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Assessing the Federal Government's Transition to Web-Based Forms

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Federal government agencies have missed multiple deadlines to transition from paper to web-based forms. Bringing government services into the digital age would build public trust, improve service and convenience, and reduce costs.

KEY TAKEAWAYS

- The 21st Century Integrated Digital Experience Act (IDEA), passed in 2018, requires executive agencies to transition from paper forms to accessible, mobile-friendly, web-based forms within two years.

- 21st Century IDEA also required the Office of Management and Budget to issue guidance on the modernization of government websites and forms within 180 days, but the deadline passed and guidance never came.

- In their annual compliance reports, most executive agencies do not report detailed information on their progress transitioning from paper to web-based forms.

- In a random sample of 1,348 forms, ITIF found that 1,052 (78 percent) were partially compliant with 21st Century IDEA, and only 24 (less than 2 percent) were fully compliant.

- Congress should focus attention on agencies' lack of progress to increase accountability, and OMB and executive agencies should take steps to fulfill the statutory requirements laid out in 21st Century IDEA.

INTRODUCTION

Digital solutions hold enormous promise to transform U.S. government services by streamlining outdated processes and providing Americans with faster, more convenient, and more personalized access to their government. Yet, too many government tasks still require filling out paperwork by hand. With the American public's trust in their government on the decline for most of the Internet era, prioritizing modernization and digitization of user-facing government services could help rebuild confidence in the government's efficacy.[1] By transitioning from paper-based to web-based forms—forms users can fill out and submit entirely in a browser on a computer or mobile device—federal government agencies could reduce waste, increase efficiency, and improve data collection.

The technology for web-based forms has existed since the early days of the Internet, but the federal government has lagged on widespread adoption. To remedy this, in 2018, Congress passed the 21st Century Integrated Digital Experience Act (IDEA), which aims to bring federal government services into the 21st century. Among its provisions, the law requires executive agencies to replace their paper-based forms with web-based ones.

The statutory deadlines written into 21st Century IDEA have now passed, yet agencies have made disappointingly little progress toward making their forms available in an accessible digital format for both desktop and mobile users, as the law requires. Indeed, out of a random sample of 1,348 government forms, the Information Technology and Innovation Foundation (ITIF) found that fewer than 2 percent were fully compliant with 21st Century IDEA. While 78 percent were partially compliant, this shows all agencies have more work ahead to fulfill their obligations under the law. There are at least a half dozen steps the federal government should take to accelerate executive agencies' transition to web-based forms:

- The Office of Management and Budget (OMB) should issue its overdue implementation guidance for 21st Century IDEA.

- Congress should hold oversight hearings on agencies' compliance with 21st Century IDEA.

- The federal Chief Information Officers (CIO) Council should create a web-based-forms task force to track and expedite compliance, prioritizing forms the general public uses the most.

- Congress should require agencies to report detailed information on their compliance with 21st Century IDEA's forms requirements.

- The Technology Modernization Board should issue grants to incentivize agencies to use login.gov.

- OMB should direct federal agencies to discontinue the use of fax machines.

21ST CENTURY IDEA

Congress passed 21st Century IDEA in 2018 to modernize and improve executive agencies' digital services. The law includes requirements for agencies to ensure their agency websites, web-based applications and forms, and other digital services are up to date, user-friendly, mobile-friendly, accessible, and secure.[2] Congress's goal in passing this law was, in part, to

"improve citizens' interaction with the federal government," thereby increasing the public's confidence and trust in government.[3] This goal is reflected in the law's text, which prioritizes the modernization of government services that are "most viewed or utilized by the public."[4]

Section 4 of 21st Century IDEA requires the head of each executive agency to ensure that all paper-based forms "related to serving the public" are available in a digital format within two years of the law's enactment—a deadline of December 2020, which has since passed. If an agency cannot make a form digitally available, the agency head must document the title of the form, the reasons why it cannot be made digitally available, and potential solutions that would allow the agency to make it digitally available. Section 5 of 21st Century IDEA also requires the heads of executive agencies to submit a plan to accelerate the adoption of electronic signatures to the OMB director and Congress.[5]

