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**Department of Commerce
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AIES Dress Rehearsal Preliminary Findings and Recommendations

Annual Integrated Economic Survey Dress Rehearsal: Preliminary Findings and Recommendations

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The Census Bureau has reviewed this data product to ensure appropriate access, use, and disclosure avoidance protection of the confidential source data (Project No. P-7529180, Disclosure Review Board (DRB) approval number: CBDRB-FY24-ESMD010-004).

AIES Research Overview

Phase I: "The 78" Pilot 2022

- Goal: Understand response processes and further instrument refining
- Qualtrics instrument, 78 companies

Phase II: Response Spreadsheet Pilot 2023

- Goal: Induce independent response
- Response spreadsheet, about 900 companies

2022 AIES (Dress Rehearsal)

- Goal: Troubleshooting and infrastructure building
- New Centurion instrument, about 8,000 companies

Research Modalities



Survey Response Data and Paradata (N = 4,860)



Response Analysis Survey (RAS)
(N = 465)



Respondent Debriefing Interviews
(N = 44)



Respondent Usability Interviews
(N = 28)



Inbound Call Log (N = 924)

Positive feedback, too...

- “One of the things that I like about it because our company has grown significantly by acquisition was being able **to answer all the questions at one time for all of the entities. I really appreciated that.** Versus having multiple surveys that I have had to do historically.” – Debriefing Interview
- “When I got to the download spreadsheet, **it was easy...** We actually have 3 to 4 people working on [the survey], compiling it together, and submitting it as one. **It’s a little bit easier when we have the spreadsheet to work with as opposed to manually entering something into a screen.**” – Debriefing Interview
- “Very easy in our system. **The questions on the survey were straightforward. It’s easy to match the questions from the report** that I run so easy to populate.” – Debriefing Interview

Goal	Recommendation	Usability Testing	Dress Rehearsal	Future Research
Get feedback on the new flow	Test new survey flow in AIES Dress Rehearsal collection.	1 X	X	
Test key elements of the spreadsheet design	Include functionality to clean up establishment lists	X	X	
	Consider functionality to orient respondents within the spreadsheet	2 X		
	Continue to explore ways of communicating optionality at the unit level.	X		X
Gain additional information about response burden	Explore other ways of collecting non-numeric responses.	3 X	X	
	Prime respondents for the change		X	
	Consider cutting content			X
Develop respondent communications	Continue to develop response support materials.	X	X	
	Consider response support training.		X	
	Update letters to retain resonant messaging and drop discouraging messaging.	4 X	X	
	Consider additional research into communications materials.		X	X



Get feedback on the new flow

Three-step structure

Linear design

Overview [More information](#)

Welcome to the Annual Integrated Economic Survey (AIES).

Step 1: Verify location(s)

Verify information about each of the locations for your company.

**Please note, once Step 1 is completed, you will not be able to return to make changes*

Step 2: Company-level questions

Answer a series of questions about your company.

**Please note, once Step 2 is completed, you will not be able to return to make changes*

Step 3: Detailed data

A custom spreadsheet will be generated based on the responses to Steps 1 and 2. Provide answers for each location, note that some information can be combined and provided at the industry level.

[Continue](#)

Get feedback on the new structure

- **Finding 1:** The three-step design needs additional support.
 - “I didn’t know how many steps there were. I crossed my fingers, is this the end of it? You didn’t know what they were going to ask on the next step. **There was no way to get a full view of what are all the questions going to be, what are all the steps?** It was all unknown until you tried to do it.” – Debriefing Interview
- **Finding 2:** Linear design suppressed response.
 - “[I] would like the ability to be able to review questionnaire responses before submitting. There should be an option at the end to **preview survey responses so someone other than the preparer could review for accuracy before submission.** The inability to go back and edit after answering a question is **risky.**” – Debriefing Interview

Recommendations: *Get feedback on the new structure*

Dress Rehearsal Goal	Finding	Recommendation	Next Steps
Three-step design	The three-step design needs additional support.	Include flexible navigation and a more robust means of survey previewing.	Further develop survey preview and content selection tool.
Linear design	Linear design suppressed response.	Explore the ability to move more freely throughout the survey.	Develop ability to move forward and backwards through the survey.

