Conducting a corporate-wide forms review:

A CASE STUDY

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From time to time, organisations are faced with the need to review all their forms, often with inexperienced staff and limited resources. This paper is based on the author's recent experience in assisting with such a review for a major Australian government department.

The paper is only a brief summary of the project, the primary focus being on how to conduct a quality review in limited time using untrained staff to achieve substantially improved forms.

Some background to the project

The project is being conducted by a major Australian government department that is responsible for social security type payments to a large proportion of the country's population. The department's form fillers come from a very wide range of cultural, educational and socio-economic groups. Forms that are incorrectly filled out cause delays in processing payments and a great deal of stress for both the form fillers and the staff who deal with them.

The department had previously conducted usability studies of a number of key forms and found extremely high error rates in the data entered by its customers. As part of the project, we conducted further usability and error analysis studies that confirmed the earlier experience. Most of these errors are detected by staff, but the cost of error repair runs into millions of dollars per year. In addition to the cost burden, there has been the psychological burden placed on the public in trying to complete complex forms that often contain language that they don't understand or that is misinterpreted due to cultural and ethnic differences.

While a large number of Australians are from an English-speaking background (primarily English and Irish), the population comes from many diverse ethnic and cultural groups, including the country's indigenous population, which has its own cultural issues with communication.

Most government forms are based on legislation that seems to pay little attention to the typical communication and comprehension needs of the wider community. The people who develop the content of forms are usually well educated and well-steeped in bureaucratic culture. Many who have only ever lived in Canberra (the national capital, isolated from the rest of the country) have little experience of what it is like in large cities such as Sydney or Melbourne with 4 to 5 million people from a vastly diverse background.

How the project started

The project was initiated by the government minister responsible for a number of different agencies. In writing to the head of one of those agencies he said:

> *“**Improving forms and letter**s*
>
> *[The agency] should strengthen its focus on improving communication with customers. We need to increase confidence in [the agency] by ensuring that we send out consistent and clear messages to customers. I will continue to take a high level of interest in improvements you make to letters and forms to make them easier to understand and use for customers. Substantial progress is required in this area and I expect you to give it high priority and be able to report regularly on progress achieved.*
>
> *In 2004-05, the percentage of customers rating the ease of completing [the agency’s] forms as ‘good’ or ‘very good’ was 58%. I expect you to significantly increase customers’ ease of providing necessary information to [the agency].”*
>
> …
>
> ***Culture***
>
> *[The agency] has a duty of care to its customers and its staff. It requires robust systems to ensure the integrity of application of policy. [The agency’s] culture must be responsive to the needs of citizens and stakeholders, not a culture that is unduly defensive and process orientated. The organisation should be willing to question itself and its performance on an ongoing basis. As part of this you should fully explore whether any criticisms and customer concerns are valid and, if so, take appropriate corrective action.*
>
> *I expect to see high level internal reviews to make sure that [the agency] is achieving the outcomes expected of it by government, visibly followed up to provide confidence to the public and the Government that policy is being properly and fairly administered. Staff need to be willing to identify and accept management of issues beyond their immediate responsibilities so that matters are resolved quickly and customers get seamless service.*
>
> *The challenge for executive management is to recognise potential weaknesses and ensure that arrangements for monitoring, assessment, reporting and review are sensitive to the actual operating environment. In particular, the arrangements should provide for adequate and early feedback to enable corrective action by management, and there should be clear triggers for oversight and involvement at executive level. This requires the identification of problems and acknowledgement of those problems by senior management.”*

Realising that the normal government approaches to form improvement take a long time to come to fruition, he commissioned a parliamentary committee headed by a leading Senator to oversee the project and to ensure that progress was not hindered by red tape. Having people at this level, overseeing the project, is ensuring that decisions can be made at the highest level.

I had the privilege of being asked to speak to the committee at its first meeting on July 18 2006. For an hour and a half we talked about many of the issues that are so familiar to professional forms analysts and I was very impressed with the understanding of the committee members and their desire to improve the lot of the public in filling out forms.

