# Communication Wise

## Asking just the right question

What happens when one of the most fundamental questions on a personal loan application is poorly worded?

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### High-risk forms

A personal loan application is used by lending institutions to determine whether a customer is eligible for an unsecured loan. As an unsecured loan, the product has a higher level of risk associated with it for the lending institution. This puts added pressure on the application form to 'do its job'. In other words, the form has to elicit accurate and detailed information which, in turn, allows the institution to make a fully-informed business decision regarding the risk associated with the loan.

The form, therefore, needs to be a finely tuned document in which the questions are clear and concise. If the document does not meet this criteria, if the questions are vague or misleading, the answers are likely to be just as vague or misleading.

### Credit scoring

Major lenders use an automated credit scoring process on personal loan applications (regardless of whether the application is submitted on a paper form, or electronically via email or a web front end). When the answers on a form are entered into a system, the answers to certain questions are analysed by the system and given a score or value. When all relevant data has been entered, the scores are added up. A yes/no answer depends on whether the total score falls above or below a certain value.

### The all-important question – income

Of course, one of the questions that would inevitably go to the heart of the credit scoring process would have to be a person's income because their income would be a major indicator of whether a loan could be serviced (or repaid) by the customer.

When we looked at one the personal loan application for a major lending institution, we noticed there were two questions regarding income. One on the first page asking for the applicant's **gross annual income** and another on the second page asking for their **net monthly income**.

The gross annual income was used by the Marketing department while the net monthly income was used by the business for credit scoring purposes. The two questions were necessary because the systems used by both departments differed and while one system required the annual income, the other required a monthly figure.

### Analysing gross versus net income

Throughout the redesign process three rounds of usability testing were conducted with customers (potential personal loan applicants). As part of the testing process we investigated people's understanding of gross annual and net monthly income. To answer this question accurately, the customer has to be able to do two things:

- distinguish between gross and net income

- know their annual income and be able to calculate their monthly income (if they are not paid monthly).

To understand how people dealt with these ideas, we first asked our respondents (the people we interviewed during the usability testing) what the difference was between gross and net income. In this first round of testing we were surprised to find that people clearly understood the difference between gross and net income, with respondents using before tax (gross) and after tax (net) as the distinguishing feature between the two types of income.

We also provided respondents with a list of items and asked them to indicate which ones would form part of their gross income and which should be included in their net income (with net being nothing more than a subset of gross). At this point respondents became quite vague about what would or would not be included in net income.

The conclusions at this point were that people:
- could distinguish between gross (before tax) and net (after tax) income
- could articulate what constituted gross income
- could not articulate what constituted net income.

## Analysing net versus disposable income

To dig a little deeper on this issue, in the next round of testing we introduced a third concept – the idea of disposable income. During this second round of testing it became apparent that while people could articulate the difference between gross and net income, the distinction between net and disposable income was blurred. Respondents in the testing were unsure as to whether things such as child support, rent and mortgage payments affected net income, disposable income, or both. This raised significant doubt about the information being captured in the net monthly income question – the question that was used for credit scoring purposes.

## Analysing annual and monthly amounts

During the second round of testing we also explored how people managed to arrive at annual and monthly income amounts. At this point, things became very interesting. When asked to provide their net income as a monthly figure people were unsure as to whether they should start with a gross annual amount (which they were familiar with), divide it by 12 and then "take some off" for tax? Did they start with a net annual amount and just divide by 12? Did they divide their net income by 52 and multiply it by 4?

There seemed to be no limit to the creativity people could use to arrive at a monthly amount. The fact that many people are not paid monthly only served to further complicate the calculations.

## Checking our testing results

Given the enormity of this issue, we decided to confirm the results of our usability testing by taking a random sample of 100 live forms from the processing area of the institution. We selected a number between 1 and 10 (which in our case was three) and then took every third application until we had a sample of 100 forms.

We looked at the gross annual income provided by each applicant (which our usability testing indicated was the most reliable figure of the two provided). Using information from the Australian Taxation Office, we then calculated what the net monthly income should be for each applicant. We compared our net monthly income for each applicant against what was actually provided on the form.

| 5 | Gross Annual Income |
|---|---|
| | $90,000 |
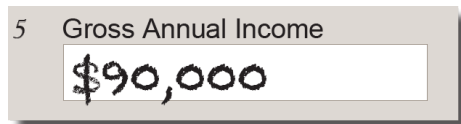
**Step 1**
We extracted the gross annual income as provided on the form.