To ensure compliance with 21st Century IDEA's modernization requirements, the head of each agency must report to the director of the OMB on the agency's progress annually for five years after the law's passage and must make these reports publicly available. However, the only information agencies are required to include in these reports is information related to their website modernization, not the transition from paper- to web-based forms.[6]

The law requires the OMB director to issue guidance on the modernization of government websites and forms no later than 180 days after 21st Century IDEA's passage.[7] However, OMB failed to provide this guidance. In a letter to the acting OMB director on May 6, 2021, members of the House Committee on Oversight and Government Reform Subcommittee on Government Operations noted this failure and called on OMB to issue guidance within 45 days on electronic signatures, website modernization, and web-based form.[8] As of this report's publication date, OMB had yet to issue this guidance.

21st Century IDEA Reports

Because 21st Century IDEA does not require executive agencies to include information about their transition from paper- to web-based forms in their annual reports, some have chosen not to, including the Department of Housing and Urban Development (HUD), Department of the Interior (DOI), and Department of Justice. Others have stated that their digitization of paper-based forms is in progress but have failed to provide specific numbers. These agencies include the Department of Health and Human Services and Department of Transportation. Similarly, the Department of Labor (DOL) claims that it has digitized all forms related to serving the public but has not specified how many forms this includes or specifically which forms the agency has digitized to date.

Of the agencies that have provided specific numbers of how many forms they have made available in a compliant digital format—including the Department of Defense (DOD), Treasury Department, and Department of Veterans Affairs (VA)—all report significantly lower numbers than the total number of forms our assessment found associated with each agency, indicating that agencies use a narrow definition of which of their forms are "related to serving the public." For example, while our assessment found 1,159 total forms associated with DOD, in its most recent 21st Century IDEA report, DOD claimed that it has digitized all 139 of its forms related to serving the public.

ASSESSING COMPLIANCE

ITIF checked the 15 executive agencies' forms to assess their compliance with 21st Century IDEA's web-based forms requirement. We located these forms using usa.gov/forms, which compiles links to federal government agencies' forms. We examined all forms associated with each executive agency, as well as forms associated with sub-agencies and bureaus of each agency, to determine whether they were included on each main agency's usa.gov forms page. We then randomly selected and assessed 100 forms from each agency; and for agencies that had fewer than 100 forms, we assessed the total number of forms.

The results may not include forms that are not discoverable through usa.gov/forms, but may include some forms that are not intended for "serving the public," as most agencies do not distinguish between these and other forms. The results also do not include any forms that we were unable to access, such as those that require a login or are only available by request.

Our assessment found that only 2 percent of government forms in our sample are fully compliant as an online form. We also found that 78 percent are partially compliant as a fillable PDF. We did not count forms available as Word documents, Excel files, or non-fillable PDFs as fully or partially compliant since Internet users are not able to easily complete forms in these formats on a web browser. Of the forms that are only available as fillable PDFs and request a signature, only 29 percent have a digital signature field in the PDF, meaning most users still need to print the forms in order to sign them. Additionally, mobile users cannot complete forms that are only available as fillable PDFs through mobile web browsers unless they install a third-party app or use a third-party service. Given that 21st Century IDEA requires web-based forms to be "fully functional and usable on common mobile devices," agencies that only make their forms available as fillable PDFs are not fully compliant. In total, of the 1,348 forms tested in our sample, we only identified 24 from all 15 executive agencies that were fully compliant.