The initial reaction

The initial reaction on the part of departmental staff was essentially one of fear and disbelief. They had around 12 months to completely redesign all the department’s major public-use paper forms and have them available for the public to use. With past lead times extending over vastly longer periods, the general consensus was that it was impossible for the project to be completed on time. While there are still some forms that can’t be completed due to technical computer difficulties, it looks like most of the forms will be finished on time.

Overview of the approach

There were a number of key elements to the approach, some of which would need to be modified in the light of experience. But overall the approach was successful.

1 Selection of staff

It was necessary to select appropriate staff for the teams that would look at the forms. This wasn't an easy process as it meant taking them away from their normal work for a period of weeks. But given the importance of the project and the impact of the Department's forms on most of the Australian public, the downside was outweighed by the long-term advantages. Teams were made up of people with direct business experience in the relevant forms plus other experienced staff.

2 Preliminary training

At the outset the teams were given some fundamental training in good form design. Since their emphasis was to be on the language and content rather than the graphic design, this training session was only very brief and all were given a more extensive handout to study. They were only given what we considered necessary for them to gain an appreciation of why the forms were being changed and how their work would fit with that of the professional forms analysts who would work with them.

The existing design and layout had been an improvement over previous designs and was visually appealing in most cases. But the forms were still confusing to many form fillers and they were causing excessively high error rates, so there was to be a significant change in the design of the new forms.

The processing staff had become comfortable with the current designs and many believed that there was little that could be done. It is common for processing staff to place the blame for errors on 'inept' form fillers, not recognising that the design is often the cause of the problems. We believed that the staff needed to know the reasons for the changes and gain confidence that the new design team would be able to improve the forms.

Appendix 1 *("What constitutes a good form?")* is taken from an initial paper presented to the parliamentary committee at their first meeting.

Appendixes 2 and 3 contain some of the material presented to the project teams. This material was prepared jointly with Craig Dartnell with whom I've been working on the project.

3 Common Question Sets

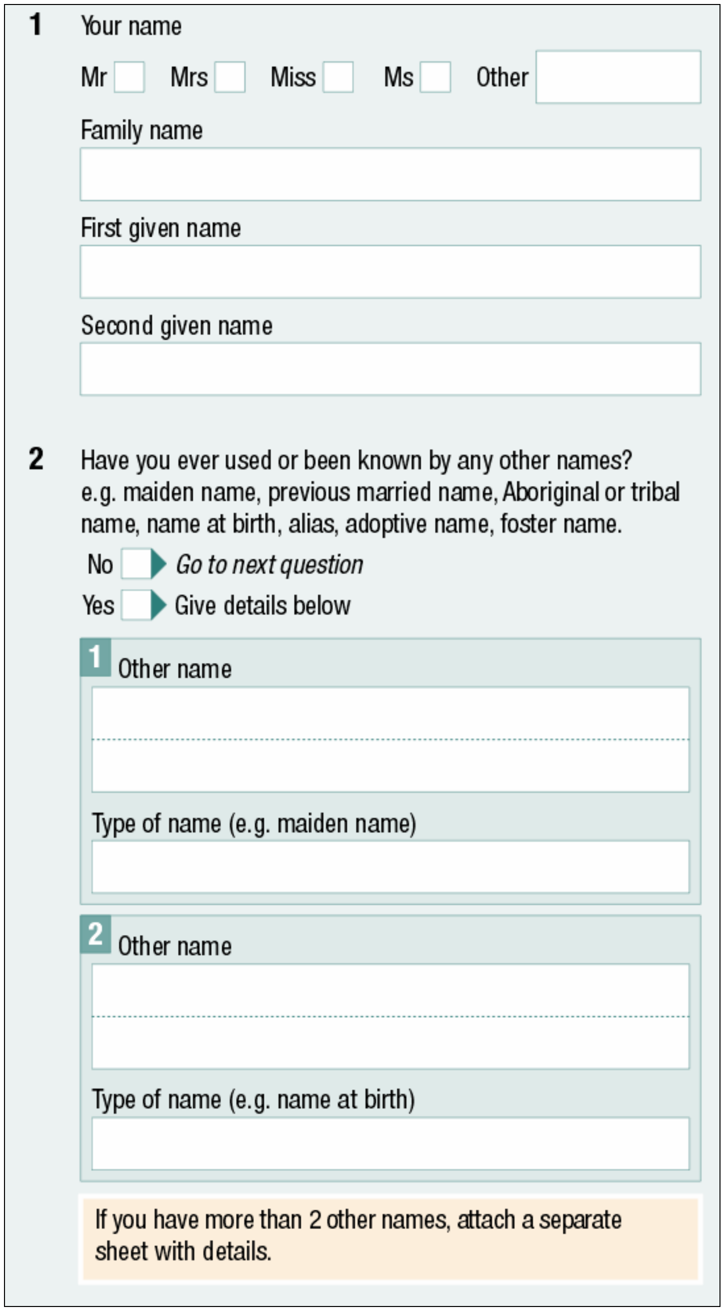
The first series of tasks was a series of workshops on the most problematic forms. It soon became apparent that there would be a lot of repetition, so it was decided to develop a series of common question sets that could be applied across the board. For example, most forms included questions asking for customer details such as name (and whether they had used other names), address, date of birth, sex and contact details. Once the questions were worked out, they could be applied to any form that needed the same information.