**MONTHLY WITHHOLDING TABLE – INCORPORATING MEDICAR**

| Monthly earnings 1 $ | With tax-free threshold 2 $ | No tax-free threshold 3 $ | Monthly earnings 1 $ | With tax-free threshold 2 $ | No tax-free threshold 3 $ | Monthly earnings 1 $ | With tax-free threshold 2 $ | No tax-free threshold 3 $ |
|---|---|---|---|---|---|---|---|---|
| 4.33 | — | — | 372.67 | — | 78.00 | 741.00 | — | 160.00 |
| 8.67 | — | — | 377.00 | — | 78.00 | 745.33 | — | 160.00 |
| 13.00 | — | 4.00 | 381.33 | — | 78.00 | 749.67 | — | 160.00 |
| 17.33 | — | 4.00 | 385.67 | — | 82.00 | 754.00 | — | 160.00 |
| 21.67 | — | 4.00 | 390.00 | — | 82.00 | 758.33 | — | 165.00 |
| 26.00 | — | 4.00 | 394.33 | — | 82.00 | 762.67 | — | 165.00 |
| 30.33 | — | 4.00 | 398.67 | — | 82.00 | 767.00 | — | 165.00 |
| 34.67 | — | 9.00 | 403.00 | — | 82.00 | 771.33 | — | 165.00 |
| 39.00 | — | 9.00 | 407.33 | — | 87.00 | 775.67 | — | 165.00 |
| 43.33 | — | 9.00 | 411.67 | — | 87.00 | 780.00 | — | 169.00 |
| 47.67 | — | 9.00 | 416.00 | — | 87.00 | 784.33 | — | 169.00 |
| 52.00 | — | 9.00 | 420.33 | — | 87.00 | 788.67 | — | 169.00 |
| 56.33 | — | 9.00 | 424.67 | — | 91.00 | 793.00 | — | 169.00 |
| 60.67 | — | 13.00 | 429.00 | — | 91.00 | 797.33 | — | 173.00 |
| 65.00 | — | 13.00 | 433.33 | — | 91.00 | 801.67 | — | 173.00 |
| 69.33 | — | 13.00 | 437.67 | — | 91.00 | 806.00 | — | 173.00 |
| 73.67 | — | 13.00 | 442.00 | — | 91.00 | 810.33 | — | 173.00 |
| 78.00 | — | 13.00 | 446.33 | — | 95.00 | 814.67 | — | 173.00 |
| 82.33 | — | 17.00 | 450.67 | — | 95.00 | 819.00 | — | 178.00 |
| 86.67 | — | 17.00 | 455.00 | — | 95.00 | 823.33 | — | 178.00 |
| 91.00 | — | 17.00 | 459.33 | — | 95.00 | 827.67 | — | 178.00 |
| 95.33 | — | 17.00 | 463.67 | — | 100.00 | 832.00 | — | 178.00 |
| 99.67 | — | 17.00 | 468.00 | — | 100.00 | 836.33 | — | 182.00 |
| 104.00 | — | 22.00 | 472.33 | — | 100.00 | 840.67 | — | 182.00 |
| 108.33 | — | 22.00 | 476.67 | — | 100.00 | 845.00 | — | 182.00 |
| 112.67 | — | 22.00 | 481.00 | — | 100.00 | 849.33 | — | 182.00 |
| 117.00 | — | 22.00 | 485.33 | — | 104.00 | 853.67 | — | 182.00 |
| 121.33 | — | 22.00 | 489.67 | — | 104.00 | 858.00 | — | 186.00 |
| 125.67 | — | 26.00 | 494.00 | — | 104.00 | 862.33 | — | 186.00 |
| 130.00 | — | 26.00 | 498.33 | — | 104.00 | 866.67 | — | 186.00 |

**Step 2**
We used the ATO tax tables to calculate an expected net monthly income for the gross annual salary provided on the form.

| 11 | Net Monthly Income |
|---|---|
| | $7,800 |
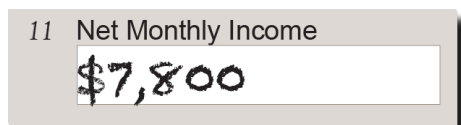
**Step 3**
We compared the ATO's net monthly income with the net monthly income as provided on the form.

The results reinforced our findings from the usability testing. On the live forms people were over or under estimating their income by as much as $9,000 a month (in the worst case scenario). While $9,000 is an extreme example, the evidence to support our findings from the usability testing was overwhelming.

We know this is not a perfect science because people could do things such as salary sacrifice income – thereby reducing the net amount they receive each week. Nonetheless, the number of forms that had a discrepancy

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between the gross annual income and the net monthly income stated by applicants was substantial.

## A mystery explained

We reported our findings to both the product area and also those responsible for the credit scoring process. We were able to show – through both our usability testing and our live data collected across 100 forms – that the use of "net monthly income" was a problematic for both the customers and the organisation.

Again, our findings from the usability testing were confirmed when we were told "It's no wonder we haven't been able to use the income question to determine whether someone was going to default on a loan".

So the one question that should have been a major indicator of people's capacity to repay a loan was failing the institution – all because the wrong question was being asked.