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Managing Contactability in Telephone Surveys

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Abstract
The Australian market research industry relies on telephone interviewing as one of its major data collection methods. Through its LIST initiative, the industry has committed to best practice in research methods in order to address various concerns, especially the decline in response rates for telephone interviews. Response rates are determined by the co-operation of eligible respondents and their degree of contactability. The reported study is concerned with the way the industry attempts to manage contactability. A study of fieldwork managers responsible for over 75% of all phone interviews in Australia revealed a limited use of contact enhancing strategies such as longer fieldwork periods and more callbacks. Commercial imperatives for timely surveys and a lack of end-user concern for response rate issues, along with cost issues, were believed to be responsible.

Introduction
In 2005, the Australian market research industry launched its LIST (Length Introduction Sampling Time) initiative (LIST 2005) for survey research. The initiative aimed to promote best practice within the industry and its clients, in that way doing its utmost to retain the cooperation of respondents. An apparent decline in response rates (Bednall and Shaw 2003) was one of the major motivators for the initiative. Elsewhere, the evidence suggests that industry response rates are already low and declining further (CMOR 2003), illustrative of a broader social trend for people to be increasingly difficult to contact (Curtin et al. 2005) and to be more selective about which surveys they complete (Bickart and Schmittlein 1999).

Response rates are a function of two factors – the ability to contact people and the willingness of people to cooperate. In a typical ad hoc market research telephone survey, around fifteen contact attempts are needed to obtain one telephone interview (Bednall and Shaw 2003). This should be of concern to the industry. If people are harder to contact, then more call attempts will be required, together with more callbacks. As a result, the market research industry is facing increasing costs for each completed survey.

In addition, apparent client demand to complete research projects ever more quickly appears to be intensifying the pressure on field managers to get surveys out of field quickly, and in the process compromising their ability to spread out callbacks. Arguably, lower response rates threaten the representativeness of survey results. This has led to a call in LIST for a minimum number of callbacks in a typical survey and for the survey period to be extended. Surprisingly, the evidence in favour of multiple callbacks or extended surveys is not clear cut (Gendall and Davis 1993). Keeter (et al. 2000) compared the results from matched samples of respondents. One survey sample, spread over a five day period, achieved a response rate of 36 percent. The other survey sample, spread over eight weeks with more callbacks, achieved a response rate of 61 percent. In comparing the survey results on a range of attitudinal and demographic measures, the biggest gap between the two sets of results was 9 percent. However, industry evidence from Australia (Bednall and Shaw 2003) and the United States (CMOR 2003) indicates commercial response rates that are well below this 36 percent mark and still declining. People who take part are thus atypical, at least in terms of survey par-
ticipation. Given this, it would appear too risky for the industry to ignore the issue of representativeness.

It has been suggested that other techniques might compensate for non-response, when analysing trends in response rates in association with later callbacks (Colombo 2000). This may help in many surveys. The real problem will occur when contactability is related to the key survey issue. For example, frequent flyers are less likely to be contactable at home so an ad hoc household survey might seriously under-represent this group.

In summary at this point, practical and financial issues, along with fears about a possible lack of representativeness should motivate the industry to boost the contactability of eligible respondents. The paper next examines the likely causes of non-contactability and then discusses potential remedies open to field managers in Australia.

Causes of non-contactability

The most noticeable contact problem is mobility – people may stay at home less often than in bygone years. The growth in single person households, a proliferation of restaurants in urban areas, record travel, long working hours and high rates of car ownership (ABS 2005) are all pointers to the difficulties research companies experience in finding people at home. Finding people at their desks at work is also problematic when conducting business research.

Although the penetration of fixed phones into Australia homes remains high (ABS 2004), there is evidence of some substitution by mobile phones. Some households do not have any fixed line at all. Even when there is a fixed phone, there are a variety of impediments to contact being made. The first is call screening – people may either actively block (e.g., by use of a multifunction answer phone/facsimile machine) or choose not to answer to callers they do not recognise. Even when contact is made with a household or business, the eligible respondent may be unavailable. Finally, there are silent numbers where the White Pages does not list the number. These have been estimated at around 15 percent of all domestic fixed lines (OESR 2005).

