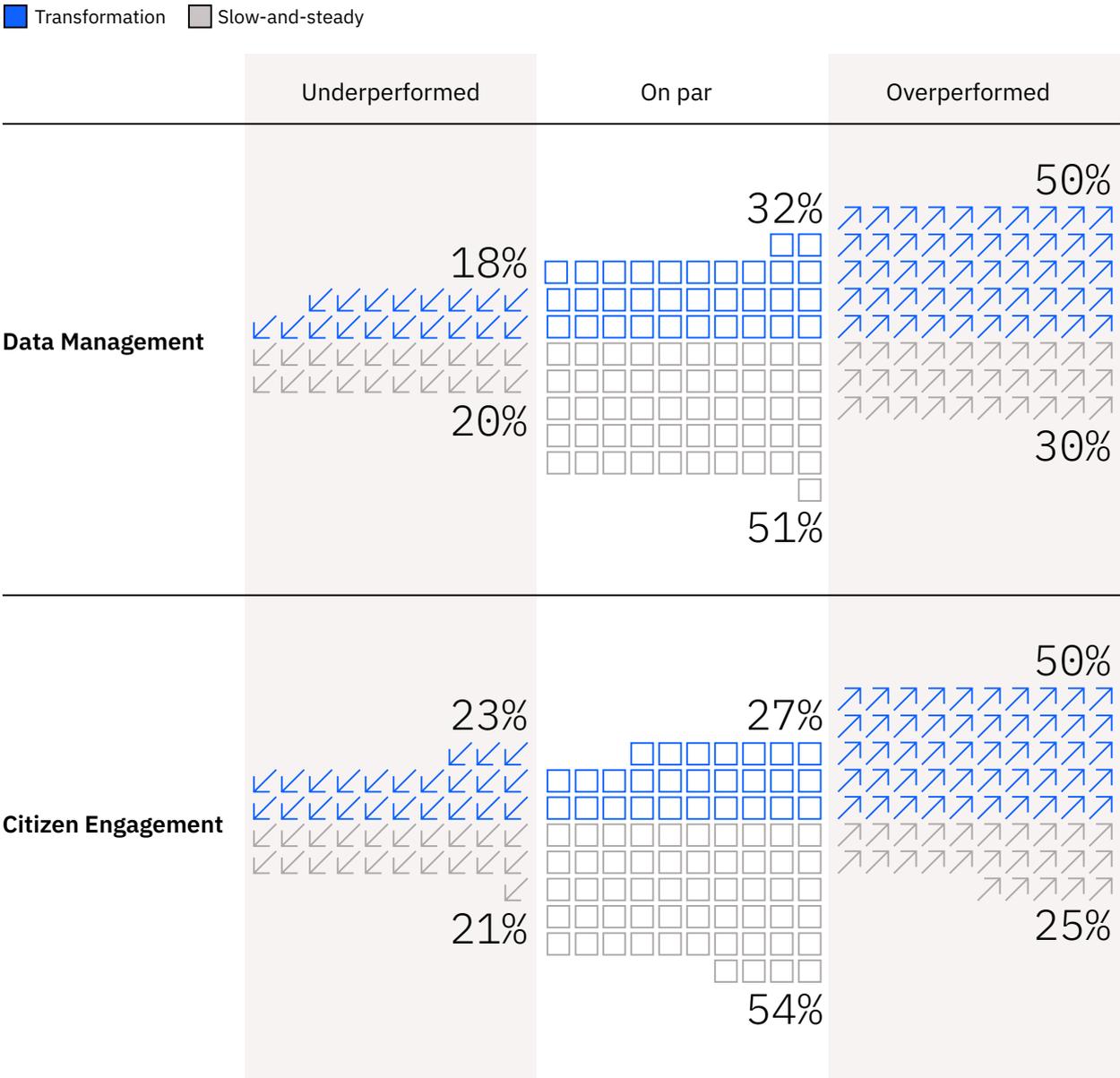
Current mission readiness indicates how well organizations are prepared for future shocks. The insights we derived from the survey underscore this realization: organizations that demonstrated transformational growth, despite facing enormous external challenges, employed a holistic approach to their strategy, understood the key components of functional capability, and developed maturity in each capability.

*Performance gaps illustrate the need for organizations to make progress on all of the elements of resilience to improve overall mission capabilities.*

FIGURE 3

**Better data management and greater citizen engagement differentiate the Transformation group**

Prior three years performance relative to organizations with similar mission function



Q: For each of the following measures, how does your organization's performance compare with that of other government organizations with similar mission functions in the previous three years (2020–2022)?

# Differentiators for resilience

## Technology maturity, willingness to innovate, and strategic investment

While technology maturity played a large role in the Transformation group's success, their willingness to embrace new technologies is also a strong indicator for success, along with a commitment to automation and cybersecurity.

A relative lack of progress in these areas prevented the Slow-and-Steady group from keeping pace with their peers on the technology front. This gap also illustrates the importance of employee empowerment as a core attribute of the Transformation group.

As the result of progress made during the pandemic, the Transformation group has emerged from the pandemic with much more maturity in automation and cybersecurity than the Slow-and-Steady group. This suggests that the organizations that experimented and embraced new technologies fared the best during the pandemic.

This is not necessarily the result of using new technologies but reflects an understanding that technology strategies must evolve in tandem with the underlying technology infrastructure. In response to changing operational conditions and system updates, the technology posture of any organization will be different in five years. When leaders embrace this concept, they can transform their organization over time.

