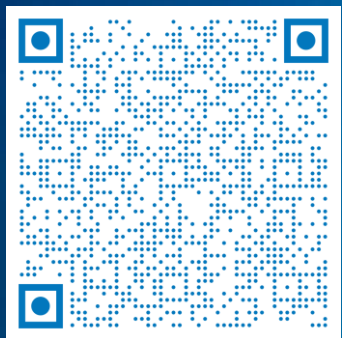# Developing More Effective Interview Materials for a World with Increasing Telephone Surveys

Ariana Welsh and Erica Yu
FCSM
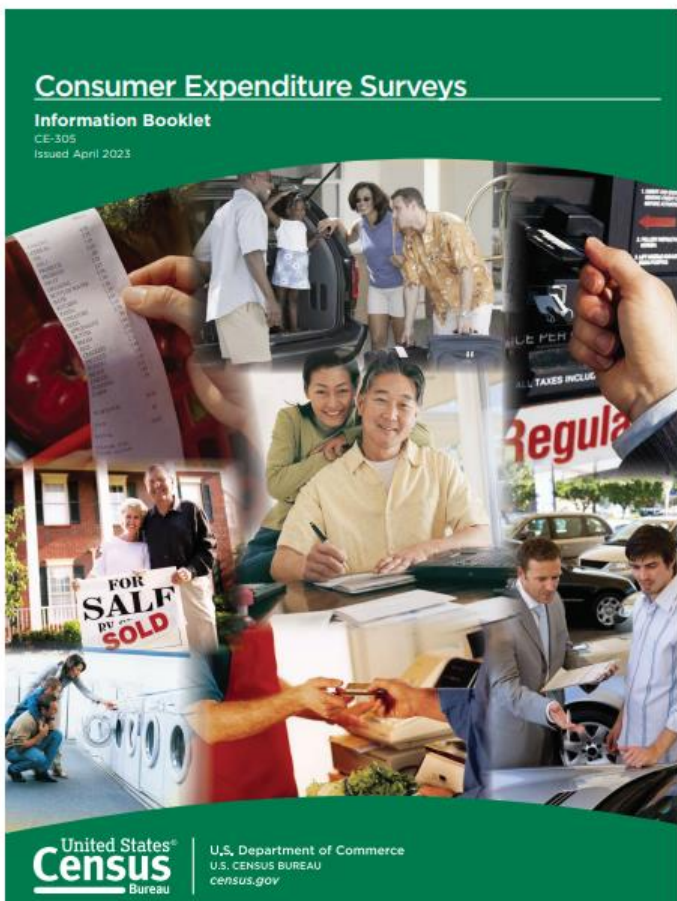**October 24, 2024**

Background

- The Consumer Expenditure Surveys are nationwide household surveys sponsored by the U.S. Bureau of Labor Statistics

