

Using Paradata to Evaluate the Effect of Changes in the Small Screen Layout



Agenda

- Importance of mobile friendly surveys

- Presenting grid table questions on small screens

- Adjusting the small screen layout in the Quality of Life survey

- Using paradata to evaluate layout adjustment

- Conclusion

- Next steps


Small Screen Layout – why is it important?

- Majority of web responses are on mobile or tablet
- As high as 72% mobile responses in the Quality of life Survey 2022
- 96% of Norwegian population aged above 9 have access to a smartphone at home and 92% have access to a PC at home
- Mobile-first approach for new surveys and adapt long running surveys to be mobile-friendly



Presenting grid table questions on small screens

- Tables require scrolling
- Radio buttons too small on mobile
- Adjusted to Item-by-item on small screens with large buttons
- What is the best layout design?

 Statistisk sentralbyrå
Statistics Norway English ▾

Below are different thoughts and problems that can occur sometimes.

How much has each problem bothered or troubled you in the last 14 days?

	Not at all	A little	Quite a bit	Extremely
Nervousness or shakiness inside	<input checked="" type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Suddenly scared for no reason	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling fearful	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Difficulty in falling asleep or staying asleep	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling hopeless about the future	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling down or blue	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Feeling lonely	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Worrying too much about things	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Back Next

Quality of Life Survey 2022

2022

12:48 4G

Statistisk sentralbyrå
Statistics Norway

English

Below are different thoughts and problems that can occur sometimes.

How much has each problem bothered or troubled you in the last 14 days?

Nervousness or shakiness inside

Not at all

A little

Quite a bit

Extremely

Back Next

12:48 4G

Statistisk sentralbyrå
Statistics Norway

English

Suddenly scared for no reason

Not at all

A little

Quite a bit

Extremely

Back Next

22:42

Statistisk sentralbyrå
Statistics Norway

English

Feeling fearful

Answer required.

Not at all

A little

Quite a bit

Extremely

Don't know

Rather not answer

Back Next

AA blaise5test.ssb.no

AA blaise5test.ssb.no

AA blaise5test.ssb.no

- Web survey with many grid tables
- Pagination design (one item per page)
- Respondents might forget the introductory group question text

Pagination versus Scrolling

2022

The 2022 screenshots show a survey interface with three screens. Each screen has a 'Back' button and a 'Next' button at the bottom. The first screen asks 'How much has each problem bothered or troubled you in the last 14 days?' with options: Not at all, A little, Quite a bit, and Extremely. The second screen asks 'Suddenly scared for no reason' with the same options. The third screen asks 'Feeling fearful' with the same options and a red warning icon indicating 'Answer required'.

2023

The 2023 screenshots show a survey interface with three screens. The 'Next' button is missing, and the survey continues by scrolling down. The first screen asks 'How much has each problem bothered or troubled you in the last 14 days?' with options: Not at all, A little, Quite a bit, and Extremely. The second screen asks 'Feeling lonely' with the same options. The third screen asks 'Feeling fearful' with the same options and a red warning icon indicating 'Answer required'.

Paradata

- Audit trail Data:
 - Small screen on Mobile
 - Previous Page
 - Response time
 - (Route) Error messages
 - Breakoff rate



Paradata

- Audit trail Data:
 - **Small screen on Mobile**
 - Previous Page
 - Response time
 - (Route) Error messages
 - Breakoff rate
- Using paradata we find respondents on mobile that sees the small screen layout
- Filter out respondents using both PC and small screen



Paradata

- Audit trail Data
 - Small screen on Mobile
 - **Previous Page**
 - Response time
 - (Route) Error messages
 - Breakoff rate

- Respondents might click previous page because they feel the need to see the introduction text again
- Differentiate between questions
- Change their response



Paradata

- Audit trail Data
 - Small screen on Mobile
 - Previous Page
 - **Response time**
 - (Route) Error messages
 - Breakoff rate
- Response burden
- Experience issues
- Time to navigate the survey



Paradata

- Audit trail Data
 - Small screen on Mobile
 - Previous Page
 - Response time
 - **(Route) Error messages**
 - Breakoff rate
- Are respondents more likely to miss a question in the scrolling layout?
- Response is required, respondents receive route error
- Inadequate question formulation



Paradata

- Audit trail Data
 - Small screen on Mobile
 - Previous Page
 - Response time
 - (Route) Error messages
 - **Breakoff rate**
- Do respondents break off differently in compared layouts?
- May indicate high response burden

Results

From 2022 (pagination) to 2023 (scrolling) we saw:

- Average number of previous page clicks per respondent decreased
- Average number of route errors experience per respondent decreased
- Response time remained the same
- Lower share of respondents' experience route error at least once
- Lower breakoff rate

Year	2022	2023	
Indicator	Average	Average	P-value
Previous Page actions (count)	0.92	0.07	*
Route Errors (count)	1.40	0.21	*
Response time (seconds)	342	343	Not significant
Indicator	% of N	% of N	
Experienced at least one Route Error	56 %	15 %	*
Breakoff	4.9 %	3.7 %	*

* p<0.001



Conclusions

- We saw the same pattern on questions where the layout remained the same between the years
- Cannot isolate if improvements on paradata indicators are due to the layout
- We need to do more research...



Next steps

- Randomized experiments
- Use the same paradata indicators
 - And develop more indicators
- Future research:
 - Other mobile alternatives for grid questions
 - Auto Forward / Auto Enter
 - Differentiate presentation of multiple-choice questions and single choice questions



Questions