The survey puts a spotlight on the mindset of the Transformation group. It shows that, during the pandemic, this group was more interested in new technologies, such as quantum computing and generative AI—even though these advanced technologies did not have immediate applications during the pandemic.

The Transformation group struck a balance between the needs of the present and the needs of the future, though this group lagged behind the Slow-and-Steady group at the start of the survey period in terms of overall mission capability.

The technological maturity demonstrated today by the Transformation group can also be traced back to the increased investments they made since the start of the pandemic. Since 2020, the Transformation group increased investments in six key technologies, including AI, generative AI, cybersecurity services, cloud computing, automation and analytics. (see Figure 4)

It's not necessarily how much is spent on government capabilities—it's where the money is spent. For example, the US federal government spends \$100 billion annually on information technology and cybersecurity. Agencies report spending 80% of their IT budget on legacy systems, which are widely known for their security vulnerabilities.<sup>11</sup>

Together, US government and business organizations spent at least \$1.14 trillion in 2022 on maintaining existing IT investments, including legacy systems. This cost can inhibit organizational efforts to innovate and evolve.<sup>12</sup>

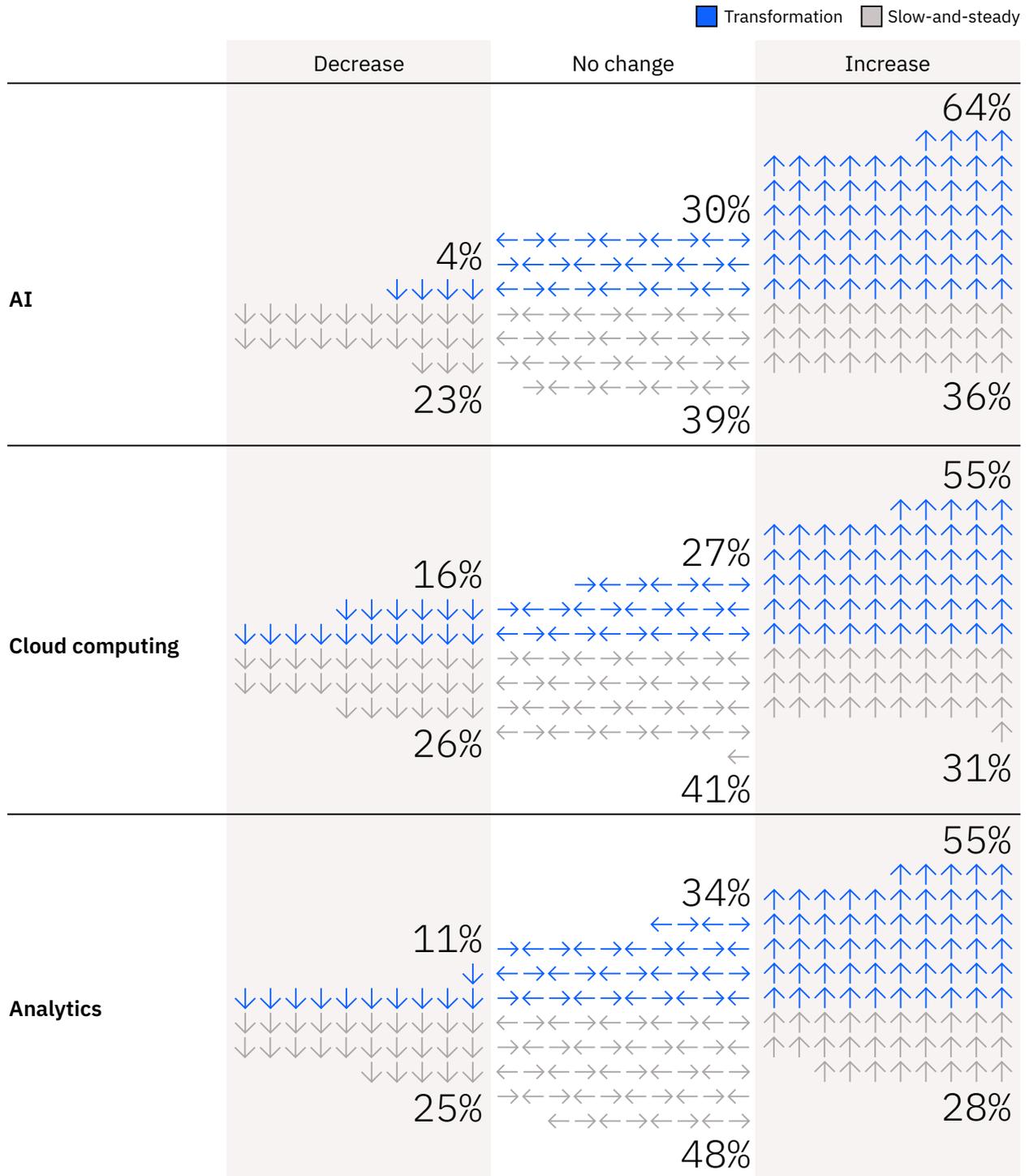
In addition, our data analysis shows that bigger budgets do not necessarily contribute to mission readiness, even when adjusted for head count or mission function.

The Slow-and-Steady group led all others in the rate of increase to their IT spending, but this did not lead to increased investments in key technologies. However, they still have not reached the same level of maturity as the Transformation group.

In the long run, an unwillingness or inability to modernize technology often results in increased overall spending, decreased maturity, and ultimately, diminished performance.

FIGURE 4

The Transformation group has strategically increased investments in key technologies over the past five years



Q: To what extent have your investments in these technologies changed since 2020?  
 NOTE: Totals may not equal 100% due to rounding and the omission of nonresponses.