- The Census Bureau collects the data for BLS in two surveys:
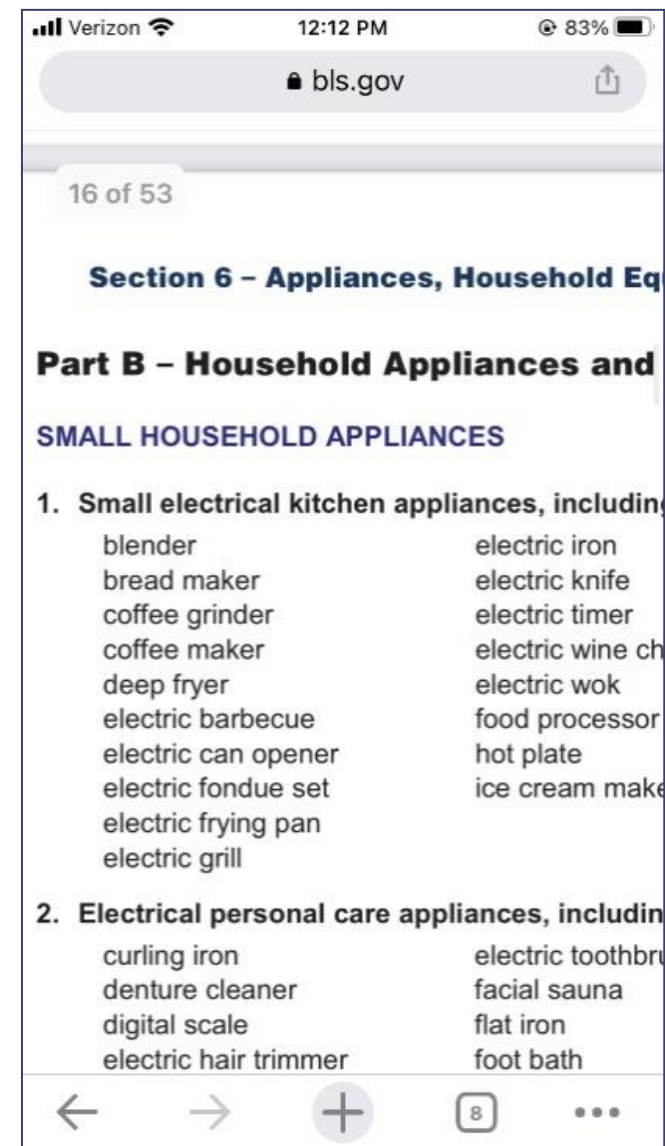 - Interview Survey
  - Diary Survey

Background

- The information booklet ("Infobook") is a paper booklet designed to assist in the CE surveys

- Acts similar to showcards, with examples of expenditure items for each question

- There is an electronic PDF available as well

Background

- CE Interview Surveys have been increasingly conducted over the phone

- 80% of our interviewers reported either "never" or "seldom" asking respondents to refer to the electronic PDF version over 12 months (2021 CE Field Staff Survey)

Current Online Infobook

- CE Interview Survey Infobook is not optimized for mobile use – currently in PDF format (at right)

- A visual re-design of the Interview Survey Infobook was conducted to improve overall usability and look in two phases

- No content was changed – this was outside of the team's purview

Phase 1

Phase 1: Methods

- 25 research participants
- Participants were given access to a test version of the Infobook while responding to an abridged Interview Survey *(in-person)*
- Each Infobook version was a different combination of visual redesign features
- Participants used their own smartphones to access the test version

Summary of demographics (n=25)

Variable	Mean or Count
Age	Mean = 44 years (SD = 11.9; Min = 24; Max = 64)
Smartphone usage frequency	Always = 18 out of 25 (72%) Very often = 7 out of 25 (28%) Sometimes = 0 out of 25 (0%) Rarely = 0 out of 25 (0%)
Internet browsing on smartphone frequency	Always = 13 out of 25 (52%) Very often = 9 out of 25 (36%) Sometimes = 3 out of 25 (12%) Rarely = 0 out of 25 (0%)

Visual Redesign Areas

■ *Number of examples displayed: Full Example List, Limited Example List*

3. Electrical floor cleaning equipment

floor polisher/buffer	hand vacuum
rug shampooer	vacuum cleaner

4. Other household appliances

air purifier	burglar alarm	carbon monoxide detector
home security device	smoke detector	trash compactor
water filters	water leak alarm	

VS.

