

Deakin Research Online

Deakin University's institutional research repository

This is the published version (version of record) of:

Zutshi, Ambika, Parris, Melissa Anne and Creed, Andrew 2007, Questioning the future of paper and online survey questionnaires for management research, *in ANZAM 2007 : Managing our intellectual and social capital, 21st ANZAM 2007 Conference*, [ANZAM], Sydney, N.S.W., pp. 1-14.

Available from Deakin Research Online:

<http://www.deakin.edu.au/dro/view/DU:30008129>

Reproduced with kind permission of the copyright owner.

Copyright : ©2007, ANZAM

Questioning the Future of Paper and Online Survey Questionnaires for Management Research

Dr Ambika Zutshi

*Bowater School of Management & Marketing
Faculty of Business & Law, Deakin University
Burwood, VIC, Australia*

E-mail: ambika.zutshi@deakin.edu.au

Dr Melissa A. Parris *

*Bowater School of Management & Marketing
Faculty of Business & Law, Deakin University
Burwood, VIC, Australia*

E-mail: melissa.parris@deakin.edu.au

Mr Andrew Creed

*Bowater School of Management & Marketing
Faculty of Business & Law, Deakin University
Warrnambool, VIC, Australia*

E-mail: andrew.creed@deakin.edu.au

Stream: **Stream 13 – Research Methods**

Presenter Profile: Dr Melissa Parris is a Lecturer in Management at the Bowater School of Management and Marketing, Deakin University. Her research is concerned with various aspects of individuals' workplace experiences. This focus has included projects looking at the workplace experiences and work-home interface for middle managers, the experiences of individuals working in organisational teams, and the experiences of executives who have been made redundant. In her most recent research projects, Dr Parris has been exploring the use of online methods of data collection in organisational research.

Corresponding Author:

Dr Melissa Parris
Bowater School of Management & Marketing
Faculty of Business & Law
Deakin University
Burwood, VIC, Australia
Ph: + 61 3 9244 6276
Fax: + 61 3 9251 7083
E-mail: melissa.parris@deakin.edu.au

Questioning the Future of Paper and Online Survey Questionnaires for Management Research

Abstract: The way that we build the foundations of our intellectual capital in management has changed. One example is the steady move in management research from the use of traditional paper-based survey questionnaires to online technology-based formats. This paper considers this shift, particularly focusing on the question of whether the advantages of online survey questionnaires outweigh their potential problems. The historical use of paper-based survey questionnaires has produced a large body of literature on both the advantages and disadvantages in their use, which are reviewed here alongside those of online survey questionnaires. In addition, well-tested methods are available for increasing survey response rates in paper format, and these should not be thrown out in the quest to utilise online survey methodology. Rather, researchers should aim to exploit the potential benefits of online technologies and increase response rate by thoughtfully combining traditional and new methods. This paper argues for further discussion and research attention on electronic methods of data collection to ensure potential cost savings are not outweighed by either financial or participation costs involved in online survey questionnaire design.

Keywords: Online technology; Survey questionnaire.

CHANGES IN RESEARCH MEDIA

For organisations worldwide, the catchcry that ‘the Internet is the future, and the future is now’ appears warranted. As information processing speed and capacity increases, and computers are able to handle increasingly complex tasks, there seems to be ‘no going back’ in terms of technological methods of production, communication and distribution. In the same way, there has been increased attention given to use of electronic methods of gathering both quantitative and qualitative research data (eg. Best & Krueger 2004; Fraley 2005; Johns, Chen & Hall 2004; Mann & Stewart 2000; Simsek & Veiga 2000). The work of organisational researchers involves the capture, processing, reformulation and dissemination of information. With technological advances, the nature of this ‘knowledge-based’ work has been transformed.

In this paper, we focus on one method of data collection which has been impacted by these technological advances. Survey questionnaires have a long history of use in management research, as well as social research in general (Sarantakos 1998), and our interest is in the move from paper to online survey questionnaires. For the purpose of this paper we define a mail survey as one where a potential respondent is mailed a questionnaire via postal mail as opposed to an online survey where respondents need to use a computer and Internet connection to either complete a questionnaire received via electronic mail or click on a hyperlink. In particular, we are concerned with the question of whether the attention given to online survey questionnaires is as significant as it seems at face value. Are online survey questionnaires clearly the way of the future, and do their advantages outweigh the potential problems? In considering these issues, we briefly review the shift from the use

of traditional, mail-based paper survey questionnaires to contemporary online versions. We then look at the advantages and disadvantages which have been identified in the use of mail survey questionnaires, and compare these with survey questionnaires using online technology. Last, but not least, we emphasise the need for further discussion on the impacts and implications of the use of online survey questionnaires in management research.