The Department uses Macromedia FreeHand for its design. The question sets have been designed so that they can easily be pasted into any form and the colours will change automatically to those for that form. All that needs to be done is change the question numbers.

The designs are based on the half-page column approach that was introduced in the UK in the early 1980's and subsequently used in many Australian forms. This layout results in a significant reduction in user errors and, at the same time, saves a lot of previously wasted space.

A typical example was the set of ‘name’ questions that have to allow for the various cultural issues in today’s Australian society. Figure 1 is an example of how the questions currently appear in the common question set.

With further review, some of the sets of questions were amended, but they have remained substantially the same. Now that the common questions sets are in place, redesign of many of the forms is much faster than originally estimated.



1 Your name

Mr ☐ Mrs ☐ Miss ☐ Ms ☐ Other ☐

Family name

First given name

Second given name

2 Have you ever used or been known by any other names?
e.g. maiden name, previous married name, Aboriginal or tribal name, name at birth, alias, adoptive name, foster name.

No ☐ ▶ *Go to next question*

Yes ☐ ▶ Give details below

1 Other name

Type of name (e.g. maiden name)

2 Other name

Type of name (e.g. name at birth)

If you have more than 2 other names, attach a separate sheet with details.

Figure 1 – example of common question for a customer’s name

4 On-going workshops

Following on from the initial development of common questions sets, the various project teams conducted workshops on forms to examine the content in more detail. The aim was to ensure that forms only asked those questions that were needed to meet current government policy. As part of this approach, I was able to be present at many of the meetings to advise on questioning approach. This advice was based on our extensive experience with public-use questionnaires. As part of the initial review, legal and IT people examined the forms to determine whether there was anything in them that needed to change.

Workshop participants were instructed that their role was to look at the question content and not to be concerned with layout and graphics. As we've experienced with other forms projects, this proved a difficult task for some. There's a natural tendency to worry about matters of appearance such as color, boxes and typography, overlooking the more important matters of question content. Through the project they have come to see the valuable knowledge that professional forms analysts can bring to form design.

5 Form Design Guidelines

Running in parallel with the early redevelopment was a project to develop a set of form design guidelines that could be applied across all the Department's forms. We recommended the use of the term 'guidelines' rather than 'standards' as we wanted to avoid setting many of them in concrete. People unfamiliar with forms often object to this in the mistaken belief that all forms should look the same, but each form has its own special needs.

For example, the Committee set up by the Minister agreed with our recommendation to use half page column design and wanted that to be applied to all forms. However, there are special cases, such as the use of multi-column tables that need to extend across the full width of the page. So the guidelines needed to be written in such a way that these exceptions could be accommodated.

There isn't space in this brief paper to explain our recommended design approach. A detailed description can be found in chapter 15 of *Forms For People*, available from BFMA.

During the usability testing of some of the Department's forms, we found that due to the length and complexity of some of the forms combined with the nature of the Department and the questions it asks, we even needed to slightly modify the question routing approach recommended in *Forms For People*.