3. Electrical floor cleaning equipment

floor polisher/buffer	hand vacuum
rug shampooer	vacuum cleaner

4. Other household appliances

air purifier	burglar alarm	carbon monoxide detector

✛ **VIEW MORE EXAMPLES**

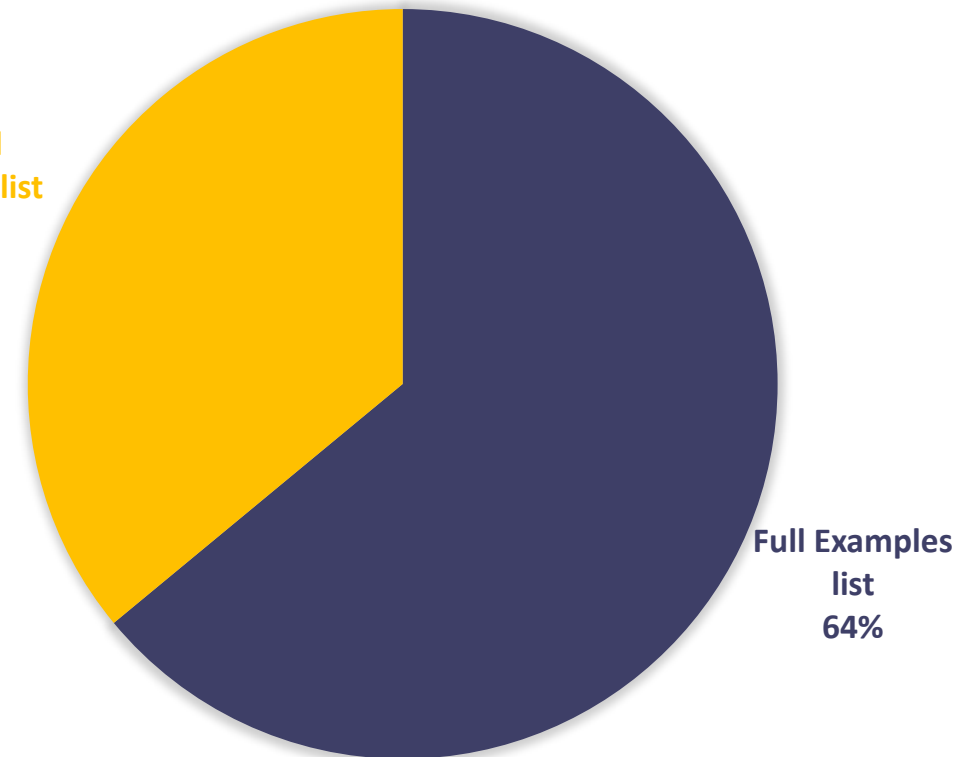# Results: Number of Examples (n=25)

Majority of participants (16 out of 25) preferred the full-length list

- "easy enough to skim"
- "I can just scroll down as someone talks"

For the longest lists, multiple participants suggested aggregating items into higher level clusters

- Baseball bat
- Baseball glove
  } Baseball

Limited Examples list 36%

Full Examples list 64%

■ *Recommendation: full-length examples list*

BLS

Visual Redesign Areas

■ *Order of examples displayed: Alphabetical, Random*

3. Electrical floor cleaning equipment

floor polisher/buffer	hand vacuum
rug shampooer	vacuum cleaner

4. Other household appliances

air purifier	burglar alarm	carbon monoxide detector
home security device	smoke detector	trash compactor
water filters	water leak alarm	

— VIEW FEWER EXAMPLES

VS.