Techniques to boost contactability

Despite these obstacles, market research companies can influence contact outcomes. The main way they can do this is with their calling regime. Companies can choose when they ring people and how often. Ringing consumer homes during a weekday daytime is typically not productive unless the researcher approaches call areas where there are large numbers of retired, unemployed or work from home individuals. Similarly business survey calls made outside working hours are most unlikely to be answered.

The next major influence relates to number and scheduling of call-backs. With more single person households and more meals purchased outside the home, the chances of finding people at home on any one occasion has become limited. Consequently, around half the initial calls in a typical consumer survey go unanswered. Call-backs – especially those spread across different times and days of the week – are likely to produce a higher response. Dunkelberg and Day (1973) estimated that employing more than three call-backs in personal surveys made little difference to representativeness for most variables. However, their study was based on very high response rates. In an Australian context, Bennett and Steel (2000) have estimated that employing more than four callbacks has a limited effect on response rates. Arguably, the law of diminishing returns applies in such cases.

Call-backs are costly – both in terms of employing people to conduct them and more particularly, in terms of the time available to conduct them. Often clients have rather strict timetables and the ability of research companies to extend the call-back period may be limited. In the present
study it was hypothesised that contactability would be a recognised major issue for market research companies and that they would be implementing proactive strategies to hold or lift contact rates.

Technology can also assist market research companies. CATI systems allow companies to generate a large number of dialups in a short period. Where random digit dialling is involved, databases of past contact attempts can help identify fruitful number ranges from which to generate calls. Some number ranges are not used (ACMA 2006) while others are sparsely populated with valid numbers. Knowledge of these ranges and appropriate strata sampling schemes can help direct most contact attempts to fruitful ranges. However, at the time of the survey the most practical source was the DTMS database of listed numbers (DTMS 2004) which was derived from the White Pages. This database is no longer available.

Finally, predictive diallers are potentially useful in eliminating numbers which are not answered, thus saving interviewer time. The number of dialling attempts might even increase under these regimes, and if interviewer downtime is reduced, the investment may be worthwhile. An issue here is to have a phone room large enough so that by the time a call is actually answered, there is an interviewer available to take the call.

It is clear that survey methods and technologies readily assist the industry to sustain reasonable or even increased levels of contactability. A key question for the present study was to determine which contact boosting techniques were used, the reasons for these behaviours and their perceived effectiveness.

METHOD

The study comprised a qualitative and quantitative phase. In-depth interviews were carried out with 10 respondents from eight companies in Melbourne and Sydney that provided field services for their own company or as sub-contractors to the industry. The respondents were highly experienced in telephone research and held management positions in their firms. Some had been involved in developing relevant software systems used widely in the industry.

A postal survey was then conducted. A census of the Australian suppliers of telephone interviewing services was attempted. Three sources were used to construct a list of target respondents. The first was a list of all market research companies accredited by the industry quality system (MRQA 2003) for telephone interviewing. This list was supplemented by companies shown in the then MRSA Directory (MRSA 2003) as conducting telephone interviews. Market research companies not in either list but shown in the electronic Yellow Pages were added to the list, resulting in over 300 new entries. These new companies were contacted by telephone where possible to enquire whether or not they conducted telephone interviewing. In total, 347 companies were in the final census frame. The survey was addressed to the fieldwork manager of the firm, by name where known. The initial response was poor.

A follow-up mailing was undertaken wherein field managers were reminded that they depended on others agreeing to take part in their research and that the present study was seeking the same generosity from them. A second copy of the questionnaire was provided. This was more successful in eliciting returns.

The characteristics of the obtained sample are shown in Table 1.

