**Better response through respondent inclusiveness: embedding accessible design into data collection culture.**

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This paper is the opinion of the authors and does not necessarily represent the views of the ABS.

**Abstract**

Inclusive questionnaire design removes barriers to digital survey participation for many hard to reach respondent groups, enabling efficient self-response to surveys, and reducing survey nonresponse. Respondents with disabilities, with low literacy, in remote areas or with other diverse characteristics, add richness to statistical survey data. Considering the needs of these groups throughout development to enable their full participation also improves the survey experience for other respondents. Meeting accessibility criteria is a mandatory requirement for many data collection organisations, and is widely regarded as a core need for maximising representative survey response and efficiency of data collection.

However, despite well-established frameworks (such as the Web Content Accessibility Guidelines) and research strategies (such as commonplace user testing techniques), difficulties emerge when implementing accessible solutions in a complex organisational environment. Like many nonresponse reducing strategies, accessible design cannot be applied through the work of an individual role. Accessibility principles affect many parts of the questionnaire development process that are carried out by various stakeholders in a large organisation. In this environment, implementing changes to improve accessibility relies upon the skills and collaboration of many teams, including developers, designers, and questionnaire writers.

The Australian Bureau of Statistics has taken considerable steps to embed accessibility into its production of digital data collection instruments, to meet mandatory requirements, reduce nonresponse among hard to reach groups, and improve efficiency of data collection processes. Underpinning successful technical implementation are considerable culture change, capability development and communication strategies aimed at achieving effective and long-lasting success. This paper explores key lessons we’re learning by facilitating this change in a large data collection organisation. These are relevant not only for implementing accessible design, but for other nonresponse reducing strategies requiring collaborative action from many stakeholder groups.

**Accepting “must have”**  
  
Providing accessible ways of interaction between organisations and those they serve is widely accepted as something that is good to do, something that is right to do. The Australian Human Rights Commission (2009) put it this way: “The full and independent participation by people with a disability in web-based communication and online information delivery not only makes good business and marketing sense, but is also consistent with our society’s obligations to remove discrimination and promote human rights”. What constitutes the ‘reasonable’ and ‘appropriate’ actions to provide digital accessibility, which are referenced by the various applicable legal and ethical frameworks, is open to interpretation.

Enabling digital accessibility for ABS survey respondents began officially with the Electronic Transactions Act 1999, which required the provision of some mechanism for businesses and the community to communicate electronically when dealing with the commonwealth government and its agencies. At that time, demand for this option from households was non-existent and the requirement could safely be ignored except for the 2001 Census. A very basic online form was built for that ‘just in case' and was excluded from all promotional material to limit requests for it.  
  
The ABS household sample surveys began incorporating web forms from 2012, largely for efficiency of data collection reasons. Most of these surveys were still conducted entirely as face to face interviews up until this year, when the COVID-19 pandemic brought direct contact with the public to an abrupt halt. The development of online options had been underway for these other surveys as part of a broader organisational improvement program, and these have been accelerated and heavily promoted to respondents in order to maintain reasonable response rates.  
  
While meeting ‘respondent expectations’ has been cited as a driver for all the various electronic form development projects during those two decades, accessibility as a general concept received limited attention. Respondents who had difficulty completing an interview for whatever reason could have either a proxy report for them, or would be exempted from the survey. There was little incentive provide an accessible electronic form, and the effort and expense to do so was considered unreasonable. In extreme circumstances, if a respondent insisted on a self-enumerated option, the Blaise CAPI interface could be printed out (in a format which was not user-friendly according to anyone’s standards).

