

Forrester Study Finds Modernizing Apps a Top Priority for Government Agencies

Start Improving Applications Today -
Tomorrow is Too Late

APRIL 2020



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Executive summary

In a new Forrester Consulting study, nearly seventy-six percent of government technology executives surveyed say improving their app portfolios is a top priority. Nearly eight out of 10 respondents say improving apps will improve the experience of their constituents as well as stakeholders at other agencies.

These are some of the key results from the recent [global survey](#) of 101 government CIOs and senior managers by Forrester Consulting. The study, commissioned by VMware, was designed to evaluate executive sentiment about the state of current application portfolios, technology leaders' ability to create exceptional experiences for those they serve, and the connection between the two. Some key findings include:



Nearly nine out of ten government CIOs and senior managers surveyed are focused on improving the end-user experience.

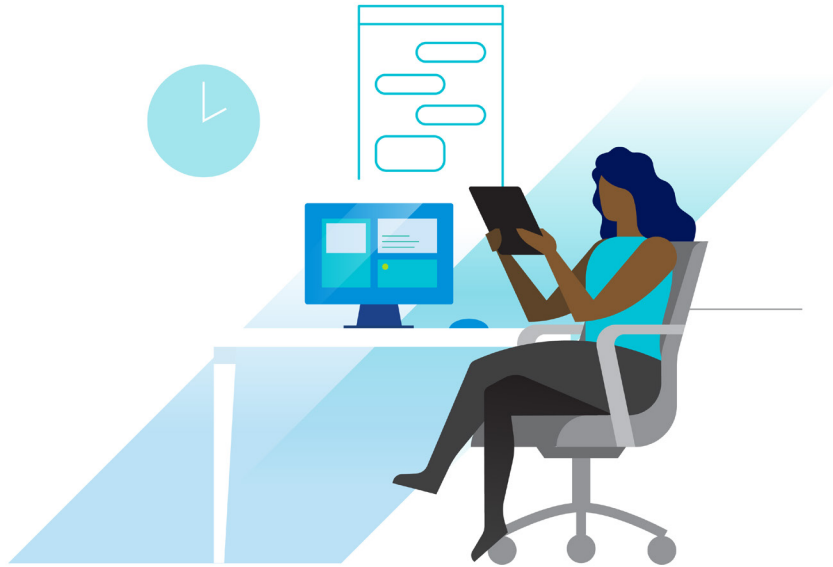


76 percent of respondents surveyed say implementing an Agile software development methodology is "very" or "extremely" important to their organizations.



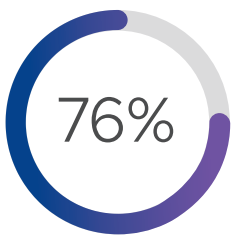
51 percent of those surveyed agree containers are a key technology for boosting their app portfolio modernization efforts.

This brief explores both the data and implications of the survey results. It highlights the link between apps and user experience; provides insight into how entrenched attitudes and legacy technical investments are dragging down government organizations' ability to modernize apps; and how emerging technologies and technology partners can help address challenges.



“We’ve now built this resilient culture, this culture that is smart and innovative and a culture that can learn and has a strong sense of community.”

US CITIZENSHIP AND IMMIGRATION SERVICE, IN AN INTERVIEW WITH VMWARE



of government organization CIOs and senior managers surveyed say **improving their app portfolios is a top business priority.**

In government, user experience matters more than previously considered

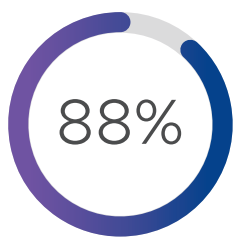
Readying to handle a perfect storm of issues—from ongoing health and economic uncertainty to increasing natural and manmade disasters—government organizations are in technological transition. Many agencies are currently opening previously locked-down information assets in an attempt to be more transparent and helpful to the public while improving collaboration with other agencies. Some are involved in smart city initiatives that connect Internet of Things (IoT) devices and equipment to public-facing apps that let citizens do everything from pay for parking to report potholes. Others are preparing to deploy artificial intelligence (AI) and other emerging technologies to solve the complex logistical and operational issues they face. And all are trying to be more responsive to the needs and requests of constituents.