6 Redesign

As project teams review the forms they produce commented PDF files showing text that needs to be changed. A team of specialist forms analysts (headed by Craig Dartnell, another well known BFMA forms consultant) then translates that into the new design, applying common question sets where appropriate and ensuring, as far as practicable, that the structure and approach is within the bounds of the Department's guidelines and 'best practice'.

After initial design, the forms are returned to the relevant business owners for review. We found in numerous cases that the redesign of the forms in a totally different question structure made the questions much clearer. This, in turn, led the business owners to see problems with questions and logic, which resulted in additional changes. This iterative approach can be frustrating to designers, but we've found that it leads to much better form design and far more effective data gathering.

Once the business owners agree to the content and design, the form is referred to the parliamentary committee who ensure that it confirms to their requirements. While this has added an extra level of control, the Committee's involvement has ensured much faster decision-making.

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The Committee set up a schedule of all forms, requiring the project teams to complete their work by set dates. In a few cases this had to be modified due to unexpected issues. For example, it was found that the preferred design approach for some forms would cause processing problems unless there were significant changes to the layouts of data entry screens. These changes would take time to implement and these issues still need to be resolved.

7 Usability testing

While usability testing hasn't been possible for every form due to the time constraints, we have been able to test the most commonly used questions. In one case, a special test form was developed that embodied all of the common question sets and this enabled us to see how the forms would be filled out by a wide range of typical form fillers. For example, we found that the way teenagers and young adults understood various words and phrases were very different to that of older form fillers, especially when it came to matters of income and assets. Since many of the Government's social security programs are income and asset tested, this led to a serious rethink of some of the common questions.

Much of the testing has been carried out in small meeting rooms where one or two business owners have been able to sit in and watch the testing first hand. We also made provision for them to question the form fillers themselves about issues that were important to the Department. Since testing of a form typically involves 15 to 20 form fillers over a period of 3 or 4 days, it provides the opportunity for a number of business owners to take part. The result has been that the people who developed the questions have had first hand experience at seeing the difficulties their customers face as they move through the form.

The Department plans to continue the practice of usability testing with future form redesigns and we have recommended that their staff be given instruction in how to conduct the testing themselves.

Conclusion

The project has had its difficulties and I certainly couldn't say that it has been all smooth sailing. For example, many staff strongly objected to the project because it significantly changed their normal approach to form development. Many believed that it was impossible to change such a large number of forms in so short a time frame. While this has been true of some of the more complex forms, most of the forms to date have been completed successfully and the oversight by a parliamentary committee has broken through much of the indecision that was typical of past efforts.

Then were political issues associated with cross-agency forms, one of the biggest problems being that agencies didn't like people in other agencies having input in the design of their forms.

One major change I would recommend for anyone else carrying out such a project would be to ensure that an experienced forms analyst is a member of each workshop team

A major key to getting the job done was the use of common question sets. There were still issues with these sets, some of which are still unresolved at the time of writing this paper. Because no one had ever looked at common questions before, these have tended to change as the project progressed, adding considerable frustration for the designers. But in the end, I believe that overcoming the frustrations and problems has been worth the effort. We know from recent usability testing of some of the revised forms, that they are a vast improvement over previous designs and are receiving much favourable comment from the form fillers.

It's been a steep learning curve for many people and in spite of initial predictions of catastrophe, most staff have been very cooperative and a great deal of very good work has been completed.

Appendix 1 — What constitutes a good form?

1. Questions ask what is needed for the process and avoid 'nice to have' items.

Good forms require effective analysis to determine what data is needed and what form fillers are able to provide.

Questions that ask for information 'just in case it might be needed' tend to place an unnecessary burden on form fillers.

2. First page text is kept to a minimum.

Most form fillers ignore large amounts of preliminary text and move straight into the form.

3. Question instructions are placed right at the point where they are needed.

Instructions and explanations for specific questions should be with the question itself, not elsewhere on the form.

4. The 'form grammar' assists comprehension of question intent and meaning.

The difference between 'form grammar' and normal 'prose grammar' is that the graphics in the form such as boxes, lines, colours and object positions combine with the English language components as part of the forms language. This influences the way form fillers answer the questions.