THE SHIFT FROM PAPER TO ONLINE SURVEY QUESTIONNAIRES

The history of survey questionnaires as a potential research method for organisations extends to the mid-1930s when they were developed and highly exploited by the 'Gallup' and 'Roper' polls (Alderson 1946, cited in Walden 1996; Sudman & Blair 1999). With the purpose of survey questionnaires being to collect data from individuals about themselves, their households and other social groupings in which they operate (Rossi, Wright & Anderson 1983), they have become an important method to gain information both from the consumer and commercial sectors. Survey questionnaires are well-accepted within the management discipline and are useful for studies where both the research objective and study parameters are clear (Bourque & Fielder 1995). Questionnaires are effective tools for measuring the attitudes and views of groups who are too large to directly observe (Babbie 2005).

Survey questionnaires have traditionally been administered in a number of different ways, with the three primary methods being face-to-face, telephone and mail. Mail survey questionnaires are the main focus in this paper, as researchers' concerns for data collection costs and response rates have ultimately led to their greater usage. As mail survey questionnaires are generally self-administered, they save labour costs entailed in hiring people to conduct face-to-face or telephone surveys. Bourque and Fielder (1995) argue that, due to lower costs, mail survey questionnaires allow for wider geographical coverage and potentially large samples; however, response rates are generally comparatively low, and this is still seen as one of the primary disadvantages. Much of the emphasis for academic researchers and marketing consultancies has been to develop new methods to increase mail survey questionnaire response rates, as will be discussed.

The development of self-administered survey methods continues today as online technologies allow further opportunities – and present new challenges. Technological advances have created low-cost and effective means of gathering data (Griffis, Goldsby & Cooper 2003). These cost savings occur not only in methods of making contact with respondents, but computer-assisted data collection generally saves time and money in the conversion of data into a machine-readable form for analysis (Fowler 2002; Mann & Stewart 2000). It is possible the convenience and efficiency aspect of new technology has been more compelling to field researchers than considerations of the overall effectiveness of

online versus paper-based survey questionnaires. To merely select online questionnaires as the most convenient or cost-effective approach is inappropriate. Paper questionnaires, likewise, should be considered for the audience and purpose to be achieved in a research project. We argue this despite the growing pressure for management researchers to use online survey questionnaires in their methodology as an increasing percentage of general population connects itself to digital media (Cooper 2000; Simsek & Veiga 2001).

ADVANTAGES AND DISADVANTAGES OF MAIL VERSUS ONLINE SURVEY QUESTIONNAIRES

Mailed survey questionnaires have gained importance and acceptance by researchers in many different disciplines (such as marketing, philosophy, psychology, management and others), as they can provide a general picture of society's opinions, likes, dislikes and suggestions (eg. Cavana, Delahaye, Sekaran & Sekaran 2001; Zechmeister, Zechmeister & Shaughnessy 2000). They tend to be one of the cheapest research techniques, especially in national or international surveys (Bourque & Fielder 1995; Bruce & Chambers 2002; Jobber 1985, 1989). The travel, time, human and other costs associated with other research techniques (such as face-to-face interviews, focus groups, and telephone interviewing) can be reduced (Kanuk & Bereson 1975). These cost reductions are evident in online survey questionnaires (Healey, Macpherson & Kuijten 2005; Ilieva, Baron & Healey 2002; Kaplowitz, Hadlock & Levine 2004), with the costs per returned questionnaire argued to have the potential to be the lowest of all survey methods (Fowler 2002). This is aided by a further advantage of online over mail survey questionnaires in that the data collected in electronic format is ready for analysis (Bonometti & Tang 2006; Mandel 2003; Smith 2003), saving on labour costs and hopefully also improving the accuracy related to data entry (Klassen & Jacobs, 2001).

Mail survey questionnaires also have the benefit, when used in conjunction with appropriate sampling techniques, of enabling generalisation to the broader population being investigated. However, this is not always true when using online survey questionnaires, as Internet users may not be representative of either the particular group being surveyed or the general population overall (Best & Krueger 2004; Hudson, Seah, Lite & Haab 2004; Ilieva et al. 2002; Vriend 2005). Some studies have researched only populations where all members are assured to have online access, such as university students or employees in a single workplace (eg. Couper, Traugott & Lamias 2001; Peytchev, Couper, McCabe & Crawford 2006).

Another advantage of mail survey questionnaires is that the respondent can complete the questionnaire in his or her own time (Jobber 1985; Kanuk & Bereson 1975). This gives respondents the opportunity to check any facts before recording them on the paper (Jobber & O'Reilly 1996; Kanuk & Bereson

1975; Linsky 1975). This benefit also remains for online survey questionnaires, because respondents can reflect on their answers before submitting (Fowler 2002).