# Cybersecurity

A key enabler of digital transformation  
and indicator of mature capabilities

Drilling down into cybersecurity reveals the key aspects are mature capabilities in zero trust, cloud security, and cyber risk quantification.

The Transformation group entered the pandemic period with significantly higher levels of maturity than the Slow-and-Steady group in zero trust security architecture, cloud security, and cyber risk quantification. The level of maturity in these cybersecurity capabilities continues to be significantly different between these two groups.

Cybersecurity maturity, particularly across these three components, was markedly different between the Transformation and Slow-and-Steady groups. (see Figure 5) The Transformation group set itself up for success because it was more mature in cybersecurity at the onset of the pandemic—and continues to be more mature today.

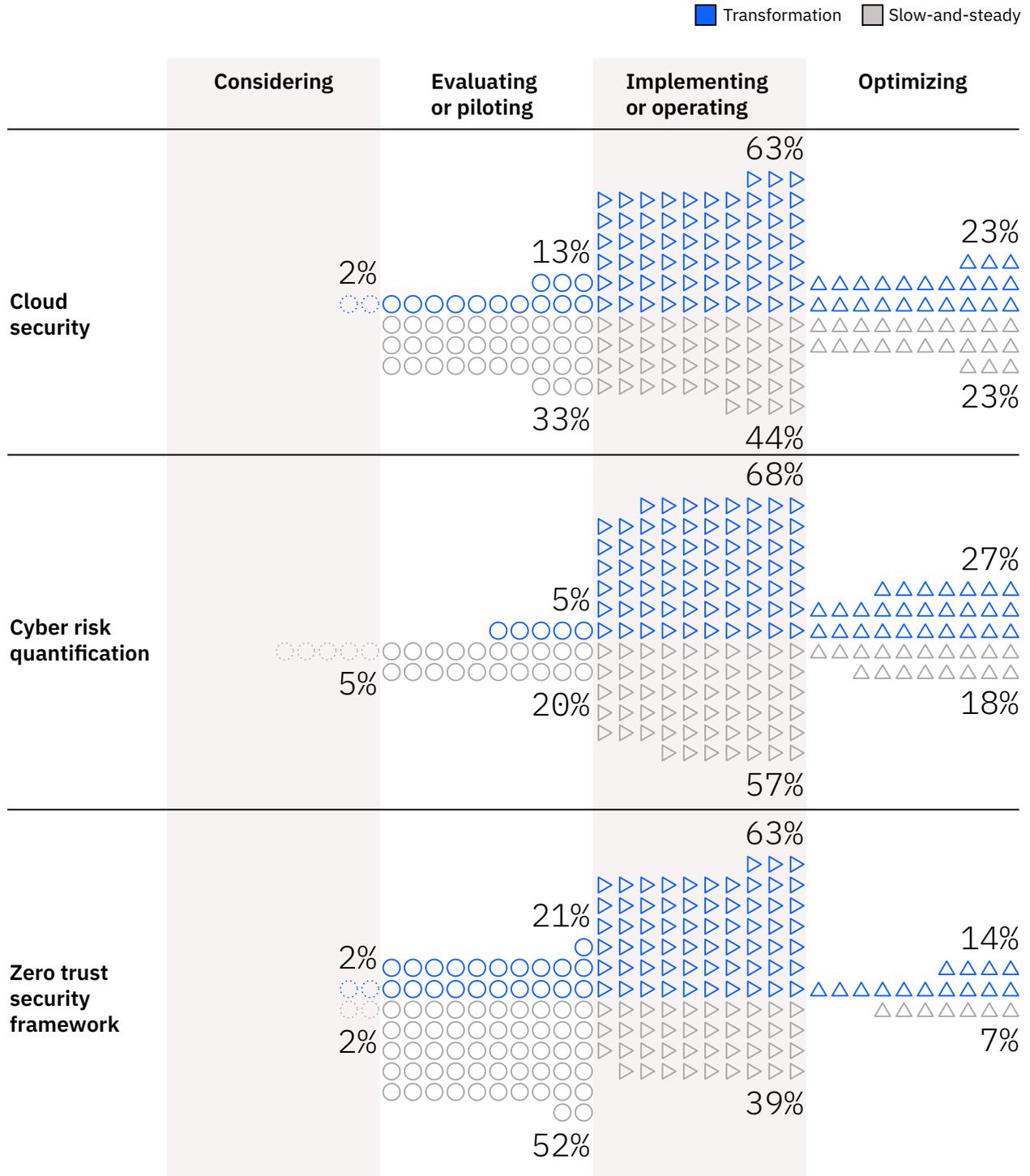
Analysis showed that maturities in technology and cybersecurity were highly correlated. In addition, these two capabilities led to greater engagement with ecosystem partners, with the presumption that more secure communications would contribute to more engagement.

According to this analysis, investments in technology and cyber maturity reinforce each other and this interaction contributes to a greater rate of increase in mission capabilities. Our operating model analysis demonstrates that the combined maturity of people, processes, technology, and cybersecurity helps explain the differences in how organizations report their levels of preparedness when dealing with the pandemic.