Altogether, 54 completed questionnaires, 51 replies indicating ineligibility, and 25 unopened envelopes marked "Return to sender", were received. Using the simple Kviz (1977) measures, the response rate in this study ranged from 18 to 20 percent; depending on the calculated eli-
Table 1. Characteristics of Companies Surveyed

<table>
<thead>
<tr>
<th>Number of Telephone Interviews</th>
<th>Location of Phone Rooms 1</th>
<th>Use of CATI 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total estimated</td>
<td>Adelaide 16%</td>
<td>Oz Quest 18%</td>
</tr>
<tr>
<td>Minimum</td>
<td>Brisbane 19%</td>
<td>Quancept 10%</td>
</tr>
<tr>
<td>Maximum</td>
<td>Hobart 2%</td>
<td>Surveycraft 26%</td>
</tr>
<tr>
<td>Median</td>
<td>Melbourne 39%</td>
<td>Own System 8%</td>
</tr>
<tr>
<td>0-1000</td>
<td>Perth 6%</td>
<td>Other CATI 12%</td>
</tr>
<tr>
<td>1001-5,000</td>
<td>Sydney 40%</td>
<td>No CATI 38%</td>
</tr>
<tr>
<td>5,001-10,000</td>
<td>Other NSW 6%</td>
<td></td>
</tr>
<tr>
<td>10,001-20,000</td>
<td>Canberra 4%</td>
<td></td>
</tr>
<tr>
<td>20,001-30,000</td>
<td>Other QLD 10%</td>
<td></td>
</tr>
<tr>
<td>30,001-40,000</td>
<td>Darwin 2%</td>
<td></td>
</tr>
<tr>
<td>40,001-50,000</td>
<td>Other Aust. 4%</td>
<td></td>
</tr>
<tr>
<td>50,001-100,000</td>
<td>Outside Aust:</td>
<td></td>
</tr>
<tr>
<td>100,001-500,000</td>
<td>England 2%</td>
<td></td>
</tr>
<tr>
<td>Consumer</td>
<td>New Zealand 2%</td>
<td></td>
</tr>
<tr>
<td>Business</td>
<td>USA 2%</td>
<td></td>
</tr>
</tbody>
</table>

n = 53 n = 54 n = 50

1 Some companies had more than one phone room and some used more than one CATI system

gibility of the non-contacted respondents. However, a simple calculation shows the resulting sample was a far better representation of interviewing activity than the Kviz figure would indicate. The total number of interviews reported as being conducted in the previous financial year, as estimated by the respondents, was 2,283,279. According to the Australian Bureau of Statistics (ABS 2003) in the 2001-02 financial year telephone interviewing generated an income of $135 million. If it is assumed that each interview was charged out at between $45 and $55, it can be estimated that in the total between 2.45 and 3.00 million telephone interviews were conducted by the industry in 2001-02. Using these figures, it can be estimated that the current research captured between 76% and 93% of all telephone research activity in Australian market research.

In analysing the results of the survey, the 5% statistical significance level was used.

RESULTS

The analysis first examined the extent to which contactability was seen as a problem, then examined the degree of control field managers believed they had over the field process, and finally, examined the techniques used within their firm— sampling, call-back regimes and technology—to boost contactability.

Contactability problems

Fieldwork managers were acutely aware of the increasing difficulty in contacting people:

"[Our contact rates are] a lot less. Answering machines, screening devices— even when they are home people screen their calls so it is a lot harder to get onto people. I think a lot of younger people don't even have phones anymore, they have mobile phones... I think people are basically out more often than what they were five years ago."

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Table 2. Factors Influencing Contactability

<table>
<thead>
<tr>
<th>Issue</th>
<th>Very harmful</th>
<th>Somewhat harmful</th>
<th>Negligible/No effect</th>
<th>Can't say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call screening using answering machines or Caller ID</td>
<td>14%</td>
<td>49%</td>
<td>28%</td>
<td>10%</td>
</tr>
<tr>
<td>Respondents getting out more and therefore less likely to be at home</td>
<td>14%</td>
<td>47%</td>
<td>31%</td>
<td>8%</td>
</tr>
<tr>
<td>Engaged signals due to Internet usage</td>
<td>14%</td>
<td>37%</td>
<td>39%</td>
<td>10%</td>
</tr>
</tbody>
</table>

Table 2 shows the main threats to contactability as shown by the survey.

The respondents believed that mobility, call screening and the Internet were making market research more difficult, thereby confirming the qualitative findings. It may be assumed that as broadband becomes more common in the Australian market, competition from dial-up Internet and fax machine usage will become much less of an issue than it was at the time of the survey.