2

Test key elements of the spreadsheet design

Include functionality to clean up establishment lists

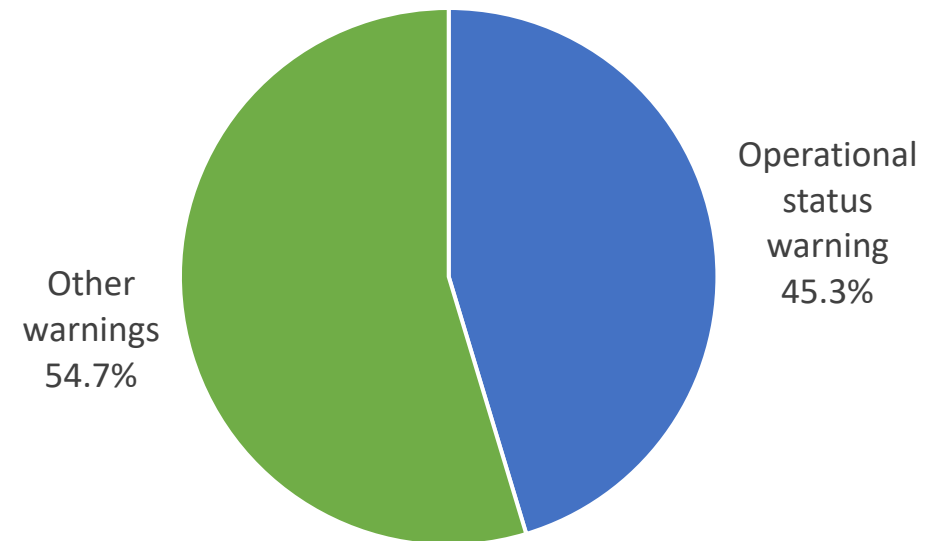
Consider functionality to orient respondents within the spreadsheet

Continue to explore ways of communicating optionality at the unit level

Test key elements of the spreadsheet design

- **Finding 3:** Larger companies struggled with Step 1.
- **Finding 4:** Respondents get lost in the spreadsheet.
 - “You **had to scroll horizontal[ly] instead of vertical[ly]**, and as you scrolled right, I had to keep going back to see what line I am on, **am I entering in the right information?** A freeze pane view would be good, or vertical presentation so you can scroll that way.” – Debriefing Interview

Percentage of triggered warning/error messages by type of message
(N = 68,693)*



*Total number of warning/error messages triggered. Respondents could trigger the same error more than once.

Test key elements of the spreadsheet design

- **Finding 5:** Respondents struggled with units.
 - “**First two rows are a glitch. I would just skip them and ignore them** if it’s just the two rows, that doesn’t give me information of which location you’re referring to.” – Usability Interview
- **Finding 6:** Rounding functionality surprised respondents.
- **Finding 7:** NAPCS reporting needs additional attention.
 - Missed
 - Cumbersome
 - Mismatched

Recommendations: Test key elements of the spreadsheet design

Dress Rehearsal Goal	Finding	Recommendation	Next Steps
Include functionality to clean up establishment lists	Large companies struggled with Step 1.	Develop download/upload functionality for Step 1.	Provide download/upload functionality for Step 1.
Consider functionality to orient respondents within the spreadsheet	Respondents get lost in the spreadsheet	Explore ways to freeze panes.	Freeze left columns.
Continue to explore ways of communicating optionality at the unit level	Respondents struggled with units.	Update ways of displaying KAUs to cue respondents	Update KAU display.
Test other key elements of the spreadsheet design	Rounding functionality surprised respondents.	Include instruction that entries will be rounded.	Include instruction on instructions tab.
	NAPCS reporting needs additional attention.	Investigate better performing ways of collecting NAPCS.	NAPCS investigations



3

Gain additional information about response burden

Explore other ways of collecting non-numeric responses.