*The Transformation group set itself up for success because it was more mature in cybersecurity at the onset of the pandemic—and continues to be more mature today.*

FIGURE 5

The Transformation group demonstrated greater maturity in key components of cyber strategy at the onset of the pandemic and continues to lead today



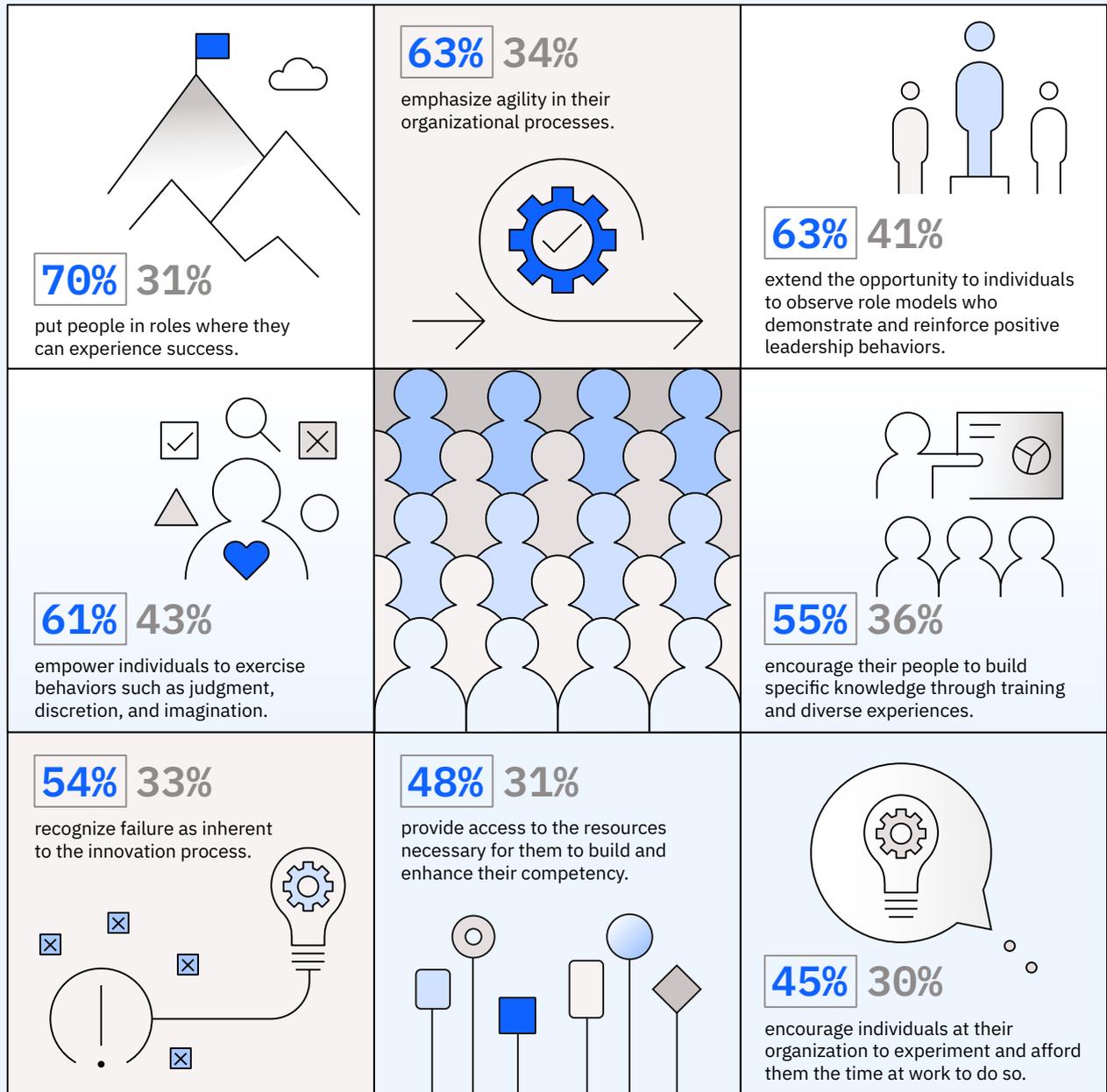
Q: Which best describes the maturity of your organization's capabilities in the following areas TODAY?

FIGURE 6

**Across 8 dimensions of employee empowerment, the Transformation group demonstrates significantly higher rates of adoption**

Percent of leaders indicating that their organization employs each practice

**%** Transformation    % Slow-and-steady



Q: To what extent do you agree with the following statements about how individuals are empowered in your organization today?

# The power of organizational culture and empowering people

Results from the survey indicate that government organizations comprising the Transformation group believe more strongly in empowering employees to exercise judgment, discretion, and imagination. (see Figure 6) This group also has a higher commitment to training—helping people build specific knowledge through training, education, and diverse experiences.

When compared against the Slow-and-Steady group, the Transformation group showed significant differences in how individuals are empowered in their organizations. In fact, the Transformation group leads significantly across every empowerment-related metric in our survey.

For example, 61% of the leaders surveyed in the Transformation group indicate that their organization empowers individuals to exercise behaviors such as judgment, discretion, and imagination, as opposed to only 43% of the Slow-and-Steady group. In terms of emphasizing agility in organizational processes, 63% of the Transformation group embraces this practice, as opposed to the 34% of the Slow-and-Steady group leaders.

Other attributes of organizations in the Transformation group also came to the forefront. This group reported higher levels of support for building diverse teams, maintaining flexible operating models, and engaging broadly in secure collaboration with ecosystem partners.

When looking at key workforce metrics and behaviors in the talent section of the survey, the Transformation group showed significant differences. These categories included data-driven demand planning for capability (skill depth), data-driven demand planning for capacity (head count) workplace flexibility, internal career mobility, just-in-time learning, and performance-based career progression.