The latter focus is a fairly new trend. Government agencies are following consumer-facing industries such as retail and hospitality in paying closer attention to the experiences of those who use their services. Suddenly the customer experience matters in government circles.

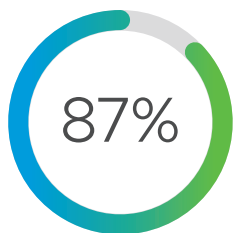
And in what is a new revelation identified by the Forrester survey, government technology decision makers also now realize that user experience is significantly driven by the quality of their software applications. Almost nine out of 10 (88 percent) believe in this tight coupling of apps and overall customer experience—when customers are both constituents and employees of other agencies they serve.

Given the importance of apps, the expectation is that government technology leaders would prioritize investing in new development frameworks and methodologies proven to boost their quality and delivery timeliness. There would be a sense of urgency to move to an Agile development methodology, for example, or to a DevOps team structure, and to containers like Kubernetes. Especially since most (76 percent) of government chief information officers (CIOs) and senior managers surveyed say improving their application portfolio is now a top agency priority.

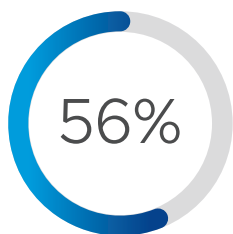
But government organizations still remain slightly behind private industry when it comes to app modernization. And there appear to be significant barriers holding government CIOs back from making the changes they know they should.



Government IT leaders surveyed agree **modernizing their application portfolios is linked to improved experiences**



Agree promoting **better experience through improved apps** is “very” or “extremely” important



Agree their **current app portfolio delivers good experiences**

User experience is tightly coupled with app portfolio quality

Forrester asked all technology decision makers across industries about whether customer experience was positively tied to revenue growth. A strong majority, 82 percent, across the board of technology executives surveyed by Forrester agree with this statement, which has been bolstered by other industry studies.

This isn't necessarily news. Private-sector CIOs have known for some time that delivering innovative experiences that delight customers are the best way to win customer loyalty, attract new customers, and thus boost revenues. But it's a relatively new idea for the public sector. Still, more than three-fourths (88 percent) of government CIOs tie customer experience to revenues—which implies that if they delight their constituents, they expect their budget allocations to subsequently increase.

And then there is this other interesting link the Forrester survey reveals: Nearly all CIOs and senior vice presidents (SVPs) across all industries tie modernizing their application portfolios to improved customer experiences. Eighty-eight percent of government CIOs and senior managers surveyed agree with this linkage. This makes a strong case that application improvement must start today.

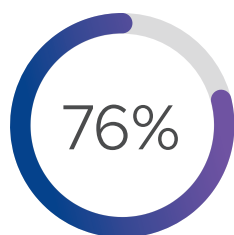
If improved app portfolios can boost revenues, then modern apps can improve the amount of money government organizations are allocated—allowing them to do more for their missions.

This is a significant finding. And it explains why nearly nine in ten (87 percent) of government CIOs and senior technology managers surveyed agree that promoting better experience through modernizing apps is “very” or “extremely” important to them. Yet only slightly more than half (56 percent) surveyed say that their current app portfolio delivers good experiences.

Agreement on the importance of improving experience is reflected throughout the survey.



Flexible and scalable technologies drive innovation



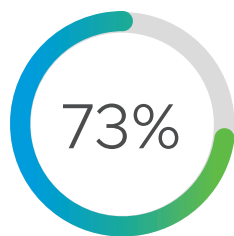
of government IT leaders surveyed agree **implementing an Agile software development methodology** is “very” or “extremely” important.

Unfortunately, government CIOs and senior technology managers are being forced to spend too much time and too many resources maintaining existing infrastructures. This gives them less time to focus on improving their application portfolios.