Finally, self-administration of mail survey questionnaires removes the potential for interviewer bias, where verbal and nonverbal cues can influence respondents' actions (Sarantakos 1998). Online survey questionnaires also exclude interviewer bias. While online survey questionnaires often contain more visual elements than paper survey questionnaires, the potential for acquiescence to the researcher's view is still reduced (Grandcolas, Rettie & Marusenko 2003).

Mail and online survey questionnaires have a number of common weaknesses, although the following discussion also highlights how some of these disadvantages have been addressed through the use of technology. The primary disadvantage cited of mail survey questionnaires is the high rate of non-response from the potential respondents (Jobber & O'Reilly 1996; Kanuk & Bereson 1975). Incomplete questionnaires also reduce the usability of returned surveys. Furthermore, if the response rate is very low, then the final sample is essentially self-selected (Fowler 2002), and the individuals' reasons for returning the questionnaire may be linked to the attitudes and views reported. Concerns for response rates are also prevalent among researchers using online survey questionnaires (eg. Griffis et al. 2003; Kaplowitz et al. 2004; Sheehan & McMillan 1999). Comparisons of response rates between paper and online survey questionnaires have produced varied results, with research projects finding greater responses amongst both variants (see Ilieva et al. 2002). Regardless of the medium used, increasing response rates to survey questionnaires is a key concern for researchers, and we focus on this issue in the following section.

While self-administration of mail and online survey questionnaires provides some advantages, it also has the drawback of respondents not being able to seek clarification if they do not understand a question. Therefore, there is a strong imperative for questions to be 'unambiguous, simple and straightforward' (Bruce & Chambers 2002: 1050). Sometimes the population to whom the survey questionnaire has been targeted cannot read or understand the technical language, or cannot properly navigate the Internet, which further increases the non-response rates along with potential bias in responses due to mis-interpretation. This disadvantage for mail survey questionnaires is one of the areas that computer intervention has the potential to overcome. Online survey questionnaires are not purely self-administered (Fowler 2002). Hyperlinks can be provided on the main survey page, which allow the respondent to obtain more information on how to answer a question if they are unsure. Along with other layout issues discussed later in the paper, this ability for intervention in online survey questionnaires has the potential to be a key benefit in their use as a research tool. However, the design of online intervention must be effective.

Finally, many respondents consider mail survey questionnaires to be voluminous (in their content) and unfocused (in their topic) (Jobber 1989). Furthermore, the researcher cannot be sure that the questionnaire has been completed by the targeted person and not, for example, by their subordinate, which could lead to only a 'snap-shot' of the responses to a particular problem. This drawback may be overcome in part by the online nature of survey questionnaires, particularly if the invitation to participate is sent to a personal email address. However, the self-administered nature still does not allow the researcher control over who completes the survey questionnaire, nor whether it is done individually or collectively.

ADDRESSING RESPONSE RATES TO MAIL QUESTIONNAIRE SURVEYS – DOES GOING ONLINE HELP?

The weaknesses in mail survey questionnaires do not negate their value as a research method, but indicate issues which researchers need to carefully consider before implementation. In particular, the search for ways to increase response rates to mail survey questionnaires has received extensive research attention (Fowler 2002; Griffis et al. 2003). Due to the relative novelty of online survey questionnaires, the specifics of this method have necessarily been discussed much less until the last five years (Dillman 2007). In this section we look in detail at mail survey questionnaires and compare them with online, identifying some of the strategies that can be used in isolation or combination by researchers to increase the survey response rate.

Ways to Increase the Survey Questionnaire Response Rate

Monetary incentives: Enclosing a small amount of monetary incentive has been shown to increase the mail survey questionnaire response rate (see Hansen 1980; Jobber 1986; Newby, Watson & Woodliff 2003; Paolillo & Lorenzi 1984). The most effective use of monetary incentives has been found to be the inclusion of cash or a cheque with the mail survey questionnaire, rather than an offer (even a larger one) upon return (Dillman 2007). This has obvious implications in the move to online survey questionnaires, as 'cash' cannot be included with the questionnaire. Vouchers for online sites such as Amazon have been used (although generally on completion of the survey questionnaire) with varying success (Deutskens, De Ruyter, Wetzels & Ossterveld 2004). However, the automation of 'payment' once completed does make it administratively easier as opposed to another mailing once the completed survey is received.