3. Electrical floor cleaning equipment

floor polisher/buffer		hand vacuum
rug shampooer	vacuum cleaner	

4. Other household appliances

trash compactor	water filters	smoke detector

＋ VIEW MORE EXAMPLES
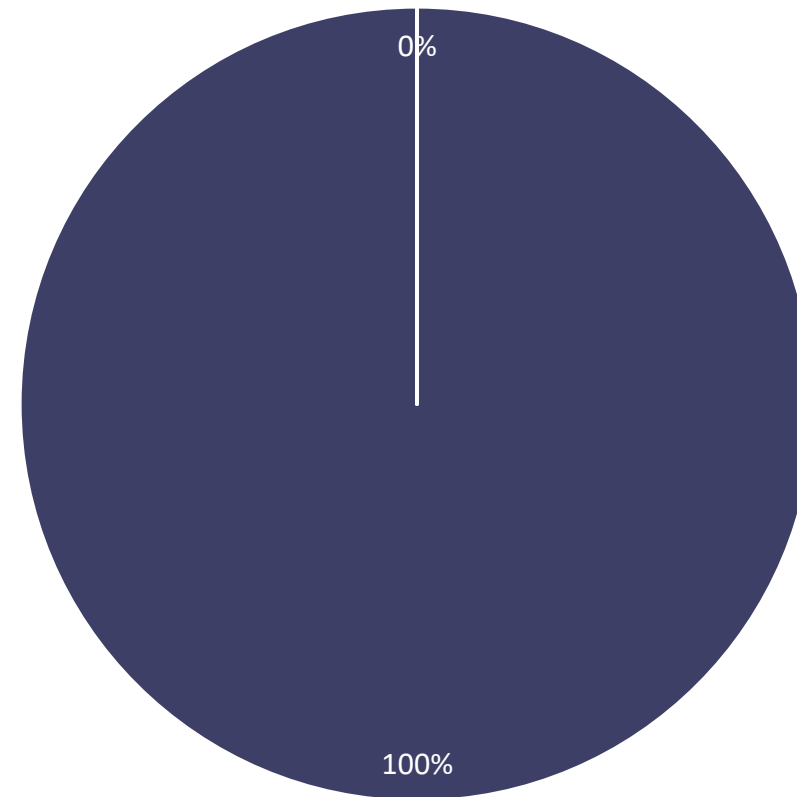
Results: Order of Examples (n=5)

All participants preferred alphabetical order
- Participants were able to search for items easier in alphabetical list

Random order:
- Several participants suggested listing more common items first

Random assignment design was discontinued early in the study

0%

100%

■ Alphabetical ■ Random Order

BLS

Visual Redesign Areas

■ *Structure of web pages: Paged, Infinite Scroll*

cooperative

2. Property taxes

3. Property insurance

4. Management

5. Repairs or maintenance, including lawn care or snow removal

6. Improvements

7. Recreational, including swimming, golf, or tennis, facilities

8. Security, including guards or alarm systems

9. Utilities, such as gas, electricity, water, heat

10. Trash collection

11. Other (specify)

◂ Section 2   Section 6 ▸

Section List   ☰

vs.

SECTION 3 – OWNED LIVING QUARTERS AND OTHER OWNED REAL ESTATE

or tennis, facilities

8. Security, including guards or alarm systems

9. Utilities, such as gas, electricity, water, heat

10. Trash collection

11. Other (specify)

SECTION 6 – HOUSEHOLD APPLIANCES AND OTHER SELECTED ITEMS

SMALL HOUSEHOLD APPLIANCES

1. Small electrical kitchen appliances
   blender
   bread maker
   coffee grinder
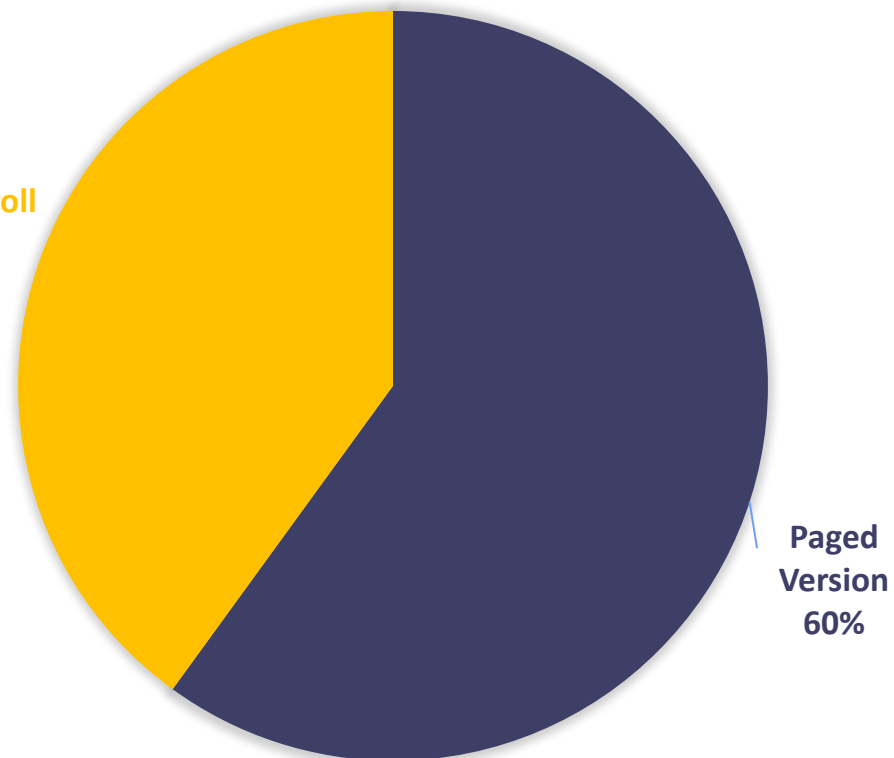
Section List   ☰