**Fitting in “should have”**

The Web Content Accessibility Guidelines (WCAG) became a priority for the ABS by 2015 when they were included in the Digital Service Standard for all Australian Government departments online communication (see DTA 2020). The 2016 Census came a long way on digital accessibility compared to the beginning of online collection. Certification that the web form met WCAG Level AA was provided and promoted by accessibility auditor Vision Australia, with their Digital Access National manager commending the ABS on “their dedication” in achieving the most inclusive Australian Census ever (ABS 2016a). Screen readers could be used with the form. Broader accessibility was prioritised with alternative formats of the paper form provided in braille and large print, and audio formats were made available and supporting material given in Australian sign language (Auslan) (ABS 2016b).

Unfortunately, the achievements by the Census were very difficult to follow by the rest of our statistical collections. Developed in isolation from the rest of the ABS, with completely different software and developers, the Census also enjoyed a vastly larger budget per form and a strategic commitment to be visibly making the effort to count everyone in the country, which did not apply to the sample surveys.

Assessments of our other web forms and the related login infrastructure were conducted by companies like Vision Australia, but these were often too late in the development period. Limitations in both the software used to create the forms and the staff capability to address accessibility requirements in-house meant that the design of the online interfaces respondents used continued to fall short of the standard. Although the lack of sufficiently accessible online options was arguably discriminatory under Australian law, few complaints are made on that basis. Alternative modes continued to be the preferred approach to accessibility for our household surveys and any populations missed by this approach (through exemptions and non-response) were considered small enough to be statistically negligible.

**Integrating “nice to have”**

Legal requirements and ‘whole of government’ standards were only enough incentive to achieve the bare minimum of digital accessibility except for the largest, most visible of our household collections. We’ve learned that for the desirable technological improvements to actually be integrated into ABS processes, they need to be cost-effective, done early, and done easily.

Making additional improvements for small populations, even if they add up to a sizeable total of statistically quite different respondents, can be a difficult sell. Luckily most accessible questionnaire design requirements (for example, reasonable text size, limited use of colour with good contrast, proximity of labels to fields, logical order of question elements) align very well with good usability for the general population. Improving the usability of web forms saves the organisation money, through increasing online take-up (reduced field interviewer costs) and reduced item nonresponse and measurement error (reduced processing and follow-up costs). The word ‘accessibility’ need not be mentioned to make reasonable progress in this space.

Like other usability aspects, accessibility is most easily integrated when built in from the beginning of the questionnaire. Working closely with the core team of software developers to produce web form templates and re-usable code for specific question elements which meet accessibility requirements has enabled more consistent application of standards across all the statistical surveys using this mode. Some aspects of accessibility have therefore become just part of the normal process.

Capability building is a key enabler. The ABS already has a strong capability and culture around conducting user research to ensure our questionnaires work well for the general population, and this is a good base to build on. Providing advice on digital accessibility integrated with broader web form design standards and usability testing has been done in a range of channels. Formal face to face training and written manuals have been delivered internally, by staff who know the statistical business and with the focus and extent of explanation targeted to the audience. The identification and promotion of tools such as colour contrast analysers to help staff assess their own questionnaires has also been useful and is expanding. A number of staff across the organisation have an interest and/or experience in accessibility, and empowering them to make some improvements and to share lessons with each other takes leadership, but can take only a small amount of effort. Sharing and celebrating successes (as in any project) can also make a big difference to maintaining momentum for this kind of challenge.

**Believing in “must have”**

For true respondent inclusion to occur, equal access and choice of mode needs to be genuinely embraced as the right of every person selected in our surveys. So far, digital accessibility in ABS data collection has been treated as a technological issue, and both the requirements and achievements have been largely invisible. For the organisation to take that extra step to respondent inclusion*,* a conscious commitment has to be made. This requires culture change throughout the ABS, which can’t be done by force or misdirection. We are approaching this in multiple ways.

Inclusive content: Part of broader respondent inclusiveness (and encouraging good response rates and data quality) involves ensuring that our question wording allows all respondents to provide an answer that describes their situation. One pertinent example is the very common demographic question ‘main language spoken at home’. Initiated by the Census area, the ABS is now starting to deviate from this standard to ask ‘main language *used* at home’. A subtle but important difference, this question wording is more inclusive of respondents who use sign language or assistive technology. It is also more appropriate for respondents who live alone and therefore don’t commonly speak to anyone there, but may read and/or communicate with others in writing from home. Promotion of this easily applied new wording and the reasons for the change gets survey owners thinking, and thinking positively, about accessibility and inclusion.