Non-monetary incentives: These can include pens, bookmarks, copies of survey results, and movie tickets. Non-monetary incentives (see Hansen 1980; Thompson 1984) have all been shown to positively affect the response rate, although the percentage of returns is found to be lower than for monetary incentives. Similar to monetary incentives, online survey questionnaires do not allow the

inclusion of physical non-monetary incentives, although these could be sent upon completion of the questionnaire. Another form of non-monetary incentive is the notion of personalisation, (eg. Alreck & Settle 1995; Fowler 2002; Dillman 2007) which makes the invitation to complete a survey questionnaire a more direct request to the individual recipient. The main forms of personalisation have been the personal addressing and hand-signing of cover letters, and the use of stamped return envelopes (Fowler 2002). These issues of whether to include stamped envelopes or hand signed correspondence obviously have little relevance for online survey questionnaires. However, the notion of personally addressing invitations to participate (commonly sent via email) is still applicable. Nonetheless, in a study of more than 12,000 high school students, Porter and Whitcomb (2003) found little impact of personalised greetings or personal email addresses on response rates. This may be due to the fact that users of technology are more aware of the ease in which such communications can be 'personalised'.

Prior notification and follow-up survey questionnaires: A number of studies have demonstrated that informing the potential respondent by telephone in advance could potentially increase the response rate by more than 50% (eg. Fox, Crask & Kim 1988; Jobber, Allen & Oakland 1985; Newby et al. 2003). Studies have also shown that sending a follow-up survey questionnaire has resulted in increased response rate (eg. Ferrell & Krugman 1983; Swan, Epley & Burns 1980; Tullar, Pressley & Gentry 1979). Dillman's (1978, 2000) Tailored Design Method – which has been utilised by a number of survey researchers (Fowler 2002) – argues that multiple interventions need to be utilised concurrently if high response rates are to be achieved. This method incorporates all the aspects discussed thus far and, in particular, argues for both prior notification and four follow-ups with potential respondents. With the use of online survey questionnaires, the same implementation is proposed. However, Dillman (2007) argues that one of the most momentous breakthroughs with technology is the potential to combine the various mediums of contact, and exploit their different advantages. For example, a researcher could mail a written prior notification summarising the aims and objectives of the study to the respondents along with an email that has a hyperlink to an online survey questionnaire. The researcher could then undertake a telephone or email follow-up depending on the confidentiality and anonymity outline of the study.

Anonymity and confidentiality: Assuring the respondents of anonymity and confidentiality (if that is the case) have resulted in a higher response rate (see Futrell 1981; Futrell & Hise 1982; Tyagi 1989), especially in the case of sensitive or internal organisational issues. Furthermore, respondents are more likely to be honest when filling in their responses if their identity will not be disclosed (Jobber 1985; Jobber & O'Reilly 1996; Newby et al. 2003). However, care needs to be taken if a letter or telephone call is to be used as a follow-up strategy. For example, if incentives are to be offered upon the return of a mail survey questionnaire, issues of anonymity and confidentiality can be

addressed by requesting respondents to return survey questionnaires in a small unmarked envelope within a larger envelope (Bourque & Fielder 1995). In the same way, respondents to online survey questionnaires require assurances of anonymity and confidentiality. For example, there is the potential to send respondents a separate code to log into a survey questionnaire that keeps their personal details separate from their responses. This method is often used by researchers to ensure against multiple responses from the same person. However, a real concern when using online survey questionnaires is that every interface with computer technology can be monitored and captured, perhaps enabling organisational monitoring and interception of email messages (Sharf 1999), although debate continues as to the justification of such action (Miller & Weckert 2000). This is an important area for consideration, especially as ethical discussion around computer-mediated communication continues to be debated (Murray 1996; Bassett & O’Riordan 2002; Capurro & Pingel 2002). Recently, Im and Chee argued that ‘very few standardised guidelines for human subjects protection in Internet research are currently available (2002: 268)’. While endeavours are being made in various arenas to work towards these guidelines, we agree that continued attention and debate is required.

Other Factors which may Impact the Response Rate

Length of the survey questionnaire: The length of the survey questionnaire can be changed by increasing the spacing between the same number of questions or by actually changing the number of total questions (by adding or deleting the questions). A higher response rate was secured in a survey questionnaire carried out by Champion and Sear (1969) with longer as opposed to the shorter version of the questionnaire without changing the total number of questions. Adding questions to the original survey or increasing the total number of pages also has not been shown to affect (increase or decrease) the response rate (Jobber 1989). These surveys have demonstrated that length of the questionnaire alone is not a significant determining factor of the response rates. When using online survey questionnaires the length of the questionnaire can be disguised in a combination of methods. For example, researchers can either have all the questions on one page and the respondents could scroll down the page; or there could be a number of short questions on each web page. The drawback of the latter method is that the respondent can lose interest when clicking from one page to another.