Results: Webpage Structure (n=25)

Majority *(15 out of 25)* preferred the paged version

- Familiar structure
- Liked the clear end to each section

Infinite scroll version

- Familiar structure
- Less effort to move around between pages
- Easy to lose one's place
- Allowed participants to move ahead of the interviewer in the survey

Infinite Scroll Version 40%

Paged Version 60%

■ *Recommendation: paged version*

BLS

Visual Redesign Areas

■ *Navigation: Static Homepage Menu, Navigation Bar*

**Consumer Expenditure
Interview Survey**

Table of Contents

2	Rented Living Quarters
3	Owned Real Estate
6	Appliances
13	Medical and Health Expenses
17	Trips and Vacations
18	Clothing and Clothing Services

PRIVACY ACT STATEMENT
The U.S. Census Bureau is conducting the Consumer Expenditure Quarterly Interview Survey for the Bureau of Labor Statistics of

VS.

SECTION 2 – RENTED LIVING QUARTERS

Included in the Housing Unit

1. Cooking stove, range, or oven

2. Refrigerator or home freezer

3. Built-in dishwasher

4. Portable dishwasher

5. Clothes washer

6. Clothes dryer

Included with the Rental Payment

1. Electricity

2. Gas

3. Piped-in water

4. Heating

5. Trash/garbage collection

2PNFA

Section List ☰

Results: Navigation (n=24)

- The majority of participants (17 out of 24) preferred the navigation bar and overlay menu

- Participants found the navigation bar less burdensome when moving between sections

HOWEVER:

- Many participants did not use the navigation bar due to not recognizing its function on the screen

- For some participants, their browser blocked visibility of navigation bar

Recommendation: static homepage menu, unless a navigation bar with a revised design and better navigation features can be created