When asked which technology challenges hinder them from improving their software applications, answers cluster around previous technical investments. Indeed, when asked directly about technical debt holding their organizations back, 88 percent of government CIOs say it is a moderate to extremely important roadblock to overcome.

Moreover, as government organizations adopt cloud—and in some cases, multiple clouds—application environments are becoming more disparate and complex. Government senior executives are or will soon balance an eclectic mix of public clouds, private clouds, and edge environments. This complexity is only expected to increase within the next three years.

In 3 years, 97% of Government organizations expect to be managing more than 3 separate environments (public cloud, private clouds/data centers, and edge) and 64% of those will be managing more than 6.



of government CIOs surveyed say **putting DevOps in place** is “very” or “extremely” important to them.

Senior government technology leaders know they need to move away from complex and inflexible monolithic legacy environments. Less than half of respondents (46 percent) rate their agency’s ability to innovate as “excellent” or “above average” for that reason.

One way to change this reality is through Agile software development methodology, which is centered around the concept of iterative development. Requirements and solutions evolve through collaboration between self-organizing, cross-functional teams and the users they serve. In this way, apps are developed faster, meet users’ needs more precisely, and have fewer errors.

More than three-quarters of government technology executives surveyed (76 percent) say implementing an Agile software development methodology is “very” or “extremely” important to their agencies.

Organizing app development around a DevOps structure is another priority. Seventy-three percent of government CIOs surveyed say putting DevOps in place is “very” or “extremely” important to them. DevOps combines software development and operations—the IT employees responsible for keeping apps available—with the goal of shortened app development lifecycle and making possible the continuous delivery of higher-quality software.

Keeping in touch with constituents, other agencies and increasing app investments

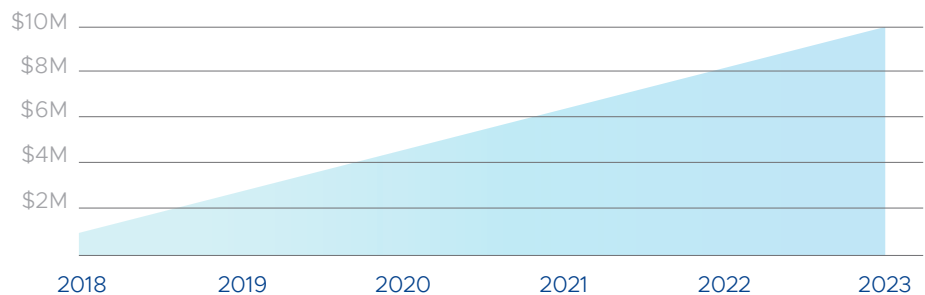
“Machine learning and artificial intelligence are getting us thinking about how we can improve the services that we provide. They offer great opportunities from both an efficiency perspective and services delivery perspective.”

CIO OF AN AUSTRALIAN
GOVERNMENT DEPARTMENT, IN AN
INTERVIEW WITH VMWARE

Senior government technology leaders also understand the importance of being in close touch with their users so they can understand how investments in technology—specifically app development—impacts their experience. **Sixty-four percent surveyed say spending at least 10 percent of their work weeks interacting directly with end users is a “very” or “extremely” important priority.**

Moreover, government IT leaders surveyed seem willing to spend the money to modernize their applications. Three years ago, most government organizations surveyed were spending less than \$1 million improving their application portfolios. Today, the number is between \$500,000 and \$5 million. And 3 years from now, most surveyed intend to spend a minimum of \$1 million and as much as \$10 million, with 5 percent of respondents spending more than \$10 million, to develop superior apps.

Average government services application portfolio investment, 2018-2023

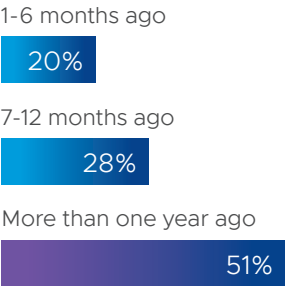




Change introduces some challenges

Despite focus on experience—and prioritizing technology investments to improve app development—senior government IT leaders are concerned about roadblocks that lie ahead.