Layout of the survey questionnaire: The formatting of the survey questionnaire may also have implications for response rates. For example, a higher response was achieved by using single-sided survey questionnaires as compared to double-sided by Hyett and Farr (1977), in comparison to the results of Blythe and Essex (1981) and Childers and Farrell (1979) who found no significant difference. With respect to online survey questionnaires, this issue of design is probably one that has received the most attention as, to secure a higher response rate, a researcher cannot solely ‘transplant’ a paper survey questionnaire onto the web to make it an online version. Dillman (2007) refers to work from the vision sciences helping to guide online survey questionnaire design. There has also been

developing research on visual effects for readability and understanding for both paper and web survey questionnaires (Bonometti & Tang 2006; Greer, Sowden & Scharff 2005). Furthermore, online survey questionnaires provide an advantage with their ability 'to deliver images, concepts, video and sound directly to the respondent' (Vriend 2005: 13).

Colour of the survey questionnaire: In an attempt to get a higher response rate, researchers over a period of time have experimented using different coloured questionnaire forms. The argument presented in favour of this is that a coloured questionnaire form is more conspicuous and prominent to the respondent than a white one. Nevertheless, the studies done by Jobber and Sanderson (1983) and Pressley and Tullar (1977) have shown that using a coloured questionnaire form does not significantly result in higher response rate (see also Etter, Cucherat & Perneger 2002; Jobber 1985; Newby et al. 2003). Research conducted by de Rada (2005) found that colour had a positive influence on response rate. Bourque and Fielder (1995) talk about using a flyer printed on canary yellow paper to get the attention of potential respondents, but do not recommend its use for the survey questionnaire as it is difficult for some respondents to read. Similarly, Hartley and Rutherford (2003) found no significant difference when using colour as compared to white paper, which reignites the debate about the use of colour in paper survey questionnaires. Human beings and their emotions are influenced by colour (Zviran, Te'eni & Gross 2006) and hence when trying to find the relevant information or message in this sea of digital media, researchers using emails for online survey questionnaires could take advantage of this fact. A study undertaken of 1.4 million customers by Zviran et al (2006) showed that using background colour in email messages (whilst being aware of cultural sensitivity) can result in a higher percentage of emails being clicked upon and read.

Type of questions: Studies carried out by researchers such as Falthizik and Carroll (1971) and Shankleman (1962) have associated a higher response rate with closed type questionnaires as compared to open-ended. Keeping the personal questions to a minimum has also been found to have a direct relationship with the response rate, that is, the lesser the number of personal questions, the higher the response (see Blythe & Essex 1981). A related issue is whether to have demographic questions at the start or end of the questionnaire, as some respondents may be deterred when asked to give personal information up-front (Bourque & Fielder 1995). These issues also have some relevance for online survey questionnaires, as they are concerned with the reaction of respondents. In addition, because mail survey questionnaires are self-administered, writers have argued against the use of too many or too complex 'skip' or 'branch' questions (such as 'If you answered Yes, go to Question 47') (eg. Bourque & Fielder 1995). An appeal with the use of online survey questionnaires is that, although they are self-administered in terms of another person not being present, there can actually be some degree of 'supervision' built in. Depending on the technology, there can be multiple branches and complex skip patterns depending on the responses (Couper et al. 2001; Fowler 2002).

Time required completing the survey questionnaire: Very few studies show the relationship between the length of the questionnaire and the time required to complete it. Hornik's (1981) research showed that a higher response rate was procured by writing a lesser time requirement on the covering page of the survey, as compared to writing a greater time than would be required. However, caution should be exercised in under-stating the time required (Bourque & Fielder 1995), that is, 'This will just take 5 minutes of your time.' This is because respondents will become frustrated and not finish if this time is greatly exceeded, even if they began with good intentions. Similarly, an honest estimate should probably be given for online survey questionnaires. Without the option of seeing the whole questionnaire and making an estimate for themselves, respondents are guided by the time requirements advised by researchers. Another issue contentious for online survey questionnaires is the time required to view and complete the questionnaire. Audio and video clips and other visual aids can be used to make an online survey questionnaire more attractive for the respondent. However, if the download time of these images is slow, the possibility of an incomplete survey questionnaire is increased.

Appeals: Appeal or requesting the respondents to complete the survey questionnaire is another potential tool for increasing the response rate. Appeals can be altruistic (responses would benefit the society), egoistic (responding to the survey would benefit the respondent) or help-the-sponsor (requesting that responding to the survey would be highly appreciated by the researcher). Different appeal types have been associated with different response rates, depending on the target respondents. Houston and Nevin (1977) during the course of their research found that response rate had a direct relationship with the type of respondent. For instance, a higher response rate was obtained from the following groups: altruistic-educational institution sponsorship; egoistic-commercial sponsorship; and help-the-respondent-institution. However, egoistic appeal was found to have a higher response rate when the sponsor was a research organisation, as opposed to help-the-respondent by Champion and Sear (1969). In the view of the authors, the same would seem to equally apply for online survey questionnaires.