A statistically significant association was found between supplier organisation size (in terms of conducted interviews) and the belief that “respondents getting out more” was harmful to contactability, \( \chi^2 (1) = 9.74 \) with respondents from large organisations more likely to think so. Similarly, a statistically significant association was found between organisation size and the perception that “increased Internet usage” is detrimental for contactability, \( \chi^2 (1) = 5.13 \). Why organisation size should affect these perceptions is unclear. It may simply be the case that larger organisations have more experience and may keep better records of response rates so they are in a better position to make these judgements. However, no significant relationship was found between organisation size and the trend of increased call screening being harmful to contactability \( \chi^2 (1) = 0.64 \).

In the present study, 62 percent believed contactability was in a slow decline, while a further 9% saw it dropping quickly. Only 21 percent believed it was remaining constant, while 8 percent believed contactability was improving. The findings are consistent with previous studies which have actually measured the decline (e.g. Bednall and Shaw 2003; Tuckel and O’Neill 2002). No significant statistical association was found between organisation size (in terms of the number telephone surveys conducted) and beliefs about contactability trends, suggesting that non-contactability was a problem for large and small organisations alike.

Field Manager Influence

Given the reported findings, it would be expected that research companies would seek to change their practices. In particular, fieldwork managers would seek to influence their companies and ultimately the end-user clients to change practices which are making their task harder. Table 3 presents the areas of responsibility they hold.

When dealing with contact systems and survey design, field managers largely attempted to influence others rather than take direct responsibility. Their major role came in managing and training interviewers and their major preoccupation was strike rates.

What do you consider response rates? To me, because I’m more interested in interviewer performance and productivity, I’m saying: well the ability of the interviewer to get a response from the respondent so I’m thinking refusal...
Table 3. Field Manager responsibilities

<table>
<thead>
<tr>
<th></th>
<th>Full</th>
<th>Part</th>
<th>None</th>
<th>NA</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interviewer Training</td>
<td>74%</td>
<td>20%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Hiring of interviewers</td>
<td>74%</td>
<td>24%</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Interviewer performance monitoring</td>
<td>63%</td>
<td>33%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Deciding the number of callbacks to program into the CATI system for a particular survey</td>
<td>41%</td>
<td>30%</td>
<td>6%</td>
<td>20%</td>
</tr>
<tr>
<td>Calculating Response Rates per company's or client's definition</td>
<td>67%</td>
<td>30%</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Reporting response issues back to project managers</td>
<td>71%</td>
<td>16%</td>
<td>12%</td>
<td>2%</td>
</tr>
<tr>
<td>Offering input to project managers about the survey structure or content</td>
<td>65%</td>
<td>22%</td>
<td>6%</td>
<td>2%</td>
</tr>
<tr>
<td>Offering input to project managers about the project methodology</td>
<td>61%</td>
<td>28%</td>
<td>4%</td>
<td>2%</td>
</tr>
<tr>
<td>Reporting response issues to senior management</td>
<td>54%</td>
<td>17%</td>
<td>9%</td>
<td>13%</td>
</tr>
</tbody>
</table>

n = 54. 1 Where percentages add to less than 100, data were missing.

Table 4. Controlling the Call Schedule and Extending the Data Collection Period

<table>
<thead>
<tr>
<th></th>
<th>Very Likely</th>
<th>Somewhat Likely</th>
<th>Somewhat Unlikely</th>
<th>Very Unlikely/ Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>Encourage clients to run the projects during the times of the week you know the number of contacts will be maximised</td>
<td>64%</td>
<td>27%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>Encourage clients to run the project for a longer period of time to maximise the number of callbacks that can be made</td>
<td>40%</td>
<td>39%</td>
<td>14%</td>
<td>8%</td>
</tr>
</tbody>
</table>

n = 52

rates. Other people may say: no, a response is a completed survey. That's bringing in no answers and refusals and engages and callbacks. That's really to me a contact rate rather than response rate. The interviewer can't control the contact rate and so they're out of our control and we can't do anything about them.