Pilot survey: One of the large ABS household surveys currently being developed as a web form for the first time is specifically focussed on disability and aging and targets the relevant populations. It is therefore recognised that accessibility for this survey is a ‘must have’ rather than a ‘nice to have’. Unusually for the ABS, the organisational area which owns this household survey is also responsible for a related business survey, and because of this the staff have prior experience with web form development and usability they are able to build on. Close collaboration with stakeholders to ensure this particular survey meets the appropriate accessibility design standards then creates both: a showcase of the value of inclusion that can be used to promote the concept to other areas; and actual coded modules that are reusable as a base for similar surveys.

Further capability building: Now that accessibility has reached at least ‘nice to have’ status, more specific training and guidelines can be provided. This will include very short, practical notices to all ABS staff making clearer what their obligations are and where they can find help. Given the nature of the topic, a reasonable range of cost-effective online courses was easily identified and will be further promoted rather than needing to do this in-house. Continuously building our own technical skills in the area from local and international (where possible!) conferences is obviously also valuable.

Joining up the networks: For various reasons, accessibility is higher priority in different pockets of the ABS. The ABS website is much more visibly in scope of the Digital Service Standard than our data collection, and consequently much more conscious effort has been expended by our publishing staff on the design of the website content to meet WCAG. Accessibility requirements and related assistive technology for the interfaces ABS staff use has resulted in human resources staff with a workplace health and safety interest in this area, and there are also ABS staff who belong to the various population groups of interest. IT specialist staff can be isolated from the range of other staff involved in the statistical and corporate business. Identifying all the interest groups and linking them together via an informal accessibility network is slowly raising the profile of inclusion as a more general and more nuanced issue that should be important to all staff. The members of the network will also provide peer support for each other to promote accessibility-based decisions.

Champions: From this and other networks arise particular staff who can be more vocal and prominent champions of inclusion in general, and digital accessibility for respondents in particular. Sprinkled throughout the statistical business areas, this allows more successful influence than if the push comes from only one area. For example, the ABS already has several workplace diversity support networks in place which have become quite powerful and visible through senior endorsement, celebration days etc and these networks can be leveraged in the statistical space as well. As an analogy, the ABS Pride Network (which brings together staff who identify as sexuality or gender diverse and their allies) have recently begun to positively influence the ABS collection of statistics on topics of interest to that group. Similar leveraging of the Disability and Carer’s staff network and their pre-existing champions is looking promising in raising the priority of respondent inclusion in general and through accessible web forms specifically.

Corporate Strategies: A final idea is to implement references to respondent inclusion in formal whole-of-organisation strategic plan documents which are publicly endorsed by our most senior staff. Such documents would ideally include an Accessibility Plan for the entire ABS, and outline expectations for design and process covering all our staff, respondents and users. We’ve found some excellent public ones by all kinds of organisations, for example by the Australian Broadcasting Commission (ABC 2020). But this sort of dramatic gesture is likely to be more successful later on in the process of cultural change. An initial step being explored is adding mentions of our obligations to respondents into redevelopments of our existing Inclusion and Diversity Strategy, which is currently only about ABS staff. While such documents can be ‘set and forget’ for the majority of the organisation, creating what constitutes a public written commitment from senior managers to consider respondent inclusion is expected to influence their future behaviour.

**Conclusion**

The ABS has come a long way, but offering ‘full and independent online participation’ in our household sample surveys is still the far-off peak of a steep culture mountain. By helping the organisation understand and celebrate the small steps in the right direction, we hope to gradually instil a real belief in the importance of digital accessibility for our respondents.

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