Prime respondents for the change.

Gain additional information about response burden

- **Finding 8:** Error checking needs additional development.
 - “[My response generated] an error. The error report was **really weird**. It said it passed and then it had errors. **I don’t understand that.**” – Debriefing Interview

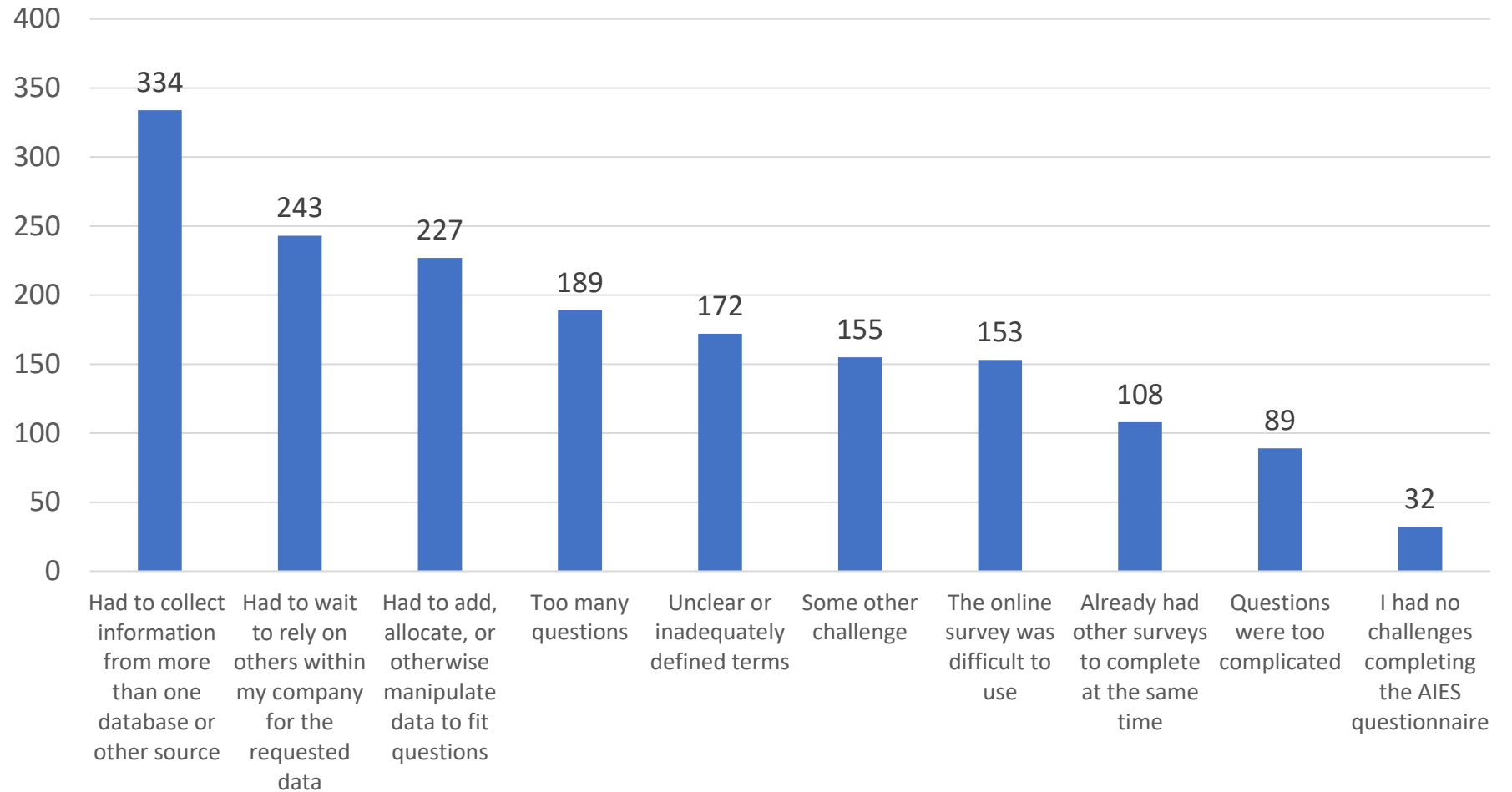
Code	Message	Record ID	Row	Column
INVALID_VALUE	Attempted to set value of "-177" for column EXPS_TAX_VRI, but the value did not pass validation checks	30000043331	5	EXPS_TAX_VRI
INVALID_VALUE	Attempted to set value of "0" for column CAPEX_OTI_USED_WRITN_TXT, but the value did not pass validation checks	30000043331	5	CAPEX_OTI_USED_WRITN_TXT
FORM_EXITED	The processing for Record(s) 20081347921 has completed checks	20081347921		
FORM_EXITED	The processing for Record(s) 30000043331 has completed checks	30000043331		
FORM_EXITED	The processing for Record(s) 20081347921 has completed checks	20081347921		