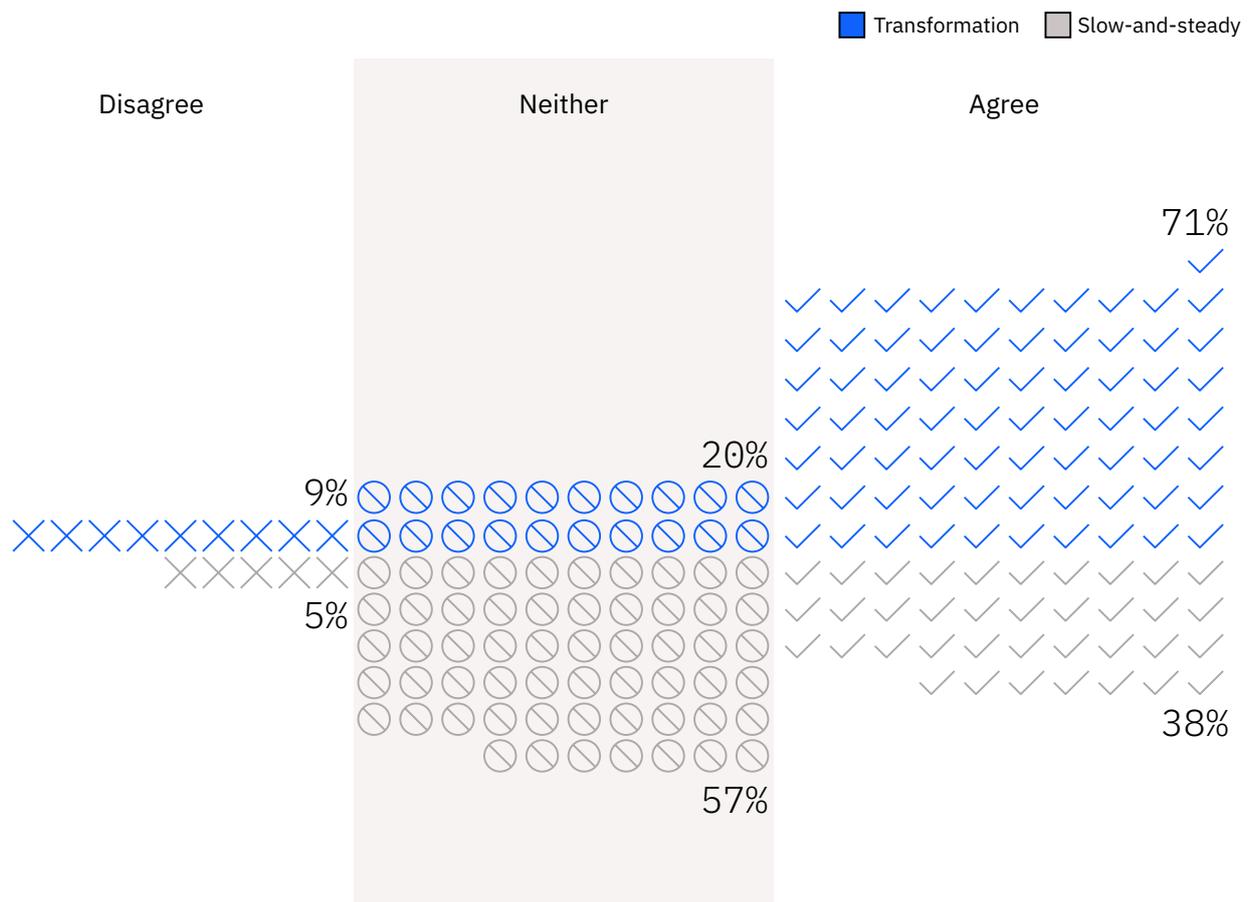
# The trust factor

## Foundational in building resilience

Attitudes on the importance of trust reveal that government leaders in the Transformation group have a more nuanced understanding of how organizational trust is earned. When compared to the Slow-and-Steady group, this group showed significant differences on the key components of building organizational trust. (see Figure 7)

FIGURE 7

**The Transformation group believes strongly that employee trust is key to building organizational resilience**



Q. To what extent do you agree with the following statement about your organization today? "Trust between our organization and our employees is imperative for building and maintaining organizational resilience."

For example, the Transformation group placed a high value on being a reliable source of trustworthy information, holding others accountable for engaging in unethical behavior, and communicating with the public clearly and transparently.<sup>13</sup>

Members of Transformation group indicated that it was important to successfully execute plans and strategies that yield the promised results. They attached a high value to forming strong, collaborative relationships, and leading cross-institutional efforts to solve society's current problems, while also addressing emerging challenges.

Transformation group also embrace a long-term orientation toward addressing problems that lead to the development of permanent solutions, rather than short-term thinking focused on more immediate objectives.

In the context of trust, how can public confidence be restored in government? The State of Public Trust in Government Survey 2024 suggests, among other recommendations, that modernizing technology and use of data would allow the US government to make better decisions about the effectiveness and outcomes of federal programs.<sup>14</sup>

In another IBV survey, most constituents agree with government use of generative AI for customer service and believe the rate of adoption for generative AI by governments is appropriate. Less than 30% of those surveyed believe the pace of adoption in the public and private sectors is too fast. Most believe it is just right, and some even think it is too slow.<sup>15</sup> Open and transparent AI implementation will be keys to building trustworthy AI technology.