5. The 'form grammar' guides the form filler through the form for easy workflow.

Many form fillers get lost in forms if the next step isn't very clear.

6. Good forms are legible for the majority of users.

They are designed for the form-filling environment. For example, many forms are filled in at home in much poorer lighting than that used by designers and processing staff.

7. Effective forms focus on usability, not simply reducing the number of pages or questions.

While 'best practice' form design provides a sound base for effective forms, the only proven way to guarantee success is to use observational usability studies.

Some agencies use Focus Groups (often referred to incorrectly as 'focus testing') to gather opinions from form fillers about forms. While useful for market research, they generally do not provide reliable information about whether the form will work.

Usability testing has consistently shown that while long forms can cause form fillers to have an initial negative reaction, their attitudes become positive if the form is easy to understand and guides them smoothly through the questions.

Appendix 2 — Guidelines/principles on how to review forms

1. Determine the need for the form.

2. Examine overall approach to questions

- Does the form talk directly to the form filler in conversational style?
  - Refer to the organisation in the first person (‘we’).
  - If questions refer to the person filling in the form, use second person (‘you’).

3. Examine each question:

- Is the question needed for legislative and/or policy purposes?
  - If not, can it be eliminated?
- Is it clear who is to answer the question and who it refers to?
- Could the language used intimidate some users?
  - If so, can the tone be improved?
- Does the question include unfamiliar terms, concepts or ideas rarely used in ordinary life?
  - If so, can they be explained in plain language?
  - If not, how is the user expected to provide accurate answers?

  Consider how a person on a help desk would explain the question and write it that way.
- Does the language have a single meaning or is it ambiguous?
- Does the question contain a single idea?

  Multiple ideas should be in separate questions.
- Does the question have finite choices (e.g. tick boxes) or is it open-ended? Is this the best way to get the information needed?
  - If using tick boxes, are they comprehensive or is anything left out?
  - If open-ended, is the size of the answer space too little or too much?
- Does the question require the form filler to carry out mathematical calculations?

  Many users have difficulty even with basic arithmetic. These type of questions should be avoided.
- Is the sequence of the question logical for typical form fillers?
- Are question instructions and explanations in the right place?

4. Examine overall appearance

- Does the form look untidy or does it give the appearance of being logically structured?
- Does colour and type assist or hinder legibility?

5. Examine layout for conformity to ‘best practice’

Appendix 3 — Guidelines/principles on how to structure questions

Note: this section does not include detailed graphic design specifications.

1. Section headers

- Avoid separately headed sections unless essential for office processing.

  Section headers often mislead form fillers and hinder accurate data collection.

2. Question structure

- Use a separate question number for each question.
- Start question numbers at "1" and continue to the end of the form.
- If separate sections are required, do not restart numbering for each section or include the section label in the question number.
- Do not use nested "No"/"Yes" questions.
- Avoid matrix layouts (i.e. tables with both column and row headings).

Many people have difficulty with a matrix.

- If using a table with column headings only, ensure adequate column width.

3. Routing

- At each question clearly indicate where to go next.
- "No"/"Yes" choices should have "No" first unless there are overriding circumstances and should be consistent throughout the form.
- Use of "go to" instructions.
  - If both choices have no follow-on information, "go to" instruction is not needed.

    In these situations, form fillers automatically go to the next question.
  - If both choices have follow-on information, it is often best to have separate questions unless the answer space is very small, such as only one or two lines.
  - If only one choice has additional information, word the question to enable it to be the "Yes" choice and provide a "Go to" instruction after the "No". Alternatively, provide the information in a separate question.

    Without the "Go to" after the "No" answer, form fillers often place answers in the "Yes" answer space.
  - If routing is to the next question, instruction should be "Go to next question".
  - If routing skips the next question, instruction should be "Go to #".

4. Checklist

- Place checklist at the end of the form as a numbered question, immediately before the declaration or signature area.
- Ask a question at the start of the checklist to force users to check the items.
- Include every item that the user is required to attach and where relevant, refer back to the question number that asks for it.

5. Declaration/Statement (Signature)

- Give it a question number and place it at the end of the form.