When did you last make improvements to your company's application portfolio?



A number of goals government leaders cite as critical are ranked as “very” or “extremely” challenging:

- 76% Choosing the right platform for each application (on-premises, private cloud, public cloud, or hybrid)
- 66% Achieving better experiences through improving applications
- 64% Moving to a DevOps culture
- 57% Moving to an Agile development environment

But they need to actually commit the funds. Slightly more than half (51 percent) of government IT executives surveyed say they haven't made any improvements to their app portfolio in at least a year.

And leaders in government IT organizations agree that two main barriers prevent funding and buy-in to improve apps: first, they are frequently asked to prove that investing in apps will indeed positively impact end-user experience. This type of quantifying can be difficult. Second, most face intense resistance to change from their own internal IT teams—especially when it comes to the significant moves to Agile or DevOps cultures.

Emerging tech and partners can help

The good news is almost 7 out of 10 CIOs and SVPs in government surveyed (67 percent) say they have already started modernizing their application portfolios.

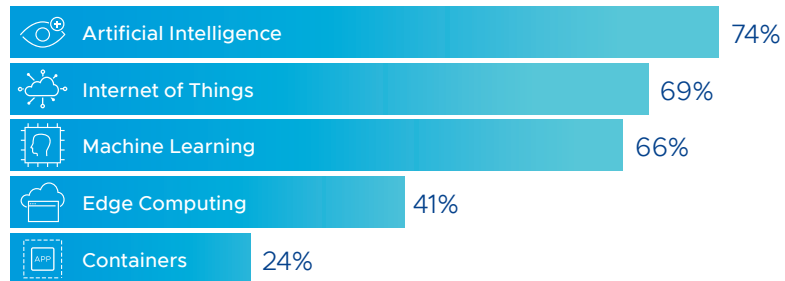
A first step is improving underlying infrastructures. Senior technology executives are turning to partners to help them identify which apps can be migrated to public or private clouds fastest, easiest, and without compromising security.

Moving to containers and services will help. Fifty-one percent agree that containers are a key technology to improve their app portfolio modernization efforts. But that's not the whole story. Government CIOs look for guidance on where to make technology investments. Half (50 percent) of respondents say they rely on vendors to help them prioritize.

How will government CIOs and senior executives prioritize investment, deciding which technologies and infrastructure to deploy? More than seven in ten (73 percent) of those surveyed say that how an app will impact the end-user experience plays a “major” or “critical” role in helping them prioritize.

Some government organizations are already seeing success. Of the CIOs surveyed that have embarked on improving their app portfolios, 46 percent have already seen their customer experiences improve satisfaction.

Government CIOs rank five emerging technologies that are “urgently” needed to improve their application portfolios:



Action is needed now for best returns

This Forrester study shows that government CIOs and senior managers are indeed passionate about their constituents and other agency stakeholders as well as their missions. It identifies a strong link between modernizing application portfolios, and enhancing the experience of the people and organizations they serve.

Acknowledging this, senior government technology executives say they are willing to invest the money and have prioritized what they need to do—both technically and organizationally—to succeed. But many challenges—including technical capabilities—stand in the way of success. Emerging technology and the right technology partner they believe can help break the impasse.

In addition to deploying newer technologies like AI, IoT, and ML, most government CIOs and senior managers are asking partners for discovery services, maturity assessments, and application inventory analyses.

Which of the following consulting or professional services would be most useful in helping you improve your application portfolio?

64%

Maturity assessment

63%

Discovery services

55%

Application
inventory analysis

52%

Security and
compliance assessment

40%

Staff training

29%

Migration services

With the help of trusted partners, government organizations will jumpstart the boosting of constituent experience that begins with better apps and ends in higher satisfaction—along with ultimately, increased funding.