- **Finding 9:** Respondents rely on a survey preview.
 - “**Not being able to get the entire survey prior to entering the data in caused significant challenge.**” – RAS

Gain additional information about response burden

Finding 10: Content continues to be a challenge.

Which of the following, if any, were challenges to completing the AIES questionnaire?
(N = 465*)



*Note: Respondents could select all that apply.

Recommendations: Gain additional information about response burden

Dress Rehearsal Goal	Finding	Recommendation	Next Steps
Explore other ways of collecting non-numeric responses.	Error checking needs additional development.	Consider automatically checking submissions.	Update error labeling and implement integrated error checking.
		Update labels on error checking report.	
Prime respondents for the change	Respondents rely on a survey preview.	Make content previews more accessible and easier-to-use.	Further develop survey preview and content selection tool.
	Content continues to be a challenge.	Cognitively test misreported content and consider additional cuts.	Cognitive testing and content cuts.

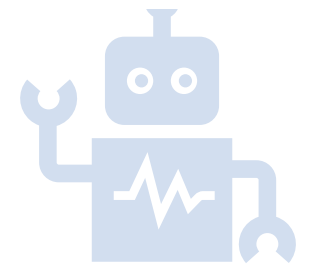
Cognitively test misreported content and consider additional cuts.

Cuts in Content:

48 total response fields, including:

Instrument Section	Number of Fields	Universe
Step 1: Pre-listed establishments	5	All
Step 1: Additional establishments	5	All who added estabs
Step 2: Company-level	14	All
Step 3: More granular data	7	Manufacturing companies
	10	All
	6	Retail, Wholesale, and Service companies
	1	One specific NAICS classification

