

CORE|DATA



The way you ask questions matters!

Results of CoreData's online survey experiment
among Australians

January 2024

Snapshot

Anyone can write a survey, but not everyone can do it well. The ‘rubbish in, rubbish out’ philosophy is important to understand when it comes to market research, as the insights are only as good as the questions you ask.

In a recent [article for Marketing Week](#), Mark Ritson espoused the benefits of using qualitative research to identify the appropriate variables to ask consumers about, and only then using quantitative surveys to measure the outcomes. This ensures you’re asking consumers their opinion about the things most relevant and important to them, rather than the things you think matter.

Ensuring your questions are an accurate reflection of consumers’ world view is of course critical. But the way you ask the question also matters, as a recent experiment by CoreData with nearly 2,000 Australians found. We tested the impact of two commonly used question formats on survey responses, the multiple-choice and the forced-choice question types, and found they produced very different results.



Some context...

The multiple-choice question, also known as the ‘check all that apply’ or ‘check-all’ question, provides a list of possible responses and asks the respondent to select or check all items that apply to them. Despite its popularity, this question format has some well-known disadvantages. One of these is *response order effects*; in self-administered surveys, options shown first are more likely to be chosen (*primacy effects*), while in interview-based surveys, options spoken last by the interviewer are more likely to be selected (*recency effects*). This can be accounted for somewhat through randomisation of the response options.

Perhaps a bigger issue is that the check-all format is also prone to *survey satisficing*. This occurs when respondents, seeking to reduce the cognitive load of answering the survey, engage in strategies that enable them to complete the survey faster or in a satisfactory way. The outcome? Respondents choose only *a few or some* items that apply to them, resulting in underreporting. For this reason, response options should be carefully considered during the question design phase, and only those that have been proven to be relevant or important to consumers (based on qualitative research) included. Where there is no budget to do qualitative research to inform the quantitative research, which is often the case, it’s essential to keep the list as short as feasible with an ‘Other (specify)’ option to acknowledge the list is not exhaustive.

An alternative to the check-all question format is the ‘forced-choice’ approach, which many quantitative researchers recommend. In this format, each item is asked separately, and respondents are ‘forced’ to choose an answer (eg. ‘Yes’ or ‘No’). Compared to the check-all format, a forced-choice approach allows for deeper cognitive processing and therefore yields higher ‘yes’ responses and more accurate results. However, it also has its downsides. Asking the question this way takes up more space in the survey and takes longer to answer compared to a checklist. The battery of questions, when presented in a grid or matrix, is also susceptible to *straight-lining*, whereby the respondent rushes through, clicking the same response every time. Other researchers also point to *acquiescence response bias*, which is the tendency to agree with an assertion regardless of content, as the reason forced-choice formats tend to result in more ‘yes’ responses than the check-all format.

What we did

CoreData, with the support of our partners at Cint, conducted a survey experiment among 1,785 Australian adults in September 2023 to compare their answers to both question formats. Half (897 respondents) were randomly assigned to the check-all question and the other half (888 respondents) to the series of forced-choice questions. Sample matching was undertaken to ensure respondents assigned to each question format were similar in terms of age, gender, employment, educational attainment, and income, to avoid introducing any sampling bias.

Those assigned to the check-all question were asked 'Which of the following factors do you believe are important in being part of a community?', followed by a list of nine items including an 'Other (specify)' option. Those assigned to the series of forced-choice questions were asked 'For each factor below, please indicate whether you believe it is important in being part of a community or not.' The same eight items in the check-all question (excluding 'Other') were shown, and respondents had to choose between 'Yes, it is important' and 'No, it's not important'. A separate question 'Are there any other factors that are important in being part of a community?' was asked to those shown the forced-choice question as an equivalent to the 'Other (specify)' option seen by those answering the check-all question format.