*Modernizing technology and the use of data would allow the US government to make better decisions about the effectiveness and outcomes of federal programs.<sup>14</sup>*

# Progress is slowing down, just when it should be picking up

Despite widespread modernization efforts, digital transformation, and the successful response initiatives coming out of the pandemic era, the rate at which organizations are improving has slowed. (see Figure 8)

The Transformation group, comprised of governmental organizations that lead the way in building resilience, has seen a steep decline in annual growth rates related to mission capability. During the peak of the pandemic from 2020 to 2021, this group demonstrated an annual mission capability growth rate of 22%. But just two years later, from 2022 to 2023, this group reported a growth rate of only 4%. This drop-off reflected an 80% decrease in the annual rate of mission capability growth.

Lessons learned from the pandemic have shown that initiatives as challenging as organizational transformation can be deployed, even during a global shock. But another lesson learned may also serve as a warning—being complacent can be a risky response to future shocks and could compromise efforts to build readiness and resilience.

However, there is good news when it comes to adopting a preparation mindset. Reflecting a sense of urgency, 60% of government CEOs put a high-priority focus on accelerating transformation and 69% recognize the need to rewrite their organizational playbook to be future-ready.<sup>16</sup>

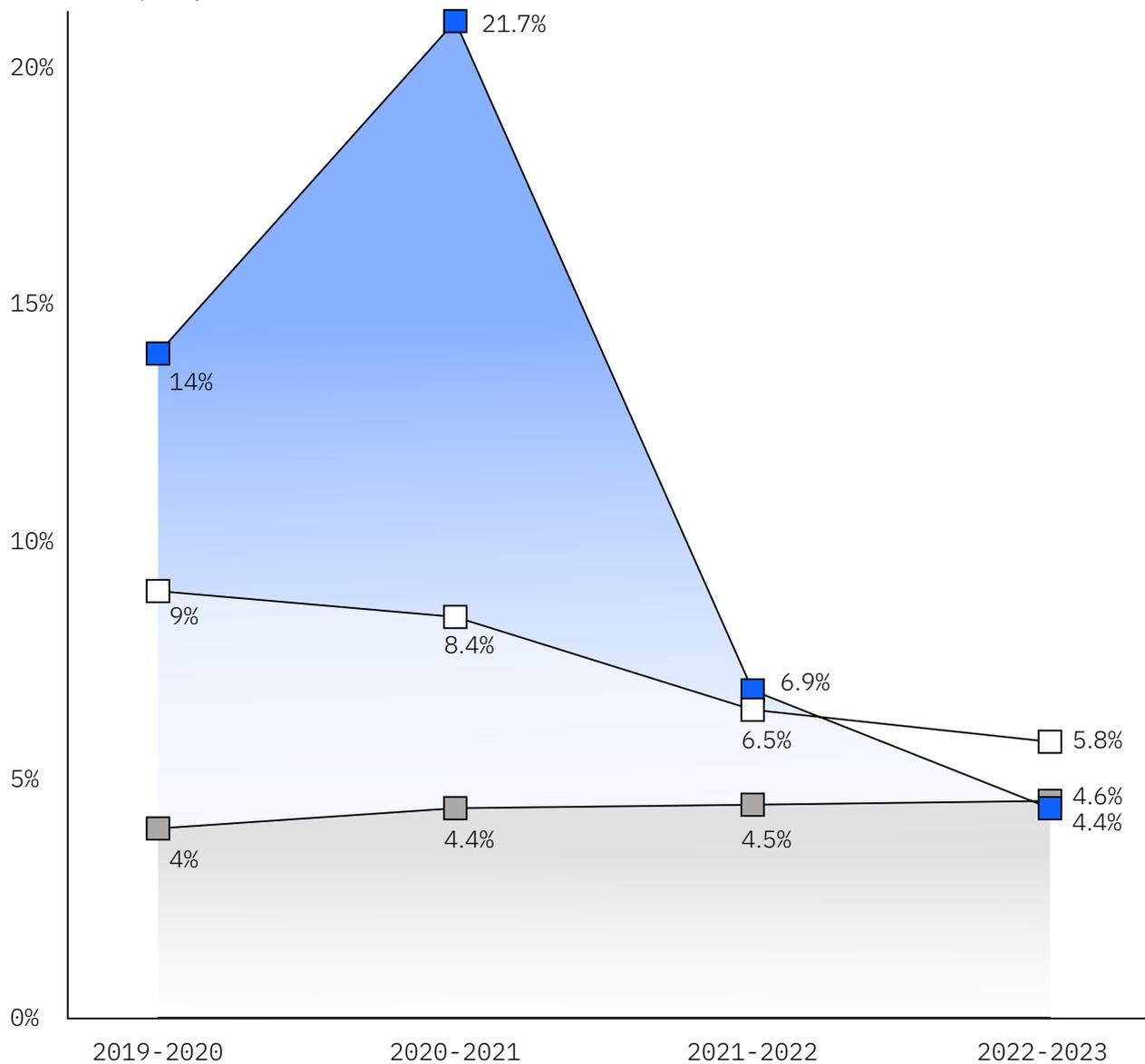
*Lessons learned from the pandemic have shown that initiatives as challenging as organizational transformation can be deployed, even during a global shock.*

FIGURE 8

**The pandemic-era period of rapid innovation and modernization is over**

■ Transformation ■ Slow-and-steady □ All others

Year-over-year percent increase in mission readiness and mission capability



Q. Estimate your organization's mission capability/readiness rate for the following time periods.

# Action guide

These recommendations will have greater transformative potential when adopted as an integrated set of mutually supportive initiatives. Government organizations must be vigilant, develop a playbook for preparation, and follow it as they develop capacities to respond to the next shock event.