Cognitive Testing



Robotics



E-Commerce

Estimate of Burden

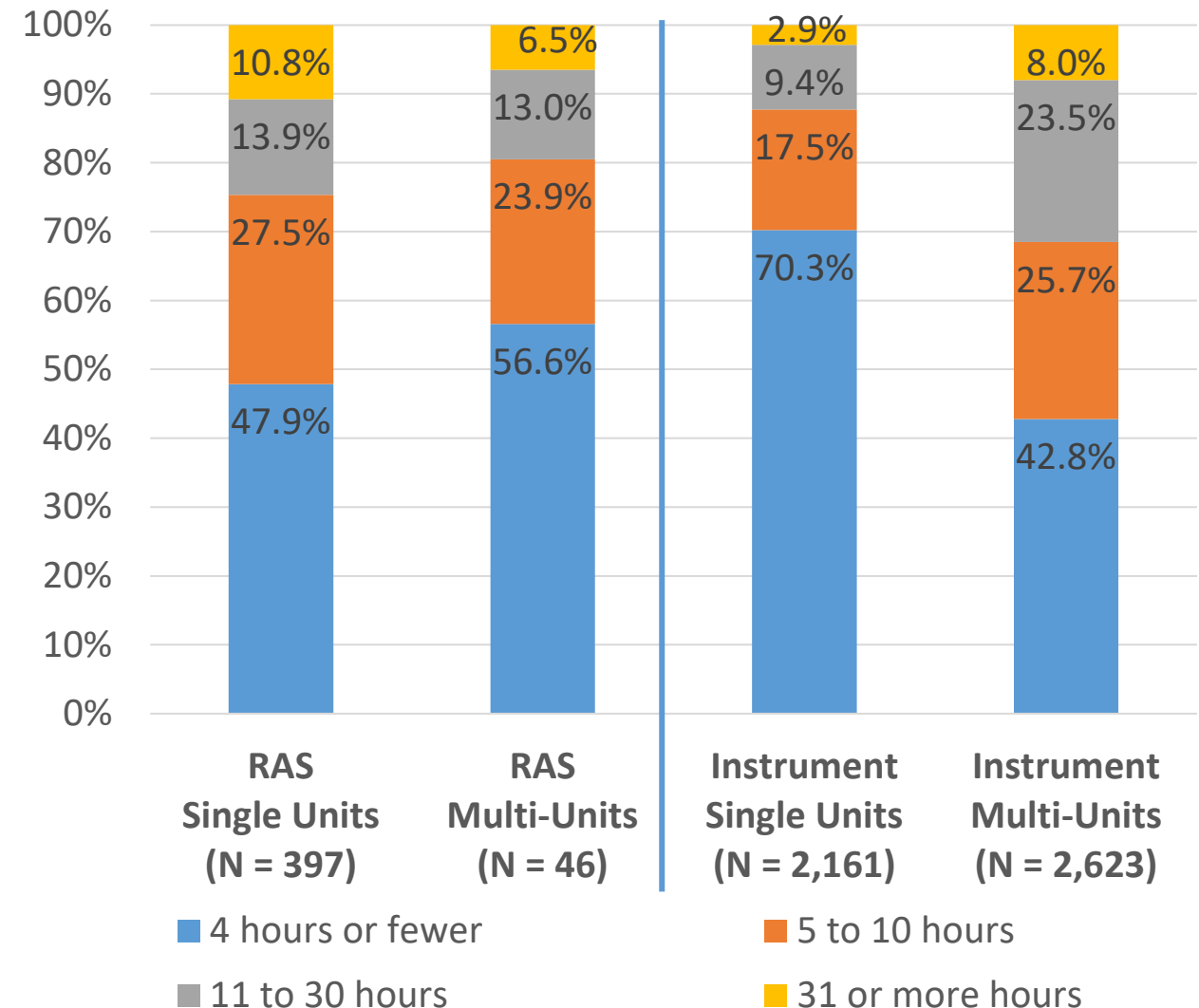
Source	Type	N	Median Burden
Response Analysis Survey	Overall	443	4.5
	Single Units	397	4.5
	Multi-Units	46	4
Instrument	Overall	4,784	4
	Single Units	2,161	2
	Multi-Units	2,623	6
Paradata*	Overall	4,860	1.1
	Same-Day Completion	3,159	0.5
	Multi-Day Completion	1,701	1.6

*Disclosure Review Board (DRB) approval number: CDRB-FY24-ESMD001-003



Approximately how long did it take to complete this survey?