What we found

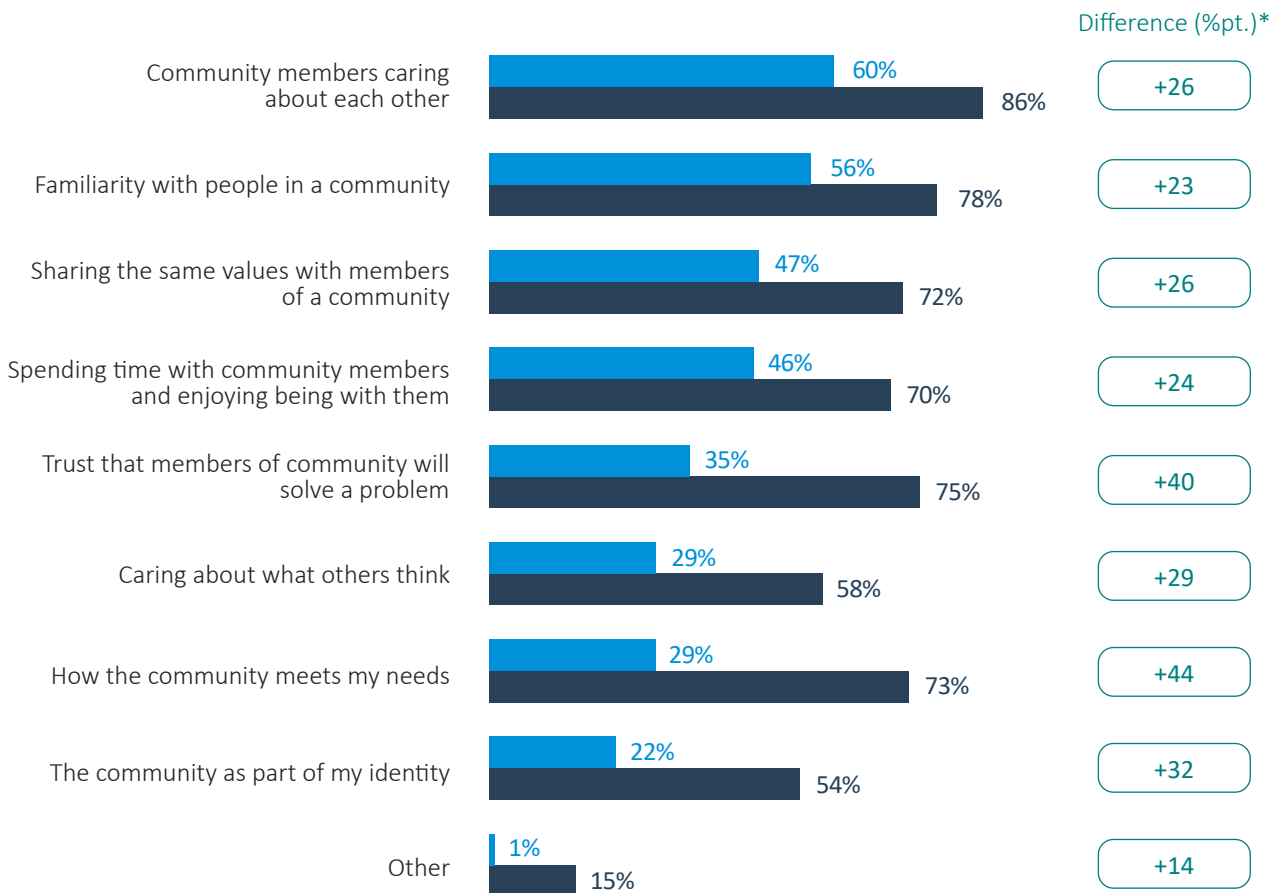
1 It takes longer to answer the forced-choice format

On average, respondents shown the forced-choice format took significantly more time to answer (72 seconds) than those shown the check-all question (31 seconds). More than three quarters (77%) of those in the check-all group completed the question within 30 seconds, compared to only 40% in the forced-choice group. Previous research suggests that longer response time for the forced-choice method can indicate deeper cognitive processing, since respondents are encouraged to make a decision for each item. Another possible reason is mechanical: the series of forced-choice questions requires more clicks or selections compared to the check all question, hence the longer response time.

2 The forced-choice question format leads to higher endorsement rates

Endorsement rates, meaning the proportion of respondents who selected 'yes' to an item across all nine items, are significantly higher in the forced-choice format than the check-all format. Differences range from 14 to 44 percentage points (average of 29 percentage points). Respondents shown the forced-choice question endorsed almost twice the number of items (5.8 items), on average, as those who were shown the check-all question format (3.2 items). These results support earlier work that found higher levels of endorsement in forced-choice questions compared to check-all questions.

Endorsement rates of items in check-all and forced-choice question formats



*Note: Difference = % yes in forced-choice - % yes in check-all
 Mean: Check-all group n = 897, Forced-choice group n = 888

■ Check-all 3.2
■ Forced-choice 5.8

Number of 'yes' items (average)

3

Desktop users shown the forced-choice format took longer to respond and may have greater incentive to straight-line than mobile users