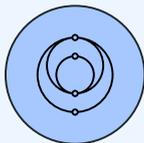
**Steer clear of complacency.** Many governments made great strides toward building resilience during the COVID-19 pandemic. However, it is risky to pull back on these investments, especially as the probability of major disruptive events in the future remains high.



**Explore and strategically invest in data-driven technologies.** With the importance of making data-driven decisions growing every day, it is vital for governments to transition beyond maintaining legacy systems and invest strategically in more advanced cloud, AI, automation, and other platforms to protect government assets, boost workforce productivity, and take advantage of new opportunities to connect with and serve constituents. Technology investments should support the goal of providing the timely, accurate information government officials need to make informed decisions during crisis situations.



**Leverage cybersecurity as a capability multiplier.** Bolstering the security of all government platforms can improve the performance of these systems and boost confidence in their operations, an especially important consideration as generative AI takes on more functions and powers more workflows.



**Empower individuals and teams, and support agility and innovation.** Take advantage of the data-driven power of personalization to give employees the tools to do their job, provide feedback, and contribute new ideas to support continuous improvement.



**Collaborate with and expand public-private partnerships.** Leverage the expertise and resources of private industry, academia, and other sectors to source and share best practices and avoid reinventing the wheel.



**Build trust with citizens and employees.** Use transparency and inclusiveness to address the trust deficits incurred by many governments, recognizing that trust is foundational for building and maintaining organizational resilience.

## Notes and sources

- 1 Emmanuel, Rahm. "Let's make sure this crisis doesn't go to waste." The Washington Post. March 25, 2020. <https://www.washingtonpost.com/opinions/2020/03/25/lets-make-sure-this-crisis-doesnt-go-waste/>
- 2 Silver, Laura and Aidan Connaughton. "Partisanship colors views of COVID-19 handling across advanced economies." Pew Research Center. August 11, 2022. <https://www.pewresearch.org/global/2022/08/11/partisanship-colors-views-of-covid-19-handling-across-advanced-economies/>
- 3 "COVID-19 Relief: Funding and Spending as of Jan. 31, 2023." US Government Accountability Office. February 28, 2023. <https://www.gao.gov/products/gao-23-106647>
- 4 Vogus, Timothy and Kathleen Sutcliffe. Organizing for Resilience. P. 97. ResearchGate. January 2003. [https://www.researchgate.net/publication/255853978\\_Organizing\\_for\\_Resilience](https://www.researchgate.net/publication/255853978_Organizing_for_Resilience)
- 5 Taleb, Nassim Nicholas. "The Black Swan: The Impact of the Highly Improbable." The New York Times. April 22, 2007. <https://www.nytimes.com/2007/04/22/books/chapters/0422-1st-tale.html>
- 6 Wucker, Michelle. "Davos 2013: Black Swans and Gray Rhinos". April 6, 2013. <https://wucker.thegrayrhino.com/davos-2013-black-swans-and-gray-rhinos>
- 7 "Americans' Dismal Views of the Nation's Politics." Pew Research Center. September 19, 2023. <https://www.pewresearch.org/politics/2023/09/19/americans-dismal-views-of-the-nations-politics/>
- 8 "Building trust in the government with responsible generative AI implementation." IBM Think. February 28, 2024. <https://www.ibm.com/blog/building-trust-in-the-government-with-responsible-generative-ai-implementation/#>
- 9 "Global spending on health: rising to the pandemic's challenges." World Health Organization. December 8, 2022. <https://www.who.int/publications/i/item/9789240064911>
- 10 Six hard truths CEOs must face. C-suite Study Series. IBM Institute for Business Value. June 2024. <https://www.ibm.com/thought-leadership/institute-business-value/en-us/c-suite-study/ceo>
- 11 "Information Technology: Agencies need to continue addressing critical legacy systems." US Government Accountability Office. May 10, 2023. <https://www.gao.gov/products/gao-23-106821>
- 12 "\$1.14 Trillion to Keep the Lights On: Legacy's Drag on Productivity." Mechanical Orchard. January 23, 2023. <https://www.mechanical-orchard.com/insights/1-14-trillion-to-keep-the-lights-on-legacy-drag-on-productivity>

- 13 “Edelman Trust Barometer 2022 Global Report.”  
Edelman. January 18, 2022. <https://www.edelman.com/trust/2022-trust-barometer>
- 14 “The State of Public Trust in Government 2024.”  
Partnership for Public Service. May 2024.  
<https://ourpublicservice.org/publications/state-of-trust-in-government-2024/>
- 15 IBM Institute for Business Value Generative Consumer/  
Citizen Survey conducted in November-December 2023  
(n=13,701). Unpublished information.
- 16 2024 Global C-Suite Series: 6 hard truths CEOs must  
face: How to move forward with courage and conviction  
in the age of AI. IBM Institute for Business Value. May  
2024. Unpublished data.

## Survey approach and methodology

In 2023, the IBM Institute for Business Value, in cooperation with Oxford Economics, surveyed a sample of 635 government CEOs, CIOs, or equivalent executives from government organizations in 44 countries. Each respondent was screened to ensure that they were in a position of leadership at their current organization, and therefore able to speak to preparedness and performance prior to the onset of the COVID-19 pandemic.

These leaders represent organizations from a broad range of mission functions, including general public services, defense, public order and safety, economic affairs, environmental protection, housing and community amenities, health, recreation, culture and religion, education, and social protection.

IBM developed a questionnaire consisting of 34 items in multiple formats including multiple response, Likert, numerical, and maximum differential. Oxford Economics managed the double-blind data collection process. Research assistants read aloud each survey question and response options to executives and recorded their responses.