Table 1 displays the number and percentage of forms each executive agency has made available in a fully compliant format (web-based forms) or partially compliant format (fillable PDFs). Table 2 displays the number and percentage of fillable PDF forms from each agency that have e-signatures enabled—meaning that the PDF contains a digital signature field that individuals completing the form can use to sign. (E-signatures allow individuals to affix a signature to an electronic document.) Finally, figure 1 displays the percentage of executive-agency forms that are usable on both desktop and mobile (fully compliant), forms that are only usable on desktop (partially compliant), and forms that are not usable on either desktop or mobile (noncompliant).

Table 1: Executive-agency forms available as web-based forms or fillable PDFs (2021)

Agency	# of Forms Tested	Web-Based Forms	Fillable PDFs	% Fully Compliant	% Partially Compliant
Agriculture	100	0	65	0%	65%
Commerce	100	1	89	1%	89%
Defense	100	0	96	0%	96%
Education	14	1	5	7%	36%
Energy	59	0	4	0%	7%
Health and Human Services	100	4	80	4%	80%

Agency	# of Forms Tested	Web-Based Forms	Fillable PDFs	% Fully Compliant	% Partially Compliant
Homeland Security	100	2	91	2%	91%
Housing and Urban Development	100	0	54	0%	54%
Interior	100	0	73	0%	73%
Justice	100	6	84	6%	84%
Labor	100	7	76	7%	76%
State	75	2	66	3%	88%
Transportation	100	1	75	1%	75%
Treasury	100	0	98	0%	98%
Veterans Affairs	100	0	96	0%	96%
All	**1,348**	**24**	**1,052**	**2%**	**78%**

Table 2: Executive-agency fillable PDF forms with digital signature fields (2021)

Agency	# of Fillable PDFs with Digital Signature Fields	Total # of Fillable PDFs Requesting a Signature	% of Fillable PDFs with Digital Signature Fields
Agriculture	12	57	21%
Commerce	4	82	5%
Defense	66	80	83%
Education	0	1	0%
Energy	0	1	0%
Health and Human Services	38	67	57%
Homeland Security	24	71	34%
Housing and Urban Development	6	48	13%
the Interior	17	55	31%
Justice	32	70	46%
Labor	10	67	15%
State	6	58	10%
Transportation	15	60	25%
Treasury	2	72	3%
Veterans Affairs	20	82	24%
All	**252**	**871**	**29%**

Figure 1: Percentage of executive-agency forms fully compliant, partially compliant, and noncompliant (2021)

Fully compliant (2%)　　Partially compliant (78%)　　Noncompliant (20%)
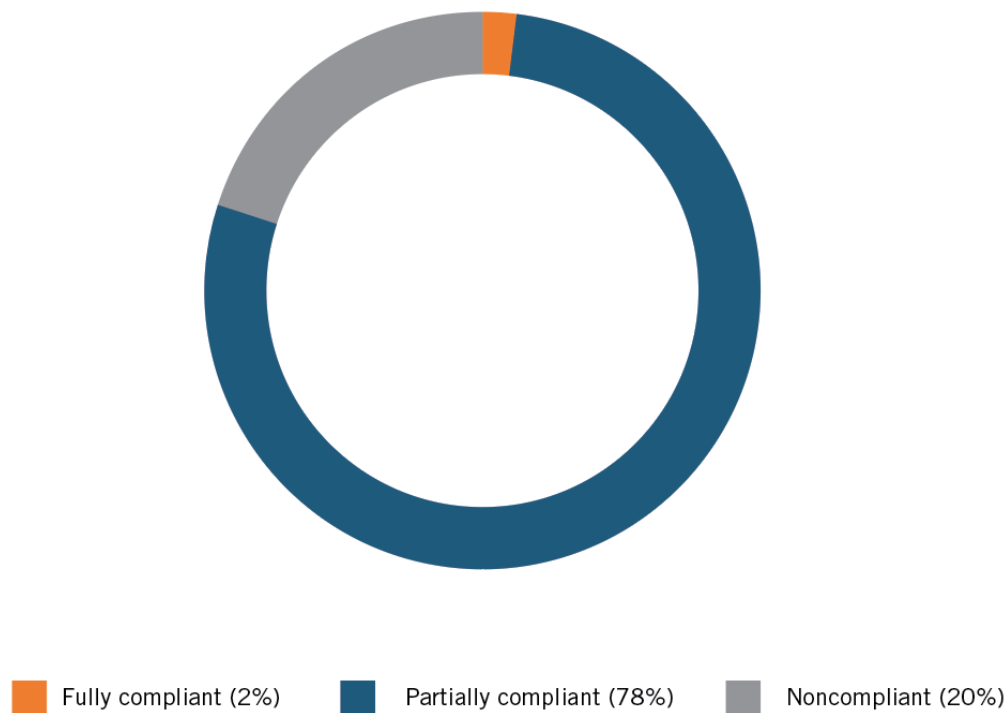
We also manually tested whether all of the executive-agency forms included in our assessment were accessible for visually impaired users by navigating the forms using a screen reader. There was a large amount of variation between agencies, with DHS, VA, and the Commerce Department's forms being the most accessible and DOI, USDA, HUD, and the State Department's forms being the least accessible. Many forms were not navigable using a screen reader at all, while others were somewhat navigable but lacked accurate descriptions of text fields, check boxes, and other form elements.