THE FUTURE OF PAPER AND ONLINE SURVEY QUESTIONNAIRES

The way that we build the foundations of our intellectual capital in management has changed. Online survey questionnaires have steadily usurped traditional paper survey questionnaires, but we believe it is timely to question whether researchers need to go back to their roots and adopt traditional methods to exploit the survey potential in the future. The Internet transition has been spectacular and widespread, but caution must be advised in any such circumstances. For example, media researchers have observed the transformations that occur in meaning and interpretation when a message is provided in electronic as opposed to paper-based media (Bierman 2006; McLuhan 1964; Postman

1985). In a similar way, care should be taken to ensure it is the objectives of management research projects which guide the medium that is utilised to capture data from respondents.

We suggest that, in an attempt to exploit the advantages of online survey questionnaires such as cost savings and rapid response rates, researchers may tend to overlook some of the weaknesses inherent in this method. As Smith (2003) argued, while it may be easy to design and implement online survey questionnaires, researchers must ensure that careful thought and planning is given to methodological choices. This paper has identified that the move from paper to online survey questionnaires has acted to counter some of the previous disadvantages, such as slow response rates and the cost of data entry, while also providing new opportunities, such as an ability to exploit the differing benefits of various methods of respondent follow-up. However, we have also highlighted some new and emerging pitfalls, such as the non-representative nature of Internet users in many populations and the additional concerns for confidentiality and privacy.

This paper has also revealed a range of unanswered questions in the comparison of online survey questionnaires with traditional paper-based surveying methods, which we believe warrant further discussion and research attention. For example, is the cost saving involved with electronic methods of data collection really as significant as it is espoused to be? When considered alongside the rich research on increasing response rates through multiple points of contact (including personal) with respondents, the savings involved may not necessarily outweigh the costs of online survey questionnaire design. Another issue that warrants investigation is the concept of information overload in this digital age. Issues of personalisation and use of colour in mail survey questionnaires were previously investigated as a way to increase response rate through attracting the attention of potential respondents. At a time when our email in-boxes contain more than our physical mailboxes, how much attention will an invitation to participate in research receive? Maybe a mail survey questionnaire will actually stand out more. It is questions such as these which we believe require appropriate consideration and debate if we are to better manage the intellectual capital that informs and emanates from questionnaires.

REFERENCES

- Alreck PL & Settle RB (1995) *The Survey Research Handbook (2nd ed.)*, Richard D. Irwin, Chicago.
- Babbie E (2005) *The Basics of Social Research (3rd ed.)*, Thomas Wadsworth, Belmont.
- Bassett EH & O'Riordan K (2002) Ethics of internet research: Contesting the human subjects research model, *Ethics and Information Technology* 4(3): 233-247.
- Best SJ & Krueger BS (2004) *Internet Data Collection*, Sage, Thousand Oaks.
- Bierman P (2006), *Reconsidering the Textbook*, May 24-26, 2006: Workshop Summary for use in Preparing Dissemination Materials, Carleton College.
- Blythe I & Essex P (1981) Variations on a Postal theme, *Market Research Society Annual Conference*, March, pp. 35-51.
- Bonometti RJ & Tang J (2006) A dynamic technique for conducting online survey-based research, *Competitiveness Review* 16(2): 97-105.
- Bourque LB & Fielder EP (1995) *How to Conduct Self-Administered and Mail Surveys*, Sage, Thousand Oaks.
- Bruce J & Chambers WA (2002) Editorial: Questionnaire surveys, *Anaesthesia* 52: 1049-1051.
- Capurro R & Pingel C (2002) Ethical issues of online communication research, *Ethics and Information Technology* 4(3): 189-194.
- Cavana RY, Delahaye BL, Sekaran U & Sekaran U (2001) *Applied Business Research: Qualitative and Quantitative Methods*, Wiley, Milton, Qld.
- Champion DJ & Sear AM (1969) Questionnaire response rate: A methodological analysis, *Social Forces* 47: 335-339.
- Childers TL & Farrell OC (1979) Response rates and perceived questionnaire length in mail surveys, *Journal of Marketing Research* 16: 429-431.
- Cooper CD (2000) The use of electronic mail in the research process, *Nurse Researcher* 7(4): 24-30.
- Couper MP, Traugott MW & Lamias MJ (2001) Web survey design and administration, *Public Opinion Quarterly* 65(2): 230-253.
- de Rada VD (2005) Influence of questionnaire design on response to mail surveys, *International Journal of Social Research Methodology* 8(1): 61-78.
- Deutskens E, De Ruyter K, Wetzels M & Ossterveld P (2004) Response rate and response quality of internet-based surveys: An experimental study, *Marketing Letters* 15(1): 21-36.
- Dillman DA (1978) *Mail and Telephone Surveys: The Total Design Method*, Wiley, New York.
- Dillman DA (2000) *Mail and Internet Surveys: The Tailored Design Method (2nd ed.)*, Wiley, New York.
- Dillman DA (2007) *Mail and Internet Surveys: The Tailored Design Method (2nd ed, 2007 update)*, Wiley, New Jersey.
- Etter J, Cucherat M & Perneger TV (2002) Questionnaire color and response rates to mailed surveys, *Evaluation & The Health Professionals* 25(2): 185-199.
- Falthizik AM & Carroll SJ (1971) Rate of return for closed vs open-ended questions in a mail survey of industrial organizations, *Psychological Reports* 29: 1121-1122.
- Ferrell OC & Krugman D (1983) Response patterns and the importance of the follow-up duplicate questionnaire in a mail survey of advertising managers, *European Research*, October: 157-163.
- Fowler FJ (2002) *Survey Research Methods (3rd ed.)*, Sage, Thousands Oaks.
- Fox RJ, Crask MR & Kim J (1988) Mail survey response rate: A meta-analysis of selected techniques for inducing response, *The Public Opinion Quarterly* 52(4): 467-491.
- Fraley RC (2005) *How to Conduct Behavioral Research over the Internet: A Beginner's Guide to HTML and CGI/PERL*, Guildford Press, New York.
- Futrell C (1981) Effects of using both confidentiality and anonymity in survey research of the sales force, *Proceedings of the American Marketing Association Educators Conference*, 391-393.
- Futrell C & Hise RT (1982) The effect of anonymity and same day deadline on the response rate to mail surveys, *European Research*, October: 171-175.
- Grandcolas U, Rettie R & Marusenko K (2003) Web survey bias: Sample or mode effect?, *Journal of Marketing Management* 19(5/6): 541-561.
- Greer S, Sowden E & Scharff L (2005) Email format and instructions: Influences on reading times, retention, and preferences, *American Journal of Psychological Research* 1(1): 117-128.