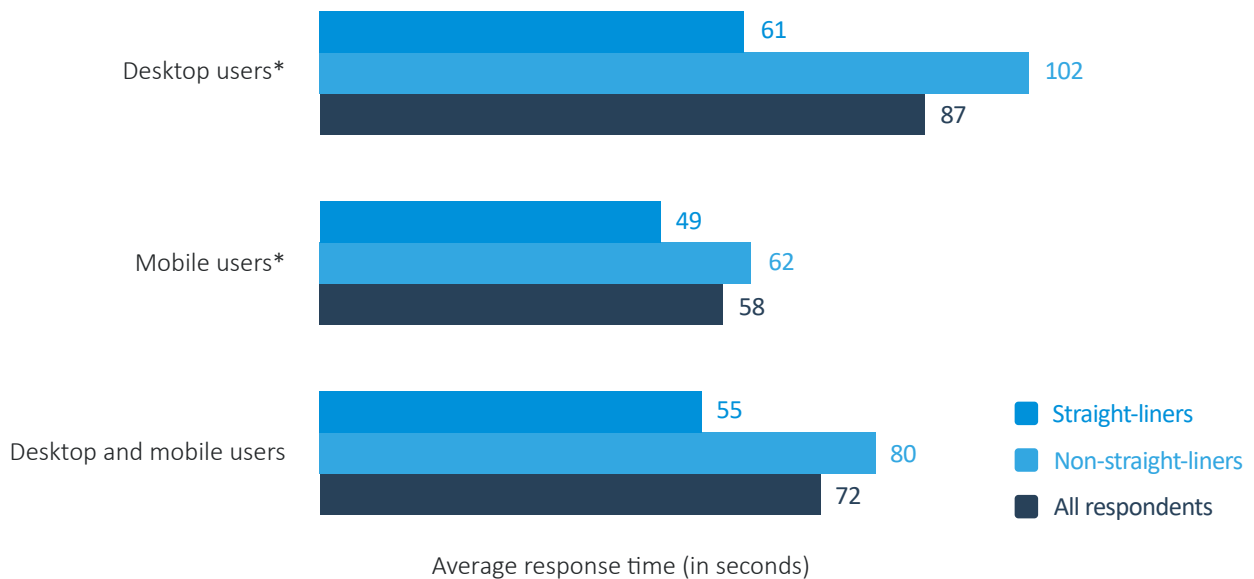
While the check-all question was displayed similarly in desktop and mobile devices, the series of forced-choice questions were presented differently. All items were presented in a grid or matrix on desktop devices, but each item was shown as an individual single-response question on mobile devices as part of the online survey platform's mobile optimisation feature.

There were more mobile users (54%) than desktop users (46%) among the respondents. On average, desktop and mobile users completed the check-all question within the same time period (31 seconds), however, desktop users answering the forced-choice format took much longer (87 seconds) than mobile users (58 seconds). This suggests the forced-choice format could be more difficult to answer when presented in a grid format, rather than as individual single-response questions.

Grid questions are prone to straight-lining and less differentiated responses. More than a third (34%) shown the forced-choice format were identified as straight-liners, and the incidence was slightly higher among desktop users (36%) than mobile users (33%).

Straight-liners completed the series of forced-choice questions within a shorter time regardless of the device used. However, desktop users or those who were shown the grid, may have greater incentive to straight-line than mobile users. On average, desktop users who did not straight-line completed the questions in 102 seconds while straight-lining mobile users finished in 61 seconds—a 41-second difference. Meanwhile, mobile users who did not straight-line completed the questions in 62 seconds (on average), only 13 seconds longer than those who straight-lined (49 seconds).

Average response time in forced-choice questions among straight-liners and non-straight-liners by type of device (in seconds)



Note: *Desktop users were shown the series of forced-choice questions in a grid or matrix while mobile users were shown individual single-response questions.

Base: Forced-choice respondents; Desktop users, straight-liners $n = 146$, non-straight-liners $n = 265$, all respondents $n = 411$; Mobile users, straight-liners $n = 157$, non-straight-liners $n = 320$, all respondents $n = 477$; Desktop and mobile users; straight-liners $n = 303$, non-straight-liners $n = 585$, all respondents $n = 888$.

Conclusion

Survey design and framing matters. The survey experiment shows clear differences in results among those who responded to the question framed as check-all and those shown the series of forced-choice questions. The forced-choice questions took longer to complete, and also led to higher endorsement rates than the check-all question. Further investigation is required to identify which format yields estimates that are closer to the true value, but the results highlight the tightrope researchers walk when attempting to balance data quality and cognitive burden on respondents. While the experiment suggests there are slight differences in the way desktop and mobile users answer survey questions, especially when the same question is displayed differently, a more in-depth examination is needed to determine whether these differences have a significant impact on data quality.

Practitioner Implications

There is no one-size-fits-all in survey design. The 'right' question format will depend on the research objectives and the context in which the survey is conducted. The check-all format may suffice if the goal is to understand the top one to three drivers or important factors. However, the forced-choice format may be more appropriate if the researcher wants to understand the complete picture, for instance identifying the assets within a portfolio.

For both question formats, it is important to keep response options or items at a relatively small number to minimise the difficulty of the task and reduce the burden on the respondent completing the survey. Grid questions, which evaluate one or more rows of questions using the same set of response column choices, appear efficient. However, these types of questions may also result in poor survey-taking and should therefore be used with caution. Ultimately, the role of the research partner is to recommend a solution that best meets the research needs, while putting data quality front and centre.



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About Us

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