Our assessment reveals a large amount of variation in executive agencies' progress toward complying with 21st Century IDEA's forms requirement, with all but two agencies having made over half of their forms available in a partially compliant format and a third of agencies having made at least 90 percent available in a partially compliant format. However, the vast majority of these forms are still not fully compliant with 21st Century IDEA's requirements because they are not usable on mobile devices. Examples of the few forms that are fully compliant include some popular forms such as the Department of Education's Free Application for Federal Student Aid (FAFSA), DOL's Office of Safety and Health Administration (OSHA) Safety and Health Complaint, and the State Department's Nonimmigrant Visa Application. But many popular forms—including tax forms, customs and immigration forms, passport applications and renewals, and more—remain not compliant.

RECOMMENDATIONS

This report shows that, despite legislative requirements, the federal government has still yet to ensure that all executive-agency forms are available in a digital format that is usable on desktop computers, and has made very little progress toward ensuring that these forms are usable on mobile devices. Mobile-friendliness is an increasingly important consideration, as a greater share of Americans rely on smartphones to access the Internet. As of 2021, 15 percent of U.S. adults only access the Internet at home using smartphones, including 28 percent of adults ages 18 to 29, and 27 percent of adults with an annual household income of under $30,000.[9]

There are several steps the federal government should take to ensure all forms related to serving the public are fully compliant with 21st Century IDEA.

OMB should issue implementation guidance for 21st Century IDEA.

Most executive agencies have made significant progress toward making their forms available as fillable PDFs. But, although users may be able to fill out and submit these forms without printing, as long as the forms have e-signatures enabled, which most did not, this format does not fully comply with 21st Century IDEA's mobile-friendliness requirement. Only 24 executive-agency forms are available in a format that is fully compliant with 21st Century IDEA, which is likely at least partially due to the lack of guidance agencies have received from OMB.

21st Century IDEA required OMB to issue implementation guidance by June 18, 2019, and members of Congress again asked on May 6, 2021, for guidance by June 20, 2021.[10] Both of those deadlines have now passed. It is likely that, without implementation guidance, agencies will continue to struggle to fully comply with 21st Century IDEA's requirements. Moreover, as agencies continue to create forms without guidance, they will likely create many that do not comply with the law, which will create more unnecessary work for them in the future to recreate those forms in a mobile-friendly and accessible format.

Congress should hold oversight hearings on agencies' compliance with 21st Century IDEA.