Many clients, according to the field managers, have little concern in general about response rates or the sub-issue of contactability. As one fieldwork house which sub-contracts field services to other companies noted:

Recently I have had a few clients wanting to know about response rates because their clients have also been concerned and they have been asking questions about the validity of research and things like that, but it's very unusual.

Contact times

Some 39 percent reported changing the times for attempting contact, with weekday evenings as opposed to week-ends becoming more popular. A statistically significant association was found between company size and the alteration of the calling schedule – larger companies being more likely to do so, $(^2_1)(1) = 4.33$. Similarly, 31 percent reported increasing callbacks to "no answer", "engaged" or "answering machine/message bank" numbers. Only 19 percent said they had increased the number of callbacks to soft appointments.

The survey evidence in Table 4 shows active attempts by field managers to...
Table 5. Use of RDD and Predictive Dialling

<table>
<thead>
<tr>
<th></th>
<th>Frequency Total Sample</th>
<th>Frequency Large companies &gt;15,000 interviews</th>
</tr>
</thead>
<tbody>
<tr>
<td>RDD</td>
<td>19</td>
<td>14</td>
</tr>
<tr>
<td>Predictive Dialling</td>
<td>7</td>
<td>7</td>
</tr>
<tr>
<td>RDD And Predictive Dialling</td>
<td>5</td>
<td>5</td>
</tr>
<tr>
<td>n</td>
<td>54</td>
<td>26</td>
</tr>
</tbody>
</table>

influence clients over the length of survey period designed into each study.

I actively encourage clients to run their projects from Monday to Thursday if they can. A lot of them still think in terms of weekend is the best time to get in touch with people. ...We're finding running any projects on the weekend is the worst response rate. Better to be running Monday to Thursday when they're going to be home.

**Sampling**

The sampling frame is the basis for telephone survey contact management. The main frame used in their consumer surveys was DTMS (2004) (37% of interviews). DTMS was a database product containing all listed residential and business telephone numbers in Australia. Due to successful litigation by Telstra to protect its intellectual property, DTMS became unavailable in 2004. Other popular sampling frames were random digit dialling from known ranges (29%), customer lists (18%) and the White Pages – in either hard or electronic format (12%). In business surveys the majority of sampling was conducted by selection from customer lists (56%) or random selections from listed phone numbers (40%). Concern was common when finite client lists were used. The issue was whether sufficient uncontacted people would be left to include in further surveys.

All of these sampling approaches have implications for contactability. For example, if lists provided by the client are old or inaccurate, higher levels of non-contactability will result. Furthermore, as the universe of respondents is limited to the list, more callbacks to each number may be needed to gain the required sample size.

Table 5 shows the use of random digit dialling (RDD) and predictive dialling.

RDD was used mainly by large fieldwork companies, while predictive dialling was exclusively used by larger companies. Both findings make sense in terms of the investments required.

**Callbacks**

Callbacks were the primary method of controlling contacts. Table 6 shows the reported practices of firms. Modal responses were three callbacks for both consumer and business surveys. This figure matches previous research (Bennett and Steel 2000, Standards Australia 2004, Wiseman and McDonald 1979) showing that up to three or four callbacks provide the best response rates, relative to effort. It would appear that experience has taught field managers what works best for them. Of course their reports of what is typically prescribed do not necessarily describe what happens at the end of a survey period. Experience suggests
that once the required number of interviews has been obtained, the survey will stop irrespective of the number of callbacks remaining to be completed.

... nowadays ... research has to be turned around so quickly that you don't have time to maximise your callbacks as you would wish to.

Soft appointments were those where the initial person contacted agreed to further contact with themselves or others, but no specific time to call was agreed. Hard appointments involve specific times and people. As expected, more effort to follow up both types of appointments was apparent than with cold calling. Given a typical response rate of one interview per 15 consumer contacts, following up appointments should be cost effective. The six measures shown in Table 6 (consumer vs. business * 3 follow-up measures) were capable of being used as a scale to measure company approaches to follow-up. Among the 39 companies who reported on all six items, Cronbach was 0.85, indicating consistent company policies across surveys and types of respondent.