Percentage responding by source and type of unit





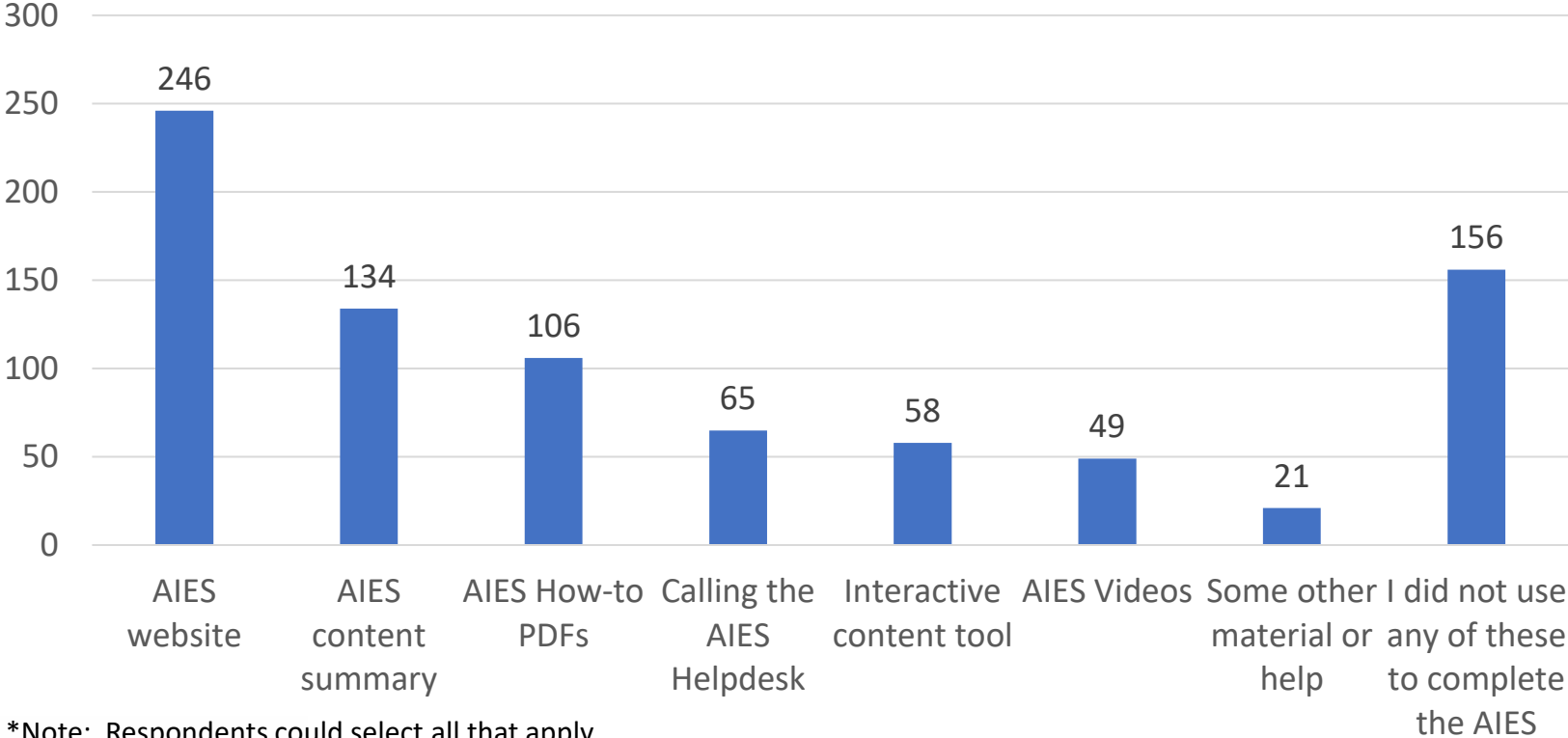
Develop respondent communications

Continue to develop response support materials.

Update letters to retain resonant messaging and drop discouraging messaging.

Develop respondent communications

Which of the following, if any, did you use to complete the AIES?
(N = 465*)



*Note: Respondents could select all that apply.



- **Finding 11:** Respondents report using the materials when they are relevant and accessible.
- **Finding 12:** Each communication piece serves a specific function.