- Griffis SE, Goldsby TJ & Cooper M (2003) Web-based and mail surveys: A comparison of response, data and cost, *Journal of Business Logistics* 24(2): 237-258.
- Hansen RA (1980) A self-perception theory of the effect of monetary and non-monetary incentives on mail survey respondent behaviour, *Journal of Marketing Research* 17: 77-83.
- Hartley J & Rutherford A (2003) The effects of using colored paper to boost response-rates to surveys and questionnaires, *Journal of Technical Writing and Communications* 33(1): 29-40.
- Healey B, Macpherson T & Kuijten B (2005) An empirical evaluation of three web survey design principles, *Marketing Bulletin* 16: 1-9.
- Hornik J (1981) Time cue and time perception effect on response to mail surveys, *Journal of Marketing Research* 18: 243-248.
- Houston MJ & Nevin JR (1977) The effects of source and appeal on mail survey response patterns, *Journal of Marketing Research* 12: 114-117.
- Hudson D, Seah L, Hite D & Haab T (2004) Telephone presurveys, self-selection, and non-response bias to mail and internet surveys in economic research, *Applied Economics Letters* 11(4): 237-240.
- Hyett GP & Farr DL (1977) Postal questionnaires: Double-sided printing compared with single-sided printing, *European Research* 5: 136-139.
- Ilieva J, Baron S & Healey NM (2002) Online surveys in marketing research: Pros and cons, *International Journal of Market Research* 44(3): 361-376.
- Im E & Chee W (2002) Issues in protection of human subjects in internet research, *Nursing Research* 51(4): 266-269.
- Jobber D (1985) Questionnaire factors and mail survey response rates, *European Research* 15: 124-129.
- Jobber D (1986) Improving response rates in industrial mail surveys, *Industrial Marketing Management* 15: 183-195.
- Jobber D (1989) An examination of the effects of questionnaire factors on response to an industrial mail survey, *International Journal of Research in Marketing* 6: 129-140.
- Jobber D & Reilly OD (1996) Industrial mail surveys: Techniques for inducing response, *Marketing and Intelligence Planning* 14(1): 29-34.
- Jobber D & Sanderson S (1983) The effects of a prior letter and coloured questionnaire paper on mail survey response rates, *Journal of the Market Research Society* 25(4): 339-349.
- Jobber D, Allen N & Oakland J (1985) The impact of telephone notification strategies on response to an industrial mail survey, *International Journal of Research in Marketing* 2(4): 291-296.
- Johns MD, Chen SS & Hall GJ (Eds.) (2004) *Online Social Research: Methods, Issues, and Ethics*, Lang, New York.
- Kanuk L & Berenson C (1975) Mail surveys and response rates: A literature review, *Journal of Marketing Research* 12(4): 440-453.
- Kaplowitz MD, Hadlock TD & Levine R (2004) A comparison of web and mail survey response rates, *Public Opinion Quarterly* 68(1): 94-101.
- Klassen RD & Jacobs J (2001) Experimental comparison of Web, electronic and mail survey technologies in operations management, *Journal of Operations Management* 19: 713-728.
- Linsky AS (1975) Stimulating responses to mailed questionnaires: A review, *The Public Opinion Quarterly* 39(1): 82-101.
- Mandel M (2003) Online surveys for the small-staff association, *Association Management* 55(7): 79.
- Mann C & Stewart F (2000) *Internet Communication and Qualitative Research: A Handbook for Researching Online*, Sage, London.
- McLuhan M (1964) *Understanding Media: The Extensions of Man*, Mentor, New York.
- Miller S & Weckert J (2000) Privacy, the workplace and the internet, *Journal of Business Ethics* 28(3): 255-265.
- Murray PJ (1996) Nurses' computer-mediated communications on NURSENET: A case study, *Computers in Nursing* 14(4): 227-234.
- Newby R, Watson J & Woodliff D (2003) SME survey methodology: Response rates, data quality, and cost effectiveness, *Entrepreneurship Theory and Practice* Winter: 163-172.
- Paolillo J & Lorenzi P (1984) Marketing incentives and mail questionnaire response rates, *Journal of Advertising* 31(1): 288-291.