The next issue was the timing of contact attempts. Most respondents (90%) said they were very or somewhat likely to encourage clients to run their projects during the times when the number of contacts will be maximised. Similarly 79 percent said they encouraged their clients to run the project over a longer time period to maximise the number of callbacks.

We always suggest to a client: it would be much more effective from a point of view of your response rate to have your project in for five days and follow up on the callbacks than rush it through in two or three days and not get the advantage of the follow-ups.

While it is clear that fieldwork managers would like to influence their clients to allow them more time and more callbacks, it is questionable whether they in fact are successful, given time and cost pressures. Further studies of research buyers would be needed to estimate their chances of success.

Discussion

Contactability in telephone surveys is a serious and slowly exacerbating problem, with growing call screening and mobile phone use particularly limiting access to respondents. Clearly technology has been used to counteract these trends, in order to minimise the use of interviewer time, the major component of survey costs. With CATI systems, interviewers can manage the recruitment process easily, call-backs can be scheduled into the system and random digit dialling can overcome the problem of silent numbers – at least in terms of contactability. Predictive diallers allow a computer to ring numbers and hand calls over to the next available interviewer when the call is answered. A net result of these technologies is that it is relatively easy to try to contact more and more numbers. However, the growth in VolP (Internet) calls may result in fewer people having listed numbers, making those that do increasingly unrepresentative.

Where the focus is more on the number of interviews rather than their representativeness, technology may make surveys affordable but may not necessarily increase their reliability. It would appear that these technological advantages favour larger companies or fieldwork houses that can afford to invest in these technologies and have the volumes to make them pay off. Along with cheaper rates for calls at a distance, this suggests that an apparent trend to consolidate interviewing operations into single centres, in places with lower labour rates, is likely to continue. In the longer term, the availability of far cheaper VolP voice calls may serve to accelerate this trend.

Arguably, one of the by-products of this trend will be a further separation of the
project managers and their clients from the actual data collection practices. Problems with interview length, poor understanding of questions and overall fieldwork quality may be less apparent. Quality standards such as AS4752 (Standards Australia 2004) promote the monitoring of fieldwork, "the organisation shall provide procedures for the ongoing monitoring of a quantitative project while in field to ensure that all requirements of the research proposal are met" (p.41) and in part meet this need for quality assurance. But the active involvement of researchers in terms of validity and in learning in practical terms what works may suffer. Perhaps technology can again come to the rescue and allow project managers and their clients to monitor their telephone surveys remotely.

From the reports of the field managers, the end-users of surveys (the clients in marketing companies) in fact do not appear to be greatly concerned or knowledgeable about response rate issues. Timeliness and cost appear more important than representativeness. Evidence from political polling comparing election forecasts with actual results (Panagakis 1999) shows that representativeness can be achieved even with commercial contact rates. But the risk remains that major decisions will be made on the basis of untrustworthy results.

Apart from more efficient contact systems, fieldwork companies appear to be taking action to enhance contactability by rescheduling contact attempts and making more callbacks. Some attempts were made to seek a longer survey period from their client (or client's client) to improve the chance of contact. However, the practicalities of commercial pressures to get surveys completed in a short time often made extending the period impractical. It is perhaps not surprising that in the face of increasing barriers to contact, field managers see a slow, but inexorable deterioration in the situation. There may come a time when ad hoc telephone surveys will no longer be viable. Paid panels (Bednall and Shaw 2003) and surveys using pre-notified respondents or customer contact lists may become more the norm. Some may see the Internet as the best solution to the contactability problem. However, once more response rates are a likely issue (Adam and McDonald 2003). Future research needs to look at the issues of the willingness of people to be contacted and the conditions under which they are likely to be available and to give their permission to participate.

Telephone research is likely to be an important technique in commercial market research for some time. Industry best practice guidelines as embodied in LIST (LIST 2005) and industry standards (Standards Australia 2004) for procedures such as callbacks, are a useful counterbalance to an industry focus on achieved samples and strike rates. They should help clients minimise the risk of poor decision making based on unrepresentative surveys. And they would give them leverage within their firms to argue for the funding and the timing needed to do their surveys properly.
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