Not only has OMB missed its deadline to issue implementation guidance for 21st Century IDEA, but federal agencies have also missed their deadlines to comply. Members of the House Committee on Oversight and Government Reform noticed that all of 21st Century IDEA's implementation deadlines have passed "with limited and unequal agency compliance."[11] This includes the two-year deadline for executive agencies to ensure all paper-based forms are available as web-based forms, which passed on December 20, 2020.[12]

To follow up on its call for both OMB guidance and the status of compliance with the requirements it set out in 21st Century IDEA, Congress should hold a series of oversight hearings on agencies' compliance with 21st Century IDEA. The purpose of these hearings should be to investigate the progress agencies have made, the barriers they have faced in their modernization efforts, and what actions are needed to improve implementation. If Congress does not find that agencies have made sufficient progress, it should direct the Government Accountability Office to conduct an audit of agencies' compliance with the law.

The CIO Council should create a web-based-forms task force to track and expedite compliance, prioritizing forms the general public uses the most.

After more than two years and multiple missed deadlines, some agencies are further ahead than others in their efforts to transition to web-based forms, but all executive agencies are still far behind where they need to be in order to comply with 21st Century IDEA. Agencies' failure thus far represents not only a lack of oversight and accountability but also a lack of coordination and understanding of best practices.

As the 15 executive agencies each independently navigate the process of implementing web-based forms, they have likely encountered many of the same obstacles. The CIO Council could facilitate greater interagency cooperation by establishing a web-based forms task force to expedite the implementation process across all 15 agencies by tracking and comparing agencies' progress, sharing solutions and best practices among agencies, and developing systems that would be consistent across agencies. Agencies should focus on the most-used forms. In particular, they should prioritize forms associated with the highest-touch government services such as taxes, national parks, student loans, and veterans' services.

Congress should require executive agencies to include detailed information on their compliance with 21st Century IDEA's forms requirement in their annual reports.

A review of executive agencies' most recent 21st Century IDEA reports finds that most have not reported specific information about how many forms they have made available as web-based forms, and some do not even mention forms. This is likely due to 21st Century IDEA's language, which could be interpreted as only requiring agencies to report information on website modernization, and not information on forms.

Tracking agencies' progress toward transitioning from paper- to web-based forms is just as important as tracking their overall progress toward modernizing their websites. Congress should expand on 21st Century IDEA's reporting requirement to compel executive agencies to include detailed information on their digitization of forms, including which of their most popular forms are available in an accessible, mobile-friendly digital format. This should include information on how agencies determine which forms are "related to serving the public," how many forms have been made available as web-based forms, and how many forms have not.

The Technology Modernization Board should prioritize funding for agencies that use login.gov to replace noncompliant forms.

Though 21st Century IDEA does not require agencies to incorporate e-signatures into their digital forms, it does recognize the importance of e-signatures by requiring executive-agency heads to submit a plan to accelerate their use to the OMB director within 180 days of the law's passage. In fillable PDFs, digital signature fields serve this purpose, whereas on web-based forms—which 21st Century IDEA requires for full compliance—the process might look different.

One way to provide users with a secure option for signing web-based forms is to authenticate users before they access these forms. Login.gov is a secure sign-in service that participating government agencies can use to access online government services. And to incentivize more agencies to use login.gov to build secure web forms, the Technology Modernization Board, which oversees the Technology Modernization Fund, should prioritize funding for agencies that submit proposals to create web-based forms that authenticate users with login.gov.

OMB should direct federal agencies to discontinue use of fax machines.

The persistence of fax machines in government is a byproduct of the federal government's slowness to modernize and replace paper-based forms. Every year, many federal agencies pay government contractors to provide fax services, when this information could almost always be sent just as easily via email. Today, it is possible to securely sign and send documents digitally, and the only reason to hang on to outdated technology such as fax machines is a reluctance to shift to these new technologies that are both more convenient and more cost-effective. OMB should issue a directive requiring federal agencies to discontinue their use of fax machines and fully commit to digital means of sharing information. Any continued use of fax machines should be documented and the justification for the expense signed off by the head of an agency.

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ENDNOTES

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