IBM continually encountered anecdotal evidence from multiple stakeholders describing a discrete set of core capabilities that enabled government organizations to perform better during the pandemic, to be more resilient, and to be better prepared for global shocks in the future. The goal of this study was to understand what those core capabilities were, how they interacted with one another, how they impacted performance during a global shock, and how they impacted organizational resilience.

IBM has managed the Future Shocks research initiative since 2022. The goal of this initiative is to better understand government resilience, particularly in response to global shocks. Previous reports in the

Future Shocks series covered resilience in the context of emergency preparedness and response, cybersecurity, supply chain, workforce development, and sustainability.

Our analytical approach involved a series of statistical techniques to comprehensively examine the relationships between organizational factors and readiness during the pandemic. All statistical analyses were performed using a combination of Statistical Package for the Social Sciences (SPSS) statistics, SPSS Modeler, R, and Stata statistical software. Significance level for all analyses was set at  $p < 0.05$ .

For preliminary analysis we conducted multiple regression, mediation, and structural equation modeling analyses to examine the relationships between various organizational factors. These included resilience, innovation, agility, cybersecurity, trust, talent management, and key outcomes of resilience capabilities and organizational readiness. This allowed us to investigate both the direct and indirect impacts of these factors on government organizations' readiness during and after the COVID-19 pandemic.

Based on the preliminary analyses' findings, we conducted a segmentation analysis to identify different groups of government organizations based on how they transformed their readiness capabilities in response to the COVID-19 pandemic. This analysis compared the pre-pandemic and post-pandemic periods, allowing us to categorize the organizations into distinct segments based on the magnitude and patterns of change in their readiness capabilities. The segmentation approach provided a more nuanced understanding of the organizational landscape, enabling us to tailor our recommendations and strategies to the specific needs and challenges faced by each identified group of government organizations.

# Authors



## *Cristina Caballe Fuguet*

Vice President, Global Public Sector

IBM

Cristina.Caballe@es.ibm.com

[linkedin.com/in/cristina-caballe-77516938/](https://www.linkedin.com/in/cristina-caballe-77516938/)

## *Kee Won Song*

Global Government Research Leader

IBM Institute for Business Value

Kee.Won.Song@ibm.com

[linkedin.com/in/keewonsong/](https://www.linkedin.com/in/keewonsong/)

## *Dave Zaharchuk*

Research Director

IBM Institute for Business Value

David.zaharchuk@us.ibm.com

[linkedin.com/in/david-zaharchuk-59564519/](https://www.linkedin.com/in/david-zaharchuk-59564519/)

# Contributors

## *Sara Aboulhosn*

Design Lead, IBM Institute for Business Value

## *Steven Ballou*

Director, Research Hub, IBM Institute for Business Value

## *Daniel Chenok*

Executive Director, IBM Center for The Business of Government

## *Jacob Dencik*

Research Director, IBM Institute for Business Value

## *Catherine Fillare*

Global Research Leader, IBM Institute for Business Value

## *Teresa W. Gerton*

President and CEO, National Academy of Public Administration

## *Brian Goehring*

Associate Partner and AI Research Lead, IBM Institute for Business Value

## *Ruth Gordon*

Operations Manager, IBM Center for The Business of Government

## *Margaret Graves*

Senior Fellow, IBM Center for The Business of Government

## *Jillian McGuffey*

Research Analyst for Strategic Initiatives, National Academy of Public Administration

## *J. Christopher Mihm*

Adjunct Professor of Public Administration and International Affairs  
The Maxwell School of Citizenship and Public Affairs, Syracuse University

## *Joseph P. Mitchell III*

Director of Strategic Initiatives and International Programs, National Academy of Public Administration

## *Heba Nashaat*

Lead Data Scientist, IBM Institute for Business Value

## *Gerald Parham*

Global Research Leader, Security & CIO  
IBM Institute for Business Value

## *Wendy Roth*

C-Suite Study Series, IBM Institute for Business Value

## *Michael Tucker*

Editorial Lead, IBM Institute for Business Value

## *Casey Werth*

General Manager, Global Public Sector, IBM Technology

© Copyright IBM Corporation 2024

IBM Corporation  
New Orchard Road  
Armonk, NY 10504

Produced in the United States of America | September 2024

IBM, the IBM logo, ibm.com and Watson are trademarks of International Business Machines Corp., registered in many jurisdictions worldwide. Other product and service names might be trademarks of IBM or other companies. A current list of IBM trademarks is available on the web at “Copyright and trademark information” at: [ibm.com/legal/copytrade.shtml](http://ibm.com/legal/copytrade.shtml).

This document is current as of the initial date of publication and may be changed by IBM at any time. Not all offerings are available in every country in which IBM operates.

THE INFORMATION IN THIS DOCUMENT IS PROVIDED “AS IS” WITHOUT ANY WARRANTY, EXPRESS OR IMPLIED, INCLUDING WITHOUT ANY WARRANTIES OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE AND ANY WARRANTY OR CONDITION OF NON-INFRINGEMENT. IBM products are warranted according to the terms and conditions of the agreements under which they are provided.

This report is intended for general guidance only. It is not intended to be a substitute for detailed research or the exercise of professional judgment. IBM shall not be responsible for any loss whatsoever sustained by any organization or person who relies on this publication.

The data used in this report may be derived from third-party sources and IBM does not independently verify, validate or audit such data. The results from the use of such data are provided on an “as is” basis and IBM makes no representations or warranties, express or implied.