- Peytchev A, Couper MP, McCabe SE & Crawford SD (2006) Web survey design: Paging versus scrolling, *Public Opinion Quarterly* 70(4): 596-607.
- Porter SR & Whitcomb ME (2003) The impact of contact type on Web survey response rates, *Public Opinion Quarterly* 65(4): 579-588.
- Postman N (1985) *Amusing Ourselves to Death: Public Discourse in the Age of Show Business*, Viking, New York.
- Pressley MM & Tullar W (1977) A factor interactive investigation of mail survey response rates from a commercial population, *Journal of Marketing Research* 41: 108-112.
- Rossi PH, Wright JD & Anderson AB (1983) Sample surveys: History, current practice, and future prospects, in Rossi PH, Wright JD and Anderson AB (Eds), *Handbook of survey research*, pp1-20, Academic Press, San Diego.
- Sarantakos S (1998) *Social Research* (2nd ed.), Macmillan Education, Melbourne.
- Sudman S & Blair E (1999) Sampling in the twenty-first century, *Journal of the Academy of Marketing Science* 27(2): 269-277.
- Shankleman E (1962) The use of postal surveys in the assessment of certain characteristics of non-consumer markets, *15th E.S.O.M.A.R. Conference*, September 3-7.
- Sharf BF (1999) Beyond netiquette: The ethics of doing naturalistic discourse research on the internet, in Jones S (Ed), *Doing internet research: Critical issues and methods for examining the Net*, pp243-246, Sage, Thousand Oaks.
- Sheehan KB & McMillan SJ (1999) Response variation in e-mail surveys: An exploration, *Journal of Advertising Research* 39(4): 45-44.
- Simsek Z & Veiga JF (2000) The electronic survey technique: An integration and assessment, *Organizational Research Methods* 3(1): 92-114.
- Simsek Z & Veiga JF (2001) A primer on internet organizational surveys, *Organizational Research Methods* 4(3): 218-235.
- Smith L (2003), Proven ways to generate reliable online survey results, *Direct Marketing*, December 1.
- Swan JE, Epley DE & Burns WL (1980) Can follow-up response rates to a mail survey be increased by including another copy of the questionnaire, *Psychological Report* 47(1): 105-106.
- Thompson M (1984) Industrial postal surveys, *Industrial Market Research Association Seminar*, London, April.
- Tullar W, Pressley MM & Gentry D (1979) Toward a theoretical framework for small survey response, *Proceedings of the Third Annual Conference of the Academy of Marketing Science* 12: 243-247.
- Tyagi PK (1989) The effects of appeals, anonymity, and feedback on mail survey response patterns from salespeople, *Journal of the Academy of Marketing Science* 17(3): 235-241.
- Vriend P (2005) Technical writers turn to Web surveys, *Intercom* 52(2): 13
- Walden GR (1996) *Polling and Survey Research Methods, 1935-1979: An Annotated Bibliography*, Greenwood Press, Westport.
- Zechmeister J S, Zechmeister EB & Shaughnessy JJ (2000) *Essentials of Research Methods in Psychology*, McGraw-Hill, Boston.
- Zviran M, Te'eni D & Gross Y (2006) Does color in email make a difference?, *Communications of the ACM*, 94-99.