Recommendations: Develop respondent communications

Dress Rehearsal Goal	Finding	Recommendation	Next Steps
Continue to develop response support materials.	Respondents report using the materials when they are relevant and accessible.	Review the ecosystem of communications materials to ensure that all pieces are accessible.	Review website for accessibility and ease of use.
Update letters to retain resonant messaging and drop discouraging messaging.	Each communication piece serves a specific function.	Additional communications-based research.	Conduct additional communications-focused research.

Conduct additional communications-focused research.



Environmental Scan

- Best practices for contacting businesses:
 - Letters
 - Messaging
 - Mail type and envelop features
 - Sequencing and timing
 - Length of field period
 - Support materials
 - Videos
 - Survey previews
 - Website



Secondary Analyses

- Pilot and Dress Rehearsal response
- Legacy response
- 2022 Economic Census

	Goal	Finding	Recommendation
1	Get feedback on the new flow.	Three-step design	The three-step design needs additional supports.
		Linear design	Linear design suppressed response.
2	Test key elements of the spreadsheet design.	Include functionality to clean up establishment lists	Large companies struggled with Step 1.
		Consider functionality to orient respondents within the spreadsheet	Respondents get lost in the spreadsheet
		Continue to explore ways of communicating optionality at the unit level	Respondents struggled with units.
		Test other key elements of the spreadsheet design	Rounding functionality surprised respondents. NAPCS reporting needs additional attention.
3	Gain additional information about response burden.	Explore other ways of collecting non-numeric responses.	Error checking needs additional development.
		Prime respondents for the change	Respondents rely on a survey preview.
		Content continues to be a challenge.	Cognitively test misreported content and consider additional cuts.
4	Develop respondent communications	Continue to develop response support materials.	Respondents report using the materials when they are relevant and accessible.
		Update letters to retain resonant messaging and drop discouraging messaging.	Each communication piece serves a specific function.

	Goal	Recommendation	Next Steps
1	Get feedback on the new flow.	The three-step design needs additional supports.	Further develop survey preview and content selection tool.
		Linear design suppressed response.	Develop ability to move forward and backwards through the survey.
2	Test key elements of the spreadsheet design.	Large companies struggled with Step 1.	Provide download/upload functionality for Step 1.
		Respondents get lost in the spreadsheet	Freeze left columns.
		Respondents struggled with units.	Update KAU display.
		Rounding functionality surprised respondents.	Include instruction on instructions tab.
		NAPCS reporting needs additional attention.	Additional research into NAPCS capture.
3	Gain additional information about response burden.	Error checking needs additional development.	Update error labeling and implement integrated error checking.
		Respondents rely on a survey preview.	Further develop survey preview and content selection tool.
		Cognitively test misreported content and consider additional cuts.	Conduct cognitive testing on misreported content.
4	Develop respondent communications.	Respondents report using the materials when they are relevant and accessible.	Review website for accessibility and ease of use.
		Each communication piece serves a specific function.	Conduct additional communications-focused research.

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4	Develop respondent communications.	Respondents report using the materials when they are relevant and accessible.	Review website for accessibility and ease of use.
		Each communication piece serves a specific function.	Conduct additional communications-focused research.

Key Takeaways:

Testing is worth it!

- Found the showstoppers
- First practice in collection
- Understand sources of burden
- Piloting is a proven method

Additional areas of investigation

- Production Implementation Research:
 - Respondent debriefing interviews
 - Additional Usability testing
- Outstanding Recommendations Research:
 - Cognitive interviewing
 - Communications-based research
- Survey Advancement Research:
 - Large firm response
 - Non-respondents and historically undercounted businesses

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Develop respondent communications.	Respondents report using the materials when they are relevant and accessible.	Review website for accessibility and ease of use.
	Each communication piece serves a specific function.	Conduct additional communications-focused research.