Static Homepage 29%

Navigation Bar and Overlay Menu 71%
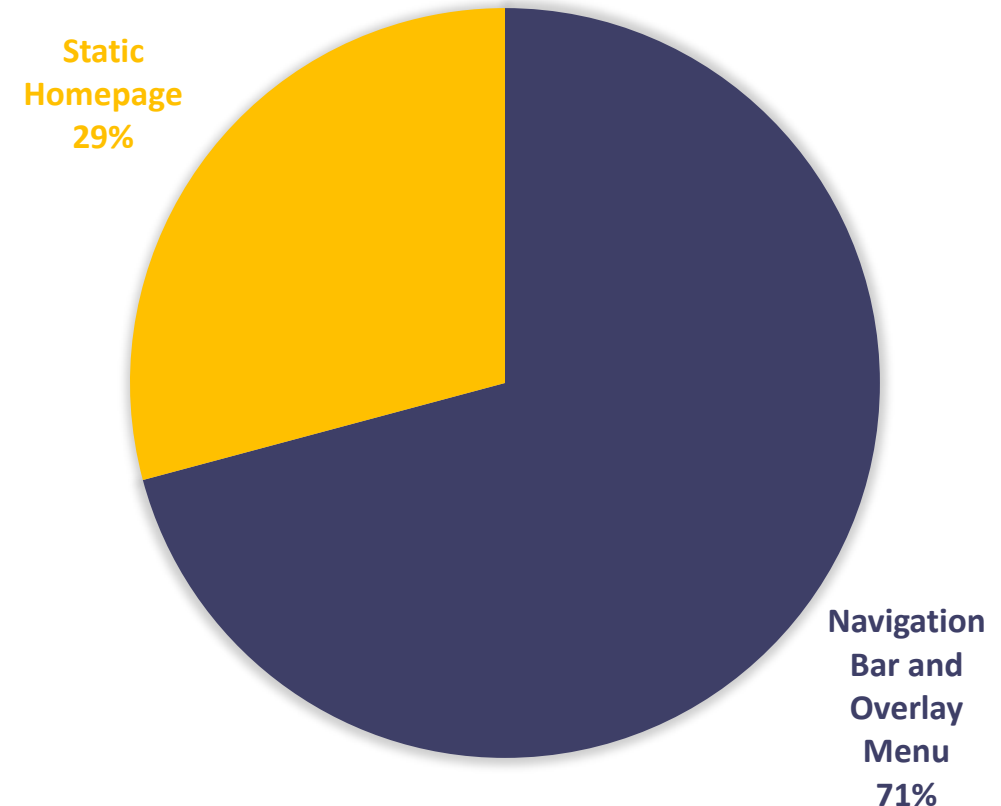
Phase 2

Phase 2: Methods

- 20 participants

- Mix of in-person and remote interviews

- Participants accessed the Infobook using their own device
  - In remote interviews, used same device for the interview video call

- Aimed for a range of smartphone usage frequency, but:
  - All 20 reported "very often" or "always" for smartphone usage and for using a smartphone for browsing the internet

Questions for Phase 2

How do participants react to the proposed version (which uses optimal elements from previous phase)?

Are participants able to easily navigate the Information Booklet using the redesigned navigation menu?

Which question reading style most effectively encourages participants to engage with the Information Booklet?

Current Study Infobook Design

Question Reading Styles

Infobook
Reference
Only

Scripted
Question
Only

Scripted Question
+ Infobook
Reference

Take a look at
Section 6.
Did you have any of
those expenses?

Digital book
readers or tablets?

We're on #7 now –
Digital book
readers or tablets?

BLS

Observations

- **All participants utilized the Infobook during the interview without need for assistance**
  - ▶ About half of participants did not move ahead in Infobook

- **18 out of 20 participants did not use the navigation menu during the interview (most participants recognized it but reported it to be redundant during the discussion session)**
  - ▶ Green buttons were utilized instead even when jumping between sections

pollen masks
syringes
vaporizers

⬛ Section 6   Section 16 ⬛

BLS
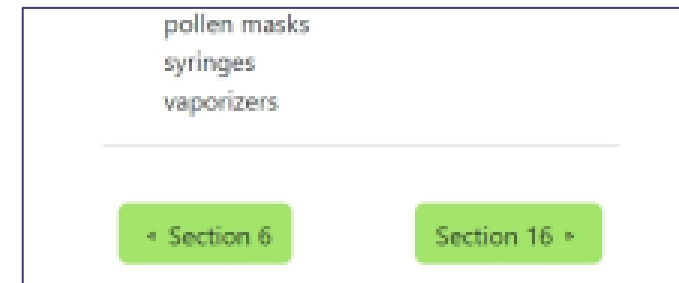
Preferences for Question Reading Style

Question Reading Style	Preference Count
Scripted Question + Infobook Reference	10
Infobook Reference Only	8
No preference	2
Scripted Question Only	0

We're on #7 now – Digital book readers or tablets?

Take a look at Section 6. Did you have any of those expenses?

Digital book readers or tablets?

Impact of Question Reading Style on Data Quality

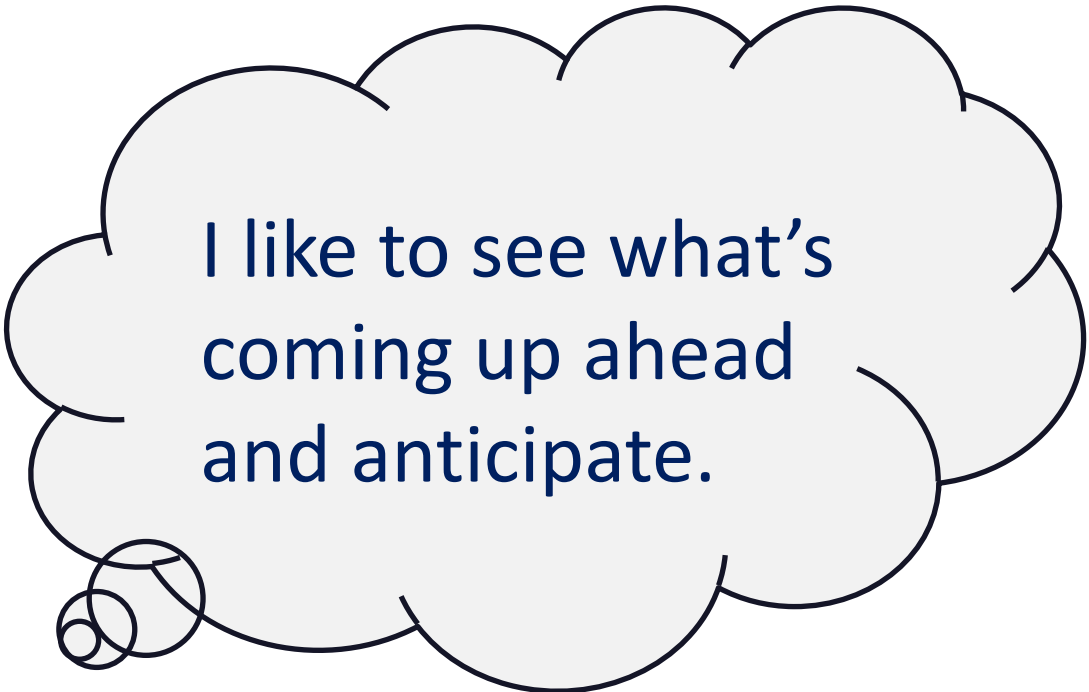- Section duration
  - Infobook Reference Only had shortest duration
- Number of items reported
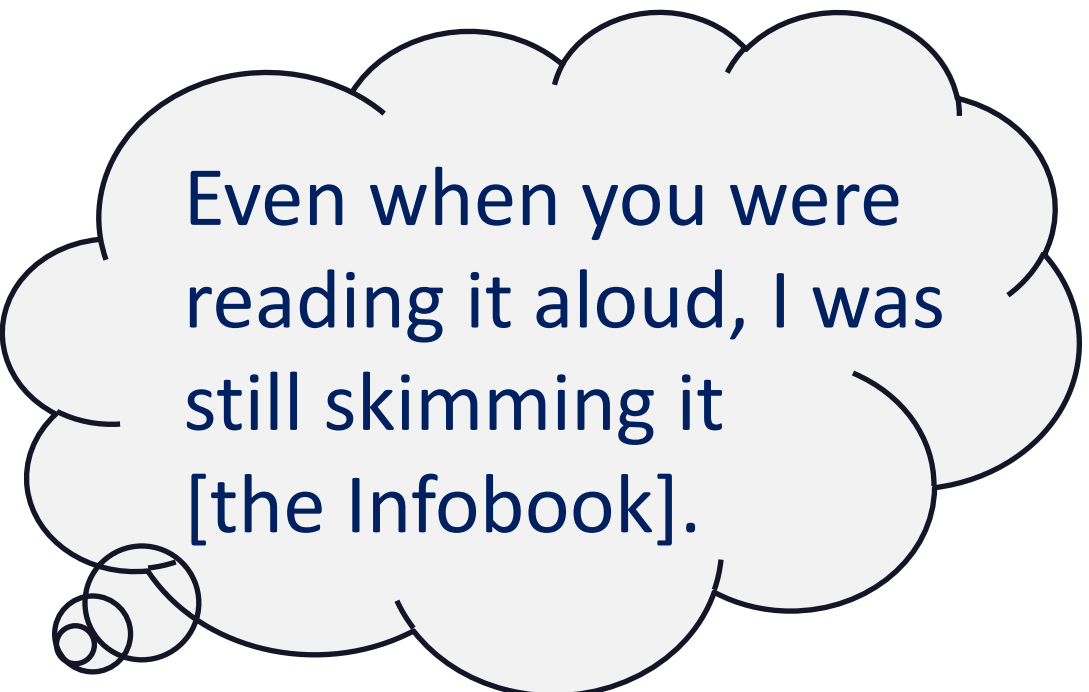 - Infobook Reference Only had lowest number of items reported
- Missed expenses identified during debriefing
  - Infobook Reference Only had most missed expenses

Infobook Reference Only

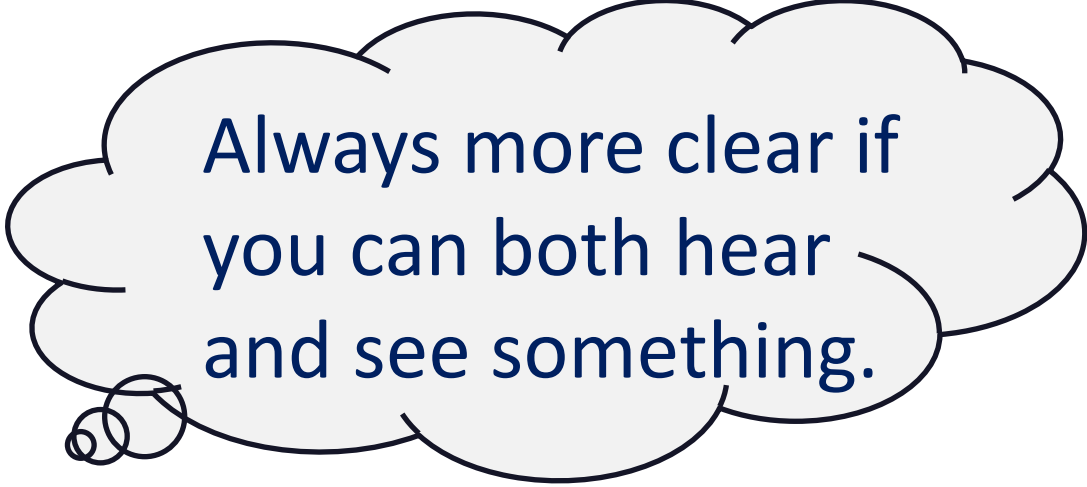I like to see what's coming up ahead and anticipate.

Even when you were reading it aloud, I was still skimming it [the Infobook].

- Multiple participants liked the ability to move more quickly through the interview compared to if the interviewer read the questions.

- Underreporting: lower number of items reported for this style and confirmed missed expenses

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Scripted Question + Infobook Reference

- Style was more engaging
- Style resulted in more interaction with the interviewer
- Some participants did report expenses in advance by reading ahead
- One participant reported feeling overwhelmed by the extra information given by the interviewer

Always more clear if you can both hear and see something.

BLS

Conclusion

- All participants were able to successfully use the experimental version of the online Infobook

- The Navigation menu was not utilized much

- About half of participants preferred the *Scripted Question + Infobook Reference* question reading style

- Although some participants preferred the quicker Infobook Reference Only style, this style may miss expenses

Recommendations

- Design a navigation style that is streamlined and draws user's attention

- Align Infobook content with interview questions

- Participants preferred organizational design features that would help them answer the survey

- Encourage interviewers to use the *Scripted Question + Infobook Reference* approach

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To reach out for further questions:

